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RESEARCH ARTICLE

A comparative study of anti-anxiety properties of ethanolic and aqueous extracts of *Ocimum sanctum* in animal models

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ABSTRACT

Background: Anxiety transcends a natural emotion, evolving into a pathological condition with the potential to trigger cascading cardiovascular and psychiatric disorders. Although conventional allopathic medicine offers treatment options, concerns regarding their side effects and long-term efficacy remain prevalent. Medicinal plants contain natural compounds that may be promising sources of therapeutic drugs. **Aims and Objectives:** This study aims to compare the anxiolytic potential of ethanolic and aqueous extracts of *Ocimum sanctum* (OS). The growing appeal of plant-based therapies for anxiety stems from perceived advantages in safety and tolerability compared to synthetic drugs. **Materials and Methods:** The anxiolytic activity of aqueous and ethanolic extract of OS is evaluated with an elevated plus maze test. A total of 36 Wistar albino rats (150–200 g) were used and randomly divided into six groups of six animals each. The effects of the test drug at different doses, 100 and 200 mg/kg, were compared with the standard anxiolytic drug diazepam at 2 mg/kg body weight and the control group using distilled water at 0.5 mL/kg body weight. **Results:** The behavioral changes suggested reduced anxiety and open-arm exploration in plus-maze indicates reduced anxiety in animals treated with OS extracts. The changes are significantly ($P < 0.001$) comparable with the standard drug diazepam. **Conclusion:** The ethanolic extracts of OS are more significant than aqueous extracts for evaluating anti-anxiety activity in a dose-dependent manner. In addition, ethanolic extracts are more likely to contain a wider range of bioactive compounds, which are thought to be responsible for the anti-anxiety effects of OS.

KEY WORDS: *Ocimum sanctum*; Anti-Anxiety; Diazepam; Elevated Plus Maze Test; Ethanolic Extract; Aqueous Extract

INTRODUCTION

Anxiety is a common symptom in many mental health disorders and can also occur alongside various medical and surgical conditions. It is a fundamental human emotion, often linked to fear, that likely plays an important role in our survival to live day-to-day life.[1]

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Anxiety is a normal emotional response, but when it is severe and persistent, it can contribute to health problems such as heart disease and mental illness. Conventional medicine offers various medications for anxiety, but some can cause side effects throughout the body, and their effectiveness might decrease over time with long-term use.[2]

Ayurvedic medicine has a long history of using plants for treatment, with many believed to have fewer side effects and be less toxic than synthetic drugs. These plants contain a variety of natural compounds that may be promising sources of therapeutic medications. Properties of medicinal plants often highlight their advantages, including safety, affordability, effectiveness, and widespread availability.[3]

Ocimum sanctum Linn. (OS), commonly known as holy basil or "Tulsi," belonging to the family Labiatae (*Lamiaceae*), is considered a sacred plant in India and grown in every household. Conventionally, fresh juice or decoction of OS is used to promote health and in the treatment of various disorders, as advocated in Ayurveda, the Indian system of medicine. Indian Materia Medica describes the use of aqueous, hydroalcoholic, and methanolic extract of OS leaves in a variety of disorders, such as bronchitis, rheumatism, and pyrexia.[4,5]

Studies suggest that people who consume a lot of foods and drinks rich in phenolics may have a lower risk of certain diseases.[6] This is likely due to the antioxidant properties of these plant compounds, which include phenolics, flavonoids, and phenylpropanoids.[7] Basil (*Ocimum* spp., *Lamiaceae*) is an example of an herb that contains a variety of essential oils that are rich in these beneficial compounds.[8] Benzodiazepines (BZDs) are currently the most widely prescribed medications for anxiety. However, their use comes with various drawbacks, prompting researchers to explore alternative medications with fewer side effects.[9]

MATERIALS AND METHODS

Preparation of Aqueous Extract[10]

Fresh OS (holy basil) leaves were identified and verified by a qualified professional at the Narayana College of Pharmacy, Nellore. The leaves were washed carefully, shade-dried, and ground into a powder. To make the extract, 100 g of the powder was boiled with 100 mL of distilled water for 24 h. The mixture was heated until it was reduced by half. After cooling, it was filtered through a cloth to remove solid material. The filtrate was then filtered again with a paper filter and placed in a pre-weighed dish. The liquid was evaporated completely on a hot plate, and the remaining extract was weighed at room temperature to determine the yield (percentage extracted). Finally, the extract was stored in a sealed container in a cool, dry place.

Preparation of ethanolic extract[11]

100 g of dried OS powder was put into the macerator and added with 3 L of solvent (70% ethanol). Then, it was soaked and left for 24 h at room temperature. Filtration was carried out to separate the macerate using filter paper; the filtration process was repeated twice. All macerate was collected and then evaporated with an evaporator at ± 50°C until thick extract was obtained.

Drugs and Chemicals

The extracts were (ethanolic and aqueous) used at doses of 100 and 200 mg/kg. Diazepam was obtained from Ranbaxy Laboratories Ltd., Mumbai, and used at a dose of 2 mg/kg, body weight.

Experimental Animals

Animals were procured from the central animal house of the institute, Narayana Medical College, Nellore, and housed in standard polypropylene cages under controlled room temperature (25 ± 2°C) in a 12-h light/dark cycle. Animals were given dry food pellets and water *ad libitum* and were accustomed to the new environment for at least 2 days before the experiment. Institutional Animal Ethics Committee approval (IAEC/NMC/05/2018) was taken before the start of the study, and all ethical guidelines were followed.

Animal Grouping

Wistar albino rats (150–200 g) were randomly divided into six groups of six animals each.

- Group 1: Control group – 0.5 mL of distilled water
- Group 2: Diazepam – 2 mg/kg i.p
- Group 3: Ethanolic extract of OS (100 mg/kg body weight)
- Group 4: Ethanolic extract of OS (200 mg/kg body weight)
- Group 5: Aqueous extract of OS (100 mg/kg body weight)
- Group 6: Aqueous extract of OS (200 mg/kg body weight).

Elevated Plus Maze Model for Anxiety[12]

This consists of a central platform of 10 × 10 cm connected to two open arms of 50 × 10 cm and two closed arms of 50 × 40 × 10 cm in dimension and elevated 50 cm above the floor. Wistar albino rats weighing 20–40 g were treated with OS extracts of diazepam. They were distilled for 30 min before being placed individually in the center of the elevated plus maze, facing a closed arm. The time spent in open and closed arms was recorded for 5 min. The time spent was measured in seconds. The number of entries into the closed and open arms was counted during the test. An entry was defined as having all four paws within the arm.

RESULTS

The results of the animal studies summarize the effects of ethanolic and aqueous extracts of OS on anxiety-like behavior in rats using the elevated plus maze apparatus. Rats were treated with either extract at two different doses (100 and 200 mg/kg), diazepam (a positive control drug for anxiety) and distilled water (control group). The number of entries and time spent in the open and closed arms of the maze were measured. Regarding the anxiolytic effect, both extracts showed an increase in entries and time spent in the open arms compared to the control group, suggesting they both have potential anxiolytic properties. However, the ethanolic extract seems to have a more significant effect, especially at the 200 mg/kg dose, as it showed a statistically significant difference from the control and 200 mg/kg of both extracts, respectively, in both open arm entries and time spent. In contrast, the aqueous extract only showed a difference in time spent. Overall, Table 1 suggests that both ethanolic and

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Group and dose	Mean no. of entries in		Mean time spent in (min)	
	Open arm	Closed arm	Open arm	Closed arm
Group 1 – Control (0.5 mL of distilled water)	1.6±0.42	2.7±0.65	0.71±0.57	3.8±0.54
Group 2 – Diazepam - (2 mg/kg, i.p)	4.5±0.92$^{\$}$	2.4±0.63$^{\$}$	4.1±0.48$^{\$}$	0.85±0.27$^{\$}$
Group 3 – Aqueous extract of *Ocimum sanctum* 100 mg/kg, p.o	2.3±0.74*	2.8±0.75*	2.1±0.35*	2.4±0.34
Group 4 – Aqueous extract of *Ocimum sanctum* 200 mg/kg, p.o	2.9±1.20**	2.1±0.67**	2.8±0.4**	1.8±0.42
Group 5 – Ethanolic extract of *Ocimum sanctum* 100 mg/kg, p.o	2.8±0.55*	2.6±0.87*	2.6±0.37*	1.5±0.42
Group 6 – Ethanolic extract of *Ocimum sanctum* 200 mg/kg, p.o	3.5±0.29**	2.5±0.81**	3.05±0.28**	0.95±0.4

Analysis of variance followed by Tukey's multiple comparisons $^{**}P < 0.01$ compared to Diazepam, $^{*}P < 0.05$ compared to Diazepam, $^{\$}P < 0.001$ compared to control

aqueous extracts of OS have potential anxiolytic properties, similar to the standard drug diazepam.

DISCUSSION

This research shows the anxiety-reducing (anxiolytic) effects of two extracts from OS leaves, ethanol and aqueous, in albino rats. OS is a tremendous source of excellent phytoconstituents and phytonutrients, which have antioxidant, anti-inflammatory, and neuroprotective effects.[13,14]

The BZDs are relatively safe and are widely used anxiolytic drugs. These drugs are known to act through the BZD-γ-aminobutyric acid (GABA) receptors; the role of GABA in anxiety is well established.[15,16] Both aqueous and ethanolic extracts have demonstrated anxiolytic (anxiety-reducing) effects in various animal models, such as the elevated plus maze and forced swim test[17,18] and it related to the present study, both extracts showed dose-dependent anti-anxiety activity, with higher doses generally producing more pronounced effects.

The specific active compounds responsible for the anti-anxiety effects are still being investigated. Different active compounds, such as apigenin, eugenol, and ursolic acid, may contribute to the overall anxiolytic effects, and their presence and concentration can vary depending on the extraction method.[17-19]

Both doses of OS induced a statistically significant increase in open arm time, a reliable indicator of reduced anxiety-like behavior in the elevated plus-maze test. The 200 mg/kg dose further potentiated this anxiolytic effect, as evidenced by significant increases in both open-arm time and open-arm entries, highlighting their reduced aversion to open spaces.

These behavioral changes were strikingly similar to those produced by diazepam, signifying a comparable reduction in anxiety, aversion to light, and enhancement of exploratory behavior in the elevated plus maze test.

CONCLUSION

Both aqueous and ethanolic extracts of OS have shown promise in reducing anxiety. The present study highlights the significant impact of extraction solvent on the pharmacological potential of plant extracts. Organic solvents, such as ethanol, proved far superior to water in capturing bioactive compounds and enhancing the pharmacological actions of the resulting extracts.

This emphasizes the potential of future research to translate traditional knowledge about OS into modern medicine. It also highlights the crucial role of understanding the active ingredients and their mechanisms in unlocking this potential.

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History of Nursing and Their Role in Modern Healthcare

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Abstract

Nurses play an essential role in society in improving healthcare facilities among the people. The history of professional nursing traditionally begins with Florence Nightingale in the mid-19th century. The nursing facilities all over the world are evolving day to day due to technological advancement all over the world. This study will focus on the history of nursing and how the nursing facilities evolve over the time. Additionally, the role of nursing in the modern healthcare system has also been evaluated throughout the study and how technology and other factors changed the nursing facilities in present time. The nurses all over the world play a significant role in care giving, managing patients and assisting doctors in order to give direct care to the patients. In this study, secondary quantitative data sets are collected from other research papers and journals for analysing the role of nursing in modern society. Results of the analysis have been discussed in the discussion and data analysis section. The discussion section of this study has emphasised on the role of nursing in the modern healthcare system. Consequently, this study includes providing recommendations to improve nursing systems all over the world and overcoming different healthcare issues in future.

Keywords: Nursing, healthcare system, nursing facilities, history of nursing

1. Introduction

Nursing is an integral part of the healthcare system and it is an important profession that plays a crucial role in patient safety and care. Nurses' role in the healthcare system is difficult to evaluate as it has numerous unspecified aspects. When nurses' work is neglected it affects public health and the healthcare facility negatively. Historically, professional nursing started with the Florence nightingale in the mid-19th century and it evolved over time. This study is performed to determine the historic background of nursing and to understand the role of nursing facilities in modern healthcare. Besides, this study is also performed to evaluate the role of nursing in the healthcare system of the modern age.

1.1 Aim of the study

The main purpose and aim of the study are to understand the history of nursing and how nursing facilities evolve over time. Besides, the study will also focus on the role of nursing in modern times.

Objectives

- To evaluate the history of nursing facilities in the healthcare system
- To determine the evolution of nursing facilities over time in the healthcare system
- To understand the role of nursing facilities in the modern healthcare system

1.2 Significance of the study

Nursing is an inseparable part of the healthcare system which encompasses the promotion of health and the prevention of physical and mental illness. The nursing profession is associated with public health care and it is also important for ensuring the physical and mental health of people. The nursing facility in the world evolves over time from its beginning. Therefore, understanding the historical background of nursing and the evolution of nursing is very important. Healthcare facilities are crucial for society to give people a healthy and tension-free life. Considering this, the main focus of the study is to determine the role of the nursing profession in modern healthcare. Hence, the following study bears significance for having a core idea regarding the history and role of nursing.

1.3 Operational definition

Nursing practices

Nursing practice is the systematic approach of substantial specialised proficiency and skills that are derived from the physical, behavioural and biological sciences to care for and provide treatment to physically and mentally ill people. Nursing practices also encompass assisting physicians and other health care experts to provide patients care and advice to get a healthy life.

Healthcare

Healthcare refers to the maintaining and restoring of health through the treatment, lifestyle modification and prevention of disease specifically by trained and licensed professionals. Healthcare basically refers to the prevention and treatment to get a physically and mentally healthy life.

2. History of Nursing

The word "Nurse" originated from the Latin word "Nutrire" but in the late 16th century it attained its modern meaning which is ***"person who cares for the infirm"***. Historically, professional nursing started with Florence Nightingale in the 19th century [1]. Nightingale challenged social norms by becoming a nurse. At that time, the public objected to the idea of women's nursing but nightingale saw it as an opportunity for women to serve the community. She believed that patient care can be improved by using education and scientific knowledge. The nursing profession's evolution accelerated later during the American civil war [2]. Fighting erupted in North and South America due to the civil war. Women, mostly the mistresses or wives of soldiers, began following the armies and primarily, they treated the sick troops suffering from pneumonia, diarrhoea, malaria and typhoid. Besides, the volunteer nurses and sometimes the female slaves helped to save a huge number of lives.

Consequently, respect for nursing grew over time among Americans and all over the world. During different epidemics such as cholera, smallpox and typhus, men played a significant

role at that time. Stephen Girard won the hearts of the citizens of Philadelphia for his courageous and compassionate nursing of the victims during the yellow fever epidemic. During urbanisation and industrialisation, different hospitals and healthcare centres were established where some patients received excellent care [3]. Women and men from the religious nursing orders were generally known for the quality nursing facilities provided in the established hospitals. Hospitals formed their training institutes to train nurses for providing people with more effective and good services. Lectures and clinical instructions are provided to the students to educate them and make them competent for giving quality healthcare to the patients. The Crimean war and both the World wars are significant for improving facilities around the world [4]. At the time of war men and women from different professions came to treat the injured and sick soldiers and that helped society to understand the importance of nurses.

3. Evolution of nursing over time

Professional nursing facilities started in the early 19th century and wars played a significant role to improve nursing awareness among the people. The evolution of nursing facilities started after the 19th century and modern-day nursing is different from the time of the Crimean war [5]. Nursing facilities have changed over time specifically in the education and training areas of nursing. Technology and healthcare awareness are the main factors that help in the evolution of nursing facilities. Presently nurses have to perform a wide range of work that includes taking vital symptoms of patients, recording medical histories, and conducting physical examinations and they also have to work under the instruction of physicians. Nurses are getting proper training to perform these works and technology helps them to perform these works efficiently.

Different nursing training institutes were formed after the 19th century to make nurses competent for performing different works in patient care. The evidence-based practice began in the 1990s and appeared after 2000 nursing [6]. Evidence-based practice is a systematic approach that integrates clinical experience with scientific knowledge. It helps to improve nursing practice for the patients and it is also effective to get a positive outcome for sick patients. Evidence-based practice is useful in recent times to identify clinical problems and streamline the healthcare process. Not only has the practice approach of nursing changed over time but also the resources of nursing changed over time due to technological advancement. Advanced equipment and diagnosis techniques are the main cause of change in nursing facilities. Professional nurses work independently and in collaboration with other healthcare professionals and nursing is becoming a popular profession globally. Around 2.9 million registered nurses in the United States alone and that determines nursing facilities in the modern age are improving [7].

4. Subjects and methods

Research methods and designs are the techniques and processes that are used in the research study to understand and evaluate the issue. Determining effective research methods is important to perform a research study efficiently. During the research different research types, philosophies, and data collection methods are needed to understand the research study more efficiently... This research follows the ***exploratory research design*** to understand the role of nursing in modern days. Research philosophy is also important for a research study and it gives insight into ideas to perform research effectively. The ***interpretivism research***

philosophy has been followed in this research and this philosophy helps to identify the main factors that need to focus on during the study [8]. This research study follows the ***secondary qualitative data collection*** methods to perform the research study more efficiently. The secondary qualitative data collection method is time efficient and it is also reliable for the study [9]. During the data collection, authentic journals, websites and newspaper articles that are published after 2018 are selected to collect data.

It makes this research more authentic and reliable and data analysis is also an important part of a research study, it gives an overall understanding of the outcome and helps to evaluate the outcomes of the study. This research has followed the ***qualitative data analysis method*** that makes this research study more time efficient. During the data analysis process, different themes have been formed according to the role of nursing in the modern age. This ***thematic analysis*** is crucial to understand the issue more prominently and it gives the advantage in the evaluation of research results [10]. During the research different ethical aspects have been considered to make the research study ethically correct

5. Result

5.1 Factors that help to evolve nursing facilities over the time

Professional nursing facilities started in the early 90s and evolved over time and nursing has grown in complexity from its origination. Few factors are there that help nursing facilities to evolve over time. New development in nursing facilities including education, training, advanced automated equipment and diversity among the nurses are influenced more to evolve nursing facilities. Development is the most effective tool to evolve any service and ***development in the healthcare sector*** is the most effective here to provide optimal treatments to patients. ***Technology*** plays a significant role in healthcare facility development. Emerging telehealth facilities and the innovation of automated equipment are crucial parts of today's medical facilities [11]. ***Telehealth facility*** helps patients to get nursing advice over the phone and it also helps the nursing staff to provide care to more people in a small time frame. ***Advanced automated diagnostic equipment*** and caregiving instruments are the main pillar of evolution in nursing facilities.

This equipment makes nursing staff more efficient and accurate at their work. ***Education in the nursing profession*** is very important to give care to needy people. The education system of nursing facilities is more advanced than before and it is more scientific. ***Evidence-based practices*** are the main pillar of success in the nursing education system. [12] Presently, nurses adopt evidence-based practice methods to get success in caregiving to needy people. Curriculums of bachelor's degree in nursing are mainly focused on the evidence-based learning method and also pay attention to the practical trial methods which enable nursing professionals to be more capable in caregiving to patients.

Diversity including ethnicity and gender is the main factor that helps to evolve the nursing system globally. Presently, the patient population is more diverse than before at the same time, inequalities in society are increasing. These days, people from different cast, ethnicity, genders and cultures are taking training from nursing institutes for giving healthcare to patients. Diversity among the nurses helps to remove discrimination among the patients and the diversification of the nursing workforce is important to address issues and helps to give effective treatment to the patients.

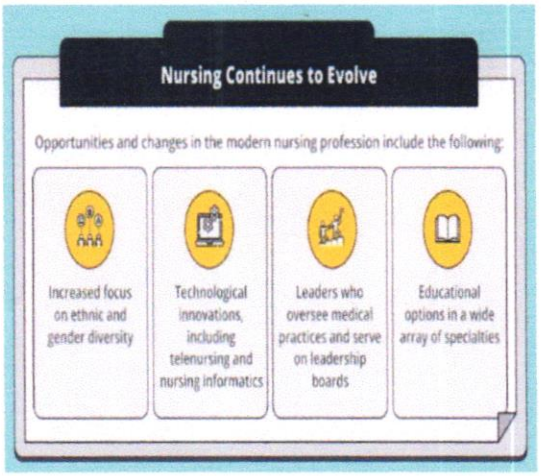

Figure 1: Factors that influence nursing facility evolution
(Source: Influenced by [12])

5.2 Role of nursing in modern healthcare

Nurses are the primary caregivers to the patients and are responsible for understanding the complex treatment measurements of a patient. Nurses work individually and also work in collaboration with other healthcare professionals to give patients optimum healthcare facilities. Registered nurse has multiple responsibilities to their patients. Nurses organised the patient's care and the primary role of nurses is educating patients about their healthcare awareness. They link the patients and a multidisciplinary team to provide cohesive medical treatments to sick people. Nurses have essential duties to provide patients with optimum treatment for improving the health of sick people. [13] Essential duties are centred around the different roles of the nurse and these include the following responsibilities

Medication and treatment administration is the primary role of nurses in giving healthcare facilities. Nursing professionals assist patients with medication and other healthcare advice to improve patients' health. They identify the symptoms and collect previous medical records that help the physicians to make treatment planning. ***Client education*** is also a crucial part to give people a healthy and tension-free life and nurses play a significant role in giving healthcare education to the people. Nurses educate people about the different health-related complications and make them aware of the symptoms. They also educate people about prevention measures for certain health-related issues. ***Diagnosis*** is the most important aspect of treating physically and mentally ill patients and nurses play a crucial role in diagnosing diseases.

Advanced technology evolves the healthcare system in the modern age and healthcare equipment evolves with time. Therefore, operating modern healthcare equipment is the most important part of caregiving to sick people. Due to modern training in nursing institutes, nurses learn to operate this new equipment and that helps them to diagnose people and deliver care to the patients. ***Case management*** is an important part of treating patients with severe complications. Nurses help other healthcare professionals to manage the case which helps doctors and other caregivers to plan treatment for sick people [14]. Nurses make records related to the medication and diagnosis reports from time to time and it helps doctors to suggest further procedures for the patient. Besides, nurses are the ***communicator between physicians and patients.*** They monitor the patient from time to time and inform doctors

about the physical and mental condition of the patient. It helps to keep severe patients out of danger and also helps to get out of the health-related issues of the patients.

6. Discussion

Nursing facilities are important in caregiving to physically and mentally sick people and it originated in the early 90s. After the origination, nursing facilities around the world evolved over time. Different factors have played a significant role in this evolution and these factors also help the patient to optimum nursing facilities in the modern age. Development in the healthcare sector, telehealth facility, advanced automated equipment, educational development and diversification of the nursing profession are the main factors which influence the evolution of nursing facilities. Telehealth services play a significant role in caregiving to patients [15]. Telehealth facility helps the nursing staff to give proper advice over the phone to the patients. It enables them to attend to more patients in a small time frame and makes nursing facilities more efficient. Advanced automated diagnostic and caregiving equipment make nursing staff more capable to give optimum care to patients.

Educational development is the major factor that evolves nursing facilities over time. Advanced training and education in nursing enable nursing staff to identify diseases and also help to give care to patients. Diversification of ethnicity, caste and gender is the most influential in the improvement of nursing facilities over time. It enables them to understand the issues prominently and makes them more capable to deliver the optimum care to the patients. Nursing facilities and the role of nursing staff have evolved over time. Nurses give assistance to physicians and other healthcare experts by providing health-related advice to patients. Medication and treatment administration is the main role of nursing staff in recent days. Nursing staff observe different symptoms of patients and provide health advice to get a healthy life.

These days, nurses have a crucial role in improving patients' education and awareness. They provide advice to the patients related to their physical and mental complications and it helps them to live healthy and tension-free lives. These days, nurses are capable of handling different advanced diagnostic equipment and they can diagnose patients effectively. It makes treating patients easy for physicians and makes the healthcare system more reliable. Nursing staff plays a significant role in the patient's case management. Nursing staff these days makes medication and diagnosis report-related records to assist doctors in treatment procedures [16]. Nurses act as the communicator between physicians and patients and that improves the health care facility.

7. Conclusion

Nurses are considered the main pillar of the healthcare system for assisting doctors and other healthcare experts to treat patients prominently. Nurses play a significant role in providing healthcare and also give advice to patients to live healthy and tension-free lives. On this note, technological development is the main factor that helps nursing facilities to improve over time. Telehealth facilities and advanced automated equipment are important factors in improving the nursing and healthcare system. Besides, the educational development and diversification of ethnicity, race, caste and gender also help the nursing facility to improve in recent times. Modern healthcare facilities depend on the nursing staff and they play a significant role in medication and treatment administration, diagnosis, patient case management and improving communication between patients and doctors. Considering all

these, the implementation of technologies and enhancing nursing knowledge can provide support in providing better care to patients and ensuring a sustainable outcome.

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Original Article

PHYTOCHEMICAL ANALYSIS AND ANTIMICROBIAL ACTIVITY OF *ATLANTIA MONOPHYLLA* (AM) EXTRACT

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ABSTRACT

Objective: Plants have long been recognised for their wide range of biological properties, including antibacterial, analgesic, anticancer, antipyretic, and antihypertensive action. They are also a significant source of several chemicals with biological activity. The Rutaceae family consists of a small shrub *Atlantia monophylla*. It is available all over India. The leaves were employed as an insect repellent and to alleviate swellings. The root bark has been found to contain atalaphyllinine, atalantin, dehydroatalantin, cycloepiatalantin, and atalaphylline 3, 5-dimethyl ether. Essential oil extracted from the leaves was reported to have antimicrobial properties.

Methods: To evaluate the phytochemicals Standard chemical methods for each o the compounds were used – like Tannins (0.1% ferric chloride), saponins (2 ml of water)/flavonoids (with NaOH), Alkaloids (Drangandooff reagent), protein (Million's reagent) steroids (10% sulphuric acid), anthraquinones (aqueous ammonia), Phenols (lead acetate), terpenoids, (3% sulphuric acids) Carbohydrates (Benedict's reagent). Disc plate method was used to evaluate the antimicrobial activity of the extract

Results: The results of this study identified the presence of tannins, flavonoids, alkaloids, proteins, steroids, phenols, terpenoids, and carbohydrates in the AM extract. The microbiological studies revealed better inhibitions of microbes compared to standard drugs.

Conclusion: Tannins, flavonoids, proteins, steroids, phenols, terpenoids, carbohydrates and alkaloids were extracted from the AM extract. The extract has significant microbiological action.

Keywords: *Atlantia monophylla*, Aqueous extract, Antibacterial, Antifungal, Phytochemical analysis

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INTRODUCTION

Plants have long been recognised as having a wide range of biological properties, including antibacterial, analgesic, anticancer, antipyretic, and antihypertensive action [1-5]. They are also a significant source of several chemicals with biological activity. Over the past 2000 years, a substantial percentage of the world has utilised plants extensively for health care and disease treatment, and these data have shown a strong association among conventional therapeutic plant usages and analyses in laboratories [6, 7]. The foundation of phytotherapy is the utilisation of biologically active substances found in plants [8, 9]. The application of plant extracts to slow the growth and decrease the population of the more dangerous infections is the most intriguing [10, 11]. Recent research has centred on the expanding need for plants as essential medications [12, 13]. Moreover, in view of rising antimicrobial resistance, as directed by the World Health Organisation, there is a need to discover novel and effective drugs [14].

The Rutaceae family consists of a small shrub, *Atlantia monophylla*. It is available all over India. The leaves were employed as an insect repellent and to alleviate swellings. The root has been found to contain atalaphyllinine, atalantin, dehydroatalantin, cycloepiatalantin, and atalaphylline 3, 5-dimethyl ether [15-17]. Essential oil extracted from the leaves was reported to have antimicrobial properties [18]. Pyropheophorbide, which was isolated from leaves using bioactivity as a guide, exhibited antiviral activity against type 2 of the herpes simplex virus [19]. Roots have been shown to contain antiallergic acridine alkaloids like cycloatalaphylline-A, citrrusinine-I, buxifoliadine-E, junosine, and yukocitrine [20]. The essential oil that was extracted from the leaves was documented in the literature [21]. The objective of the current study was to investigate the antimicrobial properties of the aqueous extract of *A. monophylla* obtained from the leaves gathered from AP, India, along with the phytochemical characterisation.

MATERIALS AND METHODS

Plant material

Fresh leaves of A. monophylla were collected from the Tirumala Hills region of the Eastern Ghats of Andhra Pradesh, India. It was authenticated and approved by a Botanist. leaves were shade-dried, powdered, sieved, and aqueous extract was prepared and carried out for further studies.

Extract preparation

100 g of powdered powder was suspended in 1000 ml of distilled water to synthesize the aqueous extract. After centrifuging the contents at 2000 x g for fifteen minutes, the supernatant was recovered after the contents had been autoclaved (121 °C, 15 min). After that, dilutions in sterile PBS (phosphate buffer saline) were prepared [22]. The extract was further used for phytochemical analysis and antimicrobial activity. All the chemicals used were of analytical grade, and cell-culture supplies were obtained from HiMedia laboratories Chennai, India.

Phytochemical analysis

The qualitative analysis was performed using standard methods [23].

Test for tannins

1 ml of sample was taken, and two drops of 0.1 percent ferric chloride were added to the sample and observed for brownish green or blue-black colouration, indicating the presence of tannins.

Test for saponins

A sample of 1 ml was taken, and 2 ml of water was added to it. The suspension was shaken in a graduated cylinder for fifteen minutes. A layer of foam indicates the presence of saponins.

Test for flavonoids

1 ml of the sample was taken, and NaOH was added to the sample, observed yellow colour. In subsequent addition, Concentrated hydrochloric acid was added, observed white colour, indicating the presence of flavonoids.

Test for alkaloids

A sample of 1 ml was taken, and two drops of Drangandoff reagent were added. A prominent yellow precipitate indicates the presence of alkaloids.

Test for protein

1 ml of sample was taken, and two drops of Millon's reagent were added. A white precipitate indicates the presence of Protein.

Test for steroids

1 ml of sample was taken, two drops of 10% concentrated sulphuric acid was added and observed for brown colour, indicating the presence of steroids.

Test for anthraquinones

1 ml of sample was taken, and two drops of 10 % aqueous ammonia were added and observed for change in colour. Pink, red, or violet colour in the aqueous layer indicates the presence of anthraquinones.

Test for phenols

1 ml of sample was taken; to that, 3 ml of 10% lead acetate solution was added. A bulk white precipitate formed at the surface indicates the presence of phenolic compounds.

Test for terpenoids

2 ml of chloroform, followed by 3 ml of concentrated sulphuric acid, was added to 0.5 ml of the extract. The formation of red red-brown colour at the interface confirms the presence of terpenoids.

Test for carbohydrates

1 ml of the sample was taken; two drops of Molisch's reagent were added. Carefully layer 1 ml of concentrated sulfuric acid down the side of the test tube, tilting to avoid immediate mixing. A distinct violet-red ring forms within 2 minutes; this indicates the presence of carbohydrates.

Antimicrobial activity

Agar disc diffusion method [24]

The disc diffusion method on Muller Hinton agar (MHA) medium determined the antibacterial extracts. MHA medium is poured into the petriplate. After the medium was solidified, the inoculums were spread on the solid plates with sterile swabs moistened with the bacterial suspension. The discs were placed in MHA plates, and 20 µl of sample (Concentration: 1000 µg, 750 µg and 500 µg) were placed in the disc. Gentamicin 20 µl/disc is taken as a positive control. The plates were incubated at 37 °C for 24 h. Then, the antimicrobial activity was determined by measuring the diameter of the zone of inhibition.

The antifungal activity of the Sample was determined by the disc diffusion method on the Sabouraud Dextrose agar (SDA) medium. Sabouraud Dextrose agar (SDA) medium is poured into the petriplate. After the medium was solidified, the inoculums were spread on the solid plates with sterile swabs moistened with the fungal suspension. Nystatin 20 µl/disc is taken as a positive control. Samples and positive control of 20 µl (Concentration: 1000 µg, 750 µg and 500 µg) each were added in sterile discs and placed in SDA plates. The plates were incubated at 28 °C for 24 h. Then, antifungal activity was determined by measuring the diameter of the zone of inhibition.

To evaluate Minimum Inhibitory concentration (MIC), 1 ml of sterile lB broth and PDA broth (Luria-bertaini broth for bacterial and potato dextrose agar for fungal) was distributed for every tube and was submitted to autoclave under constant pressure at the temperature of 121 °C. After the broth reaches room temperature add 1 ml of diluted sample in tube 1. Transferred 1 ml from tube 1 to tube 2. The transfer was repeated until tube 8. 100 µl of microbial cultures were added to all the tubes from 1 to 8. Incubation was done at 370 °C for 24 h. After incubation, the turbidity was observed. MIC was determined as the concentration of higher dilution tubes in which the absence of bacterial growth occurs

RESULTS

The qualitative analysis information has been depicted in table 1 and fig. 1. The extract contained tannins, flavonoids, alkaloids, proteins, steroids, phenols, terpenoids, and carbohydrates.

Table 1: Qualitative analysis of *A. monophyla* leaf aqueous extract

Test	Inference
Test for Tannins	Positive
Test for Saponins	Negative
Test for Flavonoids	Positive
Test for Alkaloids	Positive
Test for Proteins	Positive
Test for Steroids	Positive
Test for Anthraquinones	Negative
Test for Phenols	Positive
Test for Terpenoids	Positive
Test for Carbohydrates	Positive

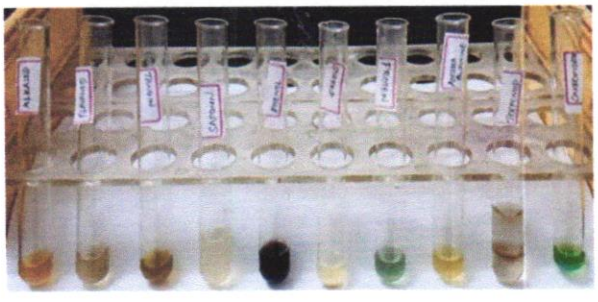

Fig. 1: Depiction of qualitative phytochemical analysis of A. monophyla leaf aqueous extract

Table 2: Minimum inhibitory concentration determination of aqueous extract of the *A. monophylla* leaves against bacterial cultures

Organisms	Concentration (µg/ml)							
	1000	750	500	250	125	62.5	31.2	15
Staphylococcus aureus	0.092	0.115	0.158	0.201	0.267	0.315	0.384	0.435
Escherichia coli	0.101	0.135	0.178	0.235	0.291	0.364	0.403	0.465
Salmonella	0.113	0.152	0.201	0.265	0.301	0.358	0.399	0.452
Bacillus cereus	0.089	0.145	0.201	0.265	0.301	0.358	0.399	0.452
Klebsiella	0.084	0.124	0.156	0.213	0.278	0.326	0.381	0.446

Table 3: Zone of inhibition of aqueous extract of the *A. monophylla* leaves against bacterial cultures

Organisms	Zone of inhibition (mm)			
	Extract (µg/ml)			Gentamicin (20 µl/disc)
	1000	750	500	
Staphylococcus aureus	15	15	11	20
Escherichia coli	17	14	14	24
Salmonella	22	15	13	30
Bacillus cereus	14	14	11	32
Klebsiella	20	17	12	25

Antibacterial activity

The minimum inhibitory concentration was seen at 1000µg/ml and effective for *Staphylococcus aureus, Bacillus cereus* and *Klebsiella* (table 2). The antibacterial activity of the aqueous extract of the *A. monophylla* leaves showed dose-dependent actions on the bacterial culture zone of inhibition compared to the standard drug Gentamicin (table 3).

Table 4: Minimum inhibitory concentration determination of aqueous extract of the *A. monophylla* leaves against fungal cultures

Organisms	Concentration (µg/ml)							
	1000	750	500	250	125	62.5	31.2	15
Trichoderma viride	0.126	0.143	0.198	0.261	0.304	0.365	0.418	0.483
Penicillium Marneffei	0.129	0.135	0.169	0.254	0.298	0.365	0.417	0.487
Candida albicans	0.143	0.156	0.201	0.268	0.321	0.386	0.454	0.510

Table 5: Zone of inhibition of aqueous extract of the *A. monophylla* leaves against fungal cultures

Organisms	Zone of inhibition (mm)			
	Sample (µg/ml)			Nystatin (20 µl/disc)
	1000	750	500	
Candida albicans	12	12	10	28
Trichoderma viride	20	18	13	22
Penicillium Marneffei	15	15	10	23

Antifungal activity

The MIC for aqueous extract of the *A. monophyla* leaves against *Candida albicans, Trichoderma viride,* and *Penicillium Marneffei* has been depicted in table 4. The extract exhibited effective MIC above 1000µg/ml for the microbes as mentioned above. The antibacterial activity of the aqueous extract of the *A. monophylla* leaves showed dose-dependent actions on fungal cultures zone of inhibition, compared to standard drug nystatin (table 5).

DISCUSSION

Due to the large range of phytochemicals, plant extracts have shown remarkable action against infections. There have been few in-depth analyses of these plants' potential as antibacterial agents and phytochemical entities [25-27]. The emphasis is turning to phytomedicines due to antibiotic resistance, negative side effects, and the expensive development costs of synthetic drugs [28-30]. This investigation discovered probable plant species that have historically been used to treat various medical conditions. According to qualitative phytochemical analysis, this plant under investigation contained several phytochemical classes of chemicals, such as flavonoids, tannins, alkaloids, phenols, and steroids. The phytochemicals with the most noticeable visual colour changes in this screening were flavonoids, alkaloids, tannins, and phenols.

Some of the identified compounds, particularly certain flavonoids that were found, have been credited with various ethno-medicinal plants with antibacterial properties. Additionally, the antibacterial properties of certain alkaloids and tannins were widely recognized [31, 32].

Most plant extracts exhibited MIC ranging from 0.6 µg/ml to 5000 µg/ml [33]. In the present study, the zone of inhibition of plant extract against various pathogens selected in this study was nearly comparable to the standard drug Gentamicin 20 µl/disc. The MIC was effective at 1000 µg/ml against *Staphylococcus aureus, Bacillus cereus* and *Klebsiella,* but not sensitive to *Escherichia coli* and *Salmonella.*

Many different chemicals with recognized therapeutic qualities are found in medicinal plants. Therefore, significant research was dedicated to plant-derived antifungals based on the understanding of plants possessing an inbuilt defence system. Another approach to stop the spread of diseases is the medicinal use of such plant products. Several plant extracts have shown strong antifungal properties. The aqueous extract of *Atlantia monophylla* displayed a greater range of antifungal activity on the fungi tested in the current investigation. The plant extract showed antifungal efficacy at 1000 µg/ml compared to nystatin 20 µl/disc. The test to determine fungi's susceptibility with the extract at 1000 µg/ml revealed the following: *Trichoderma viride>Penicillium Marneffei>Candida albicans.*

CONCLUSION

The present study demonstrated the antifungal and antibacterial activity of *Atlantia monophylla* aqueous extract along with phytochemical analysis with substantial evidence for its therapeutic potential. There is plenty of potential for investigating how plants alleviate diseases with a more scientific basis as these substances are employed in traditional medicine. Therefore, the chemicals must be isolated, identified, and used in contemporary medicine.

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AUTHORS CONTRIBUTIONS

All the authors have contributed equally

CONFLICTS OF INTERESTS

Declared none

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Psychological Distress in Parents of children with Cancer: A Descriptive Cross-sectional study

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Abstract:

Parenting stress is an aversive psychological response to the strains of being a parent that occurs when parents cannot meet the demand of parenthood such as having adequate information, the ability to provide care and the level of competency of doing so. Stress is commonly experienced by parents of children with serious illnesses such as cancer. Accordingly, a comparative study conducted by Pollock *et al* found parents of children with cancer exhibited more severe physiological symptoms of stress than parents of healthy children. Several studies have also found that parents of children with cancer experienced significant levels of stress related to their children's condition. **Objectives: 1.** To Assess the level of psychological distress among parents of children with cancer treatment. 2. To find out the association between the psychological distress in parents of children with cancer treatment with their Selected socio- demographic variables. **Materials and methods**: It is descriptive study carried out in 60 parents of children with cancer treatment. The socio demographic data and structured questionnaire was used to collect data from participants. **Results:** With regards to the study, mean score for the level of psychological distress in parents was 39.63 and the standard deviation is 7.13 . **Conclusion:** The study concluded that psychological distress in parents of children with cancer with 10(16.66%) had Extremely psychological distress.

Keywords: Cross sectional study, psychological distress, Cancer

Introduction:

The survival rate for childhood cancer has increased dramatically, and is now approaching 80%. Thus, most children diagnosed with cancer experience the end of curative treatment and transition into survivorship, a period characterized by unique challenges for both survivors and their parents. A high proportion of parents report negative psychological effects in connection with the diagnosis, including symptoms of post-traumatic stress. For most parents the psychological distress declines during the initial months following the diagnosis, thereafter the decline abates and from three months after end of

treatment only a minimal decline occurs. Indeed, research shows that a substantial subgroup continues to report a high level of anxiety, depression, general psychological distress, and/or post-traumatic stress symptoms (PTSS) up to 10 years after the child's diagnosis[1].

The Psychological distress among Indian parents, eighty-six of 104 parents completed the Survey About Caring for Children with Cancer (83% participation); 81 parents had complete Kessler-6 Psychological Distress Scale data. More than 50% of parents reported high PD and 16% met criteria for serious PD (compared with US prevalence of 2%-3%). Parent perceptions of prognosis, goals of therapy, child symptoms/suffering, and financial hardship were associated with PD. In multivariate analyses, average parent Kessler-6 Psychological Distress Scale scores were higher among parents who believed their child was suffering highly and who reported great economic hardship. Conversely, PD was significantly lower among parents whose prognostic understanding was aligned with concrete goals of care.Their study showed a high prevalence of depression in Indian parents of children with cancer, about 86% of their parents had mild to severe depression (67%of mothers and 19% of fathers). These results indicate that, about 7% of the parents had scores in favour of severe depression and 46%had scores in favour of moderate depression[2].

Research on psychological distress in parents of children with cancer treatment is crucial as it helps explore non-interventional approaches to healthcare during cancer. Understanding its efficacy and safety can empower both healthcare providers and individuals in making informed decisions about their care. Additionally, research contributes to the body of knowledge, improving overall physical and mental health outcomes. Statistical evidence in research on psychological distress provides quantifiable data on its outcomes. This statistical foundation is essential for informed decision-making by healthcare professionals and individuals.[3]

Objectives

1. To assess the level of psychological distress among parents of children with cancer treatment.
2. To find out the association between level of psychological distress among parents of children with cancer treatment along with their selected socio demographic variables.

HYPOTHESIS:

Research hypothesis:

H_1: There is a statistically significant association between psychological distress among parents of cancer children with their selected demographic variables.

Null Hypothesis:

HO_1: There is no statistically significant association between psychological distress among parents of cancer children with their selected demographic variables.

METHODOLOGY:

Research Design: Quantitative research approach, cross-sectional descriptive research design was used for the present study.

Setting: Narayana Medical College and Hospital, Nellore, it was 1800 bedded hospital with all specialities.

Sample size :

The estimated Sample size for the present study was 60, as calculated by using Yamane's formula $n=N/1+N(e)^2$

n= sample size

N= total number of parents =60

e= desired level of precision =0.05

$n= N/1+N(e)^2$

$n=N/1+60(0.05)^2=60/1+60(0.0025)=60/1+60\times0.15$

60/1.15= 52

Criteria for sample selection

Inclusion Criteria:

The parents of children who were:

currently receiving treatment for newly diagnosed or a relapse of paediatric cancer.

Child age between 0 to 18 years.

Exclusive criteria:

parents below 21 years of age have reportedly distinctive parenting challenges and greater susceptibility to psychological symptoms unrelated to caregiving burden so excluded from the study.

(1) Data Collection Tool:

The tool consists of two parts:

Part – A: It deals with socio demographic data of parents. It includes Age, Gender, Religion, Occupation, Family Income and Birth order

Part – B: It consist of 25 multiple choice questionnaires to assess the knowledge regarding psychological distress in parents of children with cancer treatment in Narayana Medical College hospital, Nellore.

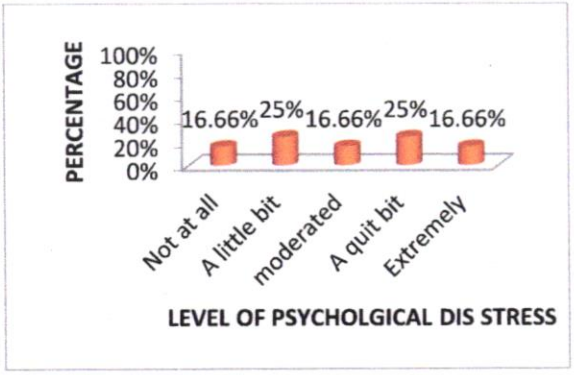
Score Interpretation

Level of psychological distress	Percentage (%)
Not at all	91-100
Not at all	81-90
A little bit Dis stress	71-80
Moderate Dis stress	61-70
A quit bit Dis stress	51-60
Extremely Dis stress	<50

Data Collection Procedure: The data collection procedure was carried out after obtaining approval from the Institutional Ethics Committee, Narayana College of Nursing, Nellore.

Data collection schedule:

S.No	Date	No of participants
1	10.10.23 to 11.10.23	18
2	12.10.23 to 14.10.23	20
3	15.10.23 to 17.10.23	22



10(16.66%) parents of children had No psychological distress at all,15 (25%) had a little bit of psychological distress ,10 (16.66%) had moderated psychological distress, 15(25%) had a quit bit distress, 10(16.66%) had Extremely psychological distress

Discussion:

In relation to **Age**, calculated (x2) value is 2.31and table value is 21.03. The calculated value is less than Table value, so there is Non significant association.

In relation to **Gender** the calculated (x2) value is 9.677and table value is 9.49. The calculated value is less than table value. So, there is Non Significant association.

With context to **Religion** calculated (x2) value is 4.067 and the table value is 15.51. The calculated

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value is less than table value. So, there is Non significant association.

In accordance to **occupation** calculated (x2) value is 4.742 and table value is 21.03.The calculated value is less than value. So, there is Non significant association.

In accordance to **family income** calculated (x2) value is 2.392 and table value is 15.51. The calculated value is less than value. So, there is Non significant association.

In association to **birth order in the family** calculated (x2) value is 11 and table value is 15.51.The calculated value is less than value. So, there is Non significant association.

Recommendations:

Based on the findings of the following recommendations are suggested for future research.

The study can be conducted in different setting.

A study can be replicated to a large size.

A similar study can be done in different population and also on different domains like anxiety, cognitive problem etc.

Limitations:

1. The small sample size of participants in this study, which was conducted at a single site, potentially limited generalizability and contributed to nonsignificant associations between participant characteristics and distress.
2. Including more caregiver responses could provide a more comprehensive and accurate description of caregivers' distress in the study population.
3. In addition questionnaires were used to obtain information about the psychological distress of parents od children with cancer have limited exploration of their opinion and experiences which could have been further explored through open ended questionnaires.

Conclusion:

The research results concluded that psychological distress among parents has extreme in 10%. Supporting parents in their psychological adaptation to their child illness is therefore highlighted as a necessary cornerstone in providing quality therapy and improving treatment outcomes for cancer patients.

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A DESCRIPTIVE STUDY ON EMERGENCY CASES DURING PRE, INTRA AND POST COVID 19 PANDEMIC REPORTED AT TERTIARY CARE HOSPITAL, NELLORE, ANDHRA PRADESH

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Abstract

Background of the study: *Corona virus disease (COVID-19) is an infectious disease caused by the SARS-CoV-2 virus. It was first reported to the World Health Organization (WHO) from Wuhan, China, in December 2019, caused by the severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2). The virus has spread to India and 106 other countries in Asia, Europe, North America, Africa, and Oceania. On March 11, the World Health Organization (WHO) declared the outbreak a pandemic. India has one of the highest COVID-19 infection rates in the world with over 2.5 million confirmed cases and the death toll on the rise. The first case of COVID-19 was identified on January 30, 2020 in Kerala, in a student who had returned from Wuhan, China. In response, the Government imposed a nationwide lockdown to prevent community transmission of the infection.* ***Methodology:*** *The research design is Descriptive cross-sectional retrospective design that focus on obtaining information about association between emergency reported cases during pre, intra and post COVID-19 pandemic with selected socio demographic variables. The study was conducted at casualty and secondary data was obtained from records maintained in emergency departments at Narayana Medical College and Hospital. 250 samples were chosen by convenience sampling technique and data was collected by using a self-structured questionnaire. EZR software was used to analyze the data.* ***Results:*** *Majority of diagnosis during pre, intra and post pandemic 6 (8.5%) CVA, 10(14.3%) COPD, are higher during pre-pandemic comparative of intra and post pandemic. 14(14.1%) poisoning, 11(11.1%) Hypertensive, 9(9.1%) fracture, 13(13.1%) abscess are higher in post pandemic comparative of pre and intra pandemic. Minority of diagnosis during pre, intra , post pandemic 1(1.0%) bronchitis , 1(1.0%) snake bite , are lower during post pandemic compared to pre and intra pandemic, 1[1.4%) pneumonia are lower during pre-pandemic compared to post and intra pandemic.*

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INTRODUCTION

Corona virus disease (COVID-19) is an infectious disease caused by the SARS-CoV-2 virus.It was first reported to the World Health Organization (WHO) from Wuhan, China, in December 2019[1]. The first case of COVID-19 was identified on January 30, 2020 in Kerala, in a student who had returned from Wuhan, China. India declared a lockdown which was starting from 25 March 2020 to 30 May 2020 and gradually relaxed after that1. There was a significant reduction in the growth rate of cases. It also helped increase the duration in the doubling of patients[2]. Few studies have reported the impact of lockdown on various essential services. Knowing the effect of lockdowns on hospital services is essential to plan for future pandemics and disasters. Further, with each country experiencing more than one wave, lockdowns (either nationwide or region wise) would be required in the ensuing years[3].

A study described by Mandeep Kaur Saini, Hemendra Kumar et.al on Impact of lockdown on medical emergency visits during the COVID-19 pandemic in India, The pattern of diseases requiring emergency visits during the lockdown period differed significantly from those before and after. The proportion of cardiovascular diseases and poisonings had increased during the lockdown period[4]. During the national lockdown of India for COVID-19 a substantial decrease in ED visits was observed and similarly, family Doctors widely reported a considerable reduction in clinic visits. The possibility of postponing necessary urgent care for conditions with possible serious consequences has been advocated in India and in other countries and this could have been a contributing factor of death in some patients[5].

OBJECTIVES

1. To identify and describe the Emergency cases during pre, intra and post COVID 19 Pandemic reported to emergency department at tertiary care facility.
2. To identify the association between the reported cases during pre, intra and Post COVID 19 pandemic with selected socio demographic variables.

HYPOTHESES

H0: There will be no significant association between the reported cases during pre, intra and Post COVID 19 pandemic with selected socio demographic variables.

H1: There will be significant association between the reported cases during pre, intra and Post COVID 19 pandemic with selected socio demographic variables.

METHODOLOGY

Research Design: Quantitative approach, descriptive cross-sectional retrospective design

Setting of the study: Narayana Medical College and Hospital, Nellore

Sample: The patients who developed emergency during pre, intra and postCOVID-19 Pandemic and admitted in emergency Department, ICU's at Narayana Medical College and Hospital, Nellore In this study convenience sampling technique is used to select the samples which fit into the inclusion criteria.

Criteria for sampling:

Inclusion criteria:

1) Aged between 18-65yrs
2) Both males and females

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Exclusion criteria:

1) Records which are incomplete

2) Aged less than 18 years.

Demographic Variables

Basic demographics includes age, gender, IP number of the participant, contact number area of living: Urban/Rural, occupation, history of medical condition, History of surgical conditions, history of attack COVID-19

Data Collection Tool:

Developed self-structured questionnaire to obtain details available in the client's case sheet /records in emergency department of Narayana Medical College and Nellore.

The permission to conduct the study obtained from the Medical Superintendent and previous Medical Records was used to collect information regarding emergency cases in pre, intra and post COVID 19 pandemic.

Table 1: Distribution of emergency cases during pre, intra and post pandemic

cd.no	Diagnosis	Pre-pandemic n%	Intra-pandemic n%	Post-pandemic n%
00	Poisoning	13(18.6)	9(33.3)	14(14.1)
01	Respiratory Tract Infection	4(5.7)	3(11.1)	10(10.1)
02	COPD	10(14.3)	2(7.4)	3(3.0)
03	CVA	6(8.6)		3(3.0)
04	HTN	3(4.3)	2(7.4)	11(11.1)
05	Cellulitis	--	--	--
06	Bronchitis	1(1.4)	1(3.7)	1(1.0)
07	Hydrocele	--		1(1.0)
08	Hernia	2(2.9)		4(4.0)
09	Diabetes mellitus	5(7.1)	4(14.8)	5(5.1)
10	Snake Bite	3(4.3)	1(3.7)	1(1.0)
11	Heart Failure	6(8.6)	3(11.1)	4(4.0)
12	Asthma	--	1(3.7)	3[3.0)
13	Gastritis	1(1.4)	--	1(1.0)
14	Appendicitis	2(2.9)	--	6[6.1)
15	Fracture / Dislocation	2(2.9)	--	9[9.1)
16	Pneumonia	1(1.4)	--	4(4.0)
17	Seizures	1(1.4)	1(3.7)	2(2.0)
18	Abscess	5(7.1)	--	13(13.1)
19	Ear infection	1(1.4)		4(4.0)
20	Chronic Kidney Disease	4(5.7)		--

Table 01 shows the majority of diagnosis during pre, intra and post pandemic 6(8.5%) CVA, 10(14.3%) COPD, are higher during pre-pandemic comparative of intra and post pandemic. 14(14.1%) poisoning, 11(11.1%) Hypertensive, 9(9.1%) fracture, 13(13.1%) abscess are higher in post pandemic comparative of pre and intra pandemic.

Minority of diagnosis during pre , intra , post pandemic 1(1.0%) bronchitis , 1(1.0%) snake bite , are lower during post pandemic compared to pre and intra pandemic, 1[1.4%) pneumonia are lower during pre-pandemic compared to post and intra pandemic.

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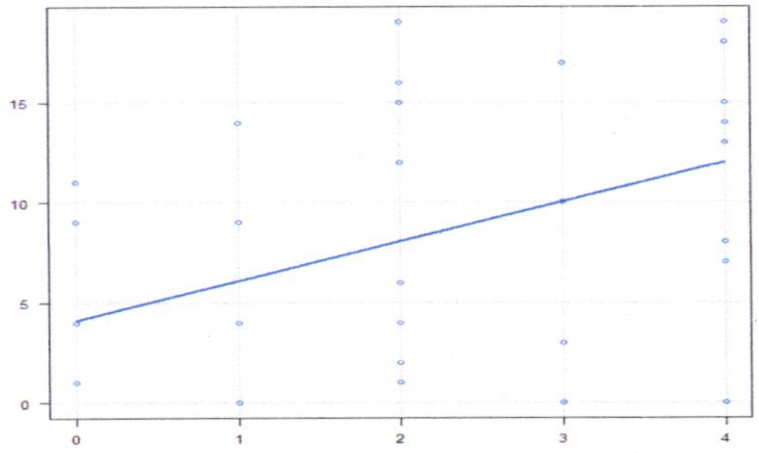
Table 2: Association between demographic variable of emergency cases and post pandemic diagnosis

Demographic variables	X^2	Df	P value
Gender	19.3	18	0.37
Area of living	68.56	18	0.007*
Occupation	62.05	54	0.211
History of medical condition	246.87	72	0.001*
History of surgical condition	70.918	42	0.034*

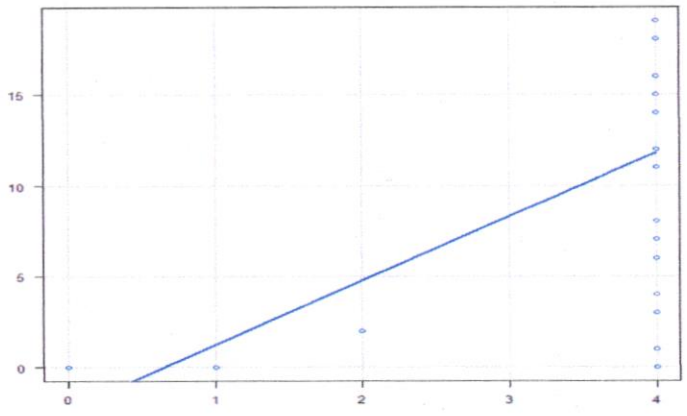
Table 2 Shows that chi square test for independence shows there was statistically significant association between area of living, history of medical condition and history of surgical condition with diagnosis of post pandemic where **p** value is <0.05 .

Figure: 1 spearman rank correlation between history of medical condition and diagnosis of post pandemic COVID 19



Spearman rank correlation as shown weak positive correlation between post pandemic diagnosis and history of medical condition where rho value is 0.42

Figure 2: Spearman rank correlation between history of surgical condition and diagnosis of post pandemic COVID 19



Spearman rank correlation as shown weak positive correlation between post pandemic diagnosis and history of surgical condition where rho value is 0.328

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DISCUSSION

The data were analyzed based on the objectives and assumptions formulated for the study. Socio-demographic data containing characteristics of reported emergency cases was analyzed using frequency, percentage, mean and standard deviation; association between outcome variables and selected socio-demographic variables was analyzed by chi square test.

- Large part of samples were 66 [66.7%] from Area of living Rural
- Mass of samples 45 [47.9%] Occupation in others
- Greater number of samples 39 [40.2%] has history of medical condition in others
- Superiority of samples 55 [94.8%] has history of surgical condition in others
- Best part of samples 52 [19.7%] Aged 35 in years.

Majority of Sample distribution based on diagnosis during pre, intra and post COVID-19 pandemic.

- 6 [8.5%] CVA, 10 [14.3%] COPD was higher during pre-pandemic comparative of intra and post pandemic.
- 14 [14.1%] poisoning, 11 [11.1%] Hypertensive, 9 [9.1%] fracture, 13 [13.1%] abscess were higher in post pandemic comparative of pre and intra pandemic.

Minority of Sample distribution based on diagnosis during pre, intra, post pandemic

- 1 [1.0%] bronchitis, 1 [1.0%] snake bite, was reported during post pandemic compared to pre and intra pandemic.
- 1[1.4%] pneumonia was reported during pre-pandemic compared to post and intra pandemic.

Association

Association between demographic variables and post pandemic shows that chi square test for independence shows there is statistically significant association between area of living, history of medical condition and history of surgical condition with diagnosis of post pandemic where **p** value is <0.05 .

Correlation

- Spearman rank correlation has shown weak negative correlation between post pandemic diagnosis and area of living where rho value is 0.489.
- Spearman rank correlation as shown weak positive correlation between post pandemic diagnosis and history of medical condition where rho value is 0.42
- Spearman rank correlation as shown weak positive correlation between post pandemic diagnosis and history of surgical condition where rho value is 0.328.

CONCLUSION

- The study was concluded that majority of reported emergency cases was 99 during post COVID-19 compared to intra 27 and pre 70 COVID-19 pandemic.
- Majority of reported cases 14 [14.1%] poisoning were higher in post pandemic comparative of pre and intra pandemic.
- Very minority 1 [1.0%] bronchitis, 1 [1.0%] snake bite, was reported during post pandemic compared to pre and intra pandemic.

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EFFECT OF GARLIC THERAPY ON BLOOD PRESSURE AMONG THE PATIENTS WITH HYPERTENSION IN SELECTED AREA, NELLORE: A RANDOMIZED CONTROL TRAIL

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Abstract

In India, the biggest risk factor for chronic diseases is hypertension. According to recent epidemiological studies, young people and those living in rural areas of India are experiencing a higher rate of increase in hypertension. Young-age hypertension is very common, particularly in the less developed states. India has a far higher prevalence of adverse outcomes from cardiovascular disease due to hypertension than do developed nations. An important result is the low awareness, treatment, and control of hypertension, particularly among underserved urban and rural populations. Garlic is a vegetable herb best known as a flavoring for food. Garlic has numerous health benefits; it has an antihypertensive, antidiabetic, antilipid, antimicrobial and antiplatelet effect on the body. **Methodology:** Present study was conducted to assess the effect of garlic therapy on blood pressure among hypertensive clients in selected Community area. Using quantitative approach with Rondamized controlled design the study was conducted among 60 samples selected by probability simple random sampling technique from selected Community areas in Nellore District, Andhra Pradesh. **Results:** Regarding the impact of consuming garlic therapy on lowering blood pressure in hypertension patients, 19 (63.4%) of the experimental group's participants had normal blood pressure at the time of the measurement, and 11 (36.6%) had mild blood pressure; in contrast, only 3 (10%) of the Control group's participants had normal blood pressure, 23 (76.6%) had mild blood pressure, and only 4 (13.3%) had moderate blood pressure. The hypertensive patients had a mean score of 21.7, a standard deviation of 5.41, and a calculated "z" value of 6.64. The study's conclusions demonstrate the beneficial effects of garlic therapy consumption on hypertension patient's blood pressure levels.

Index Terms: Effect, Garlic Therapy, Hypertensive Patient.

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INTRODUCTION

Hypertension is one of the most common disease affecting the adult people. The World Health Organization reports details that in 2023 global hypertensive patients coverage cause 7.5 millions of death. The hypertension prevalence among elderly in globally is 53.72%. The prevalence of hypertension will increased with age. Nearly half of adult (119.9 million) have hypertension. Researchers looked into a number of published studies on the impact of garlic on hypertension. The majority of research employed 600–900 mg of garlic powder daily, which yields 3.6–5.4 mg of allicin, the main ingredient in garlic that lowers blood pressure. According to the investigation, hypertension patients who take garlic appear to have lower systolic and diastolic blood pressure than those who do not. Compared to patients whose blood pressure was not high at the start of the research, those who had high blood pressure at that point shown a better effect. By relaxing blood vessels and disrupting the action of angiotensin I, an enzyme involved in the development of high blood pressure, garlic may lower blood pressure. It might also have an indirect effect by dissolving blood clots in the blood arteries and lowering cholesterol. The majority of the research that made up the study were done for a brief period of time—between 12 and 23 weeks. Longer-term studies are needed to determine garlic's benefits in the long run for hypertension. It could be possible to further solidify the link between garlic and blood pressure by using standardised garlic preparations. Preparations made from garlic provide a number of benefits over raw garlic.

Objectives

1. To identify the demographic variables of patients with hypertension
2. To evaluate the effectiveness of garlic powder on reduction of blood pressure level among the patients with hypertension
3. To associate the effectiveness of garlic powder on reduction of hypertension with the socio demographic variables.

Hypotheses

H1: There will be a significant difference between the mean pretest Blood Pressure level and mean posttest Blood Pressure level of patients in the experimental group after administration of garlic powder.

H2: There will be a significant difference between the mean posttest blood pressure Levels among experimental and control group.

H3: There will be a significant association between garlic powders on reduction of hypertension with selected socio demographic variables.

Null hypothesis

H01: There will be no significant difference between the mean pretest Blood Pressure level and mean posttest Blood Pressure level of patients in the experimental group after administration of garlic powder.

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H02: There will be no significant difference between the mean posttest blood pressure levels among experimental and control group.

H03: There will be no significant association between garlic powders on reduction of hypertension with selected socio demographic variables.

LITERATURE REVIEW

Prashant R Kokiwar,2012 conducted community based cross sectional study in rural community to find out prevalence of hypertension in central India and to know the factors contributing to it.924 study subjects aged 30 years and above were selected using systematic random sampling of houses. Anthropometry, Blood Glucose, and Blood pressures were measured with standard instruments and methodology for all the study subjects. Statistical tests like Chi square, Student's t test and chi square trend were used to analyze the data where ever applicable. Results showed Prevalence of hypertension was 19.04%. It was higher in females (23.4%) than males (14.4%). It was seen that prevalence of hypertension increased with age. Prevalence of Pre hypertension was high (18.8%). 4.3% had isolated systolic hypertension and 0.9% had isolated diastolic hypertension. Older age, increased body mass index and waist hip ratio were significantly higher among hypertensive compared to normotensive. Factors like upper social class, sedentary physical activity, tobacco use and diabetes were significantly associated with hypertension. Alcohol intake was not associated with hypertension.

Stabler SN,Tejani AM,Huynh F,Fowkes C,2012 systematic review to determine the garlic as monotherapy, in hypertensive patients, lowers the risk of cardiovascular morbidity and mortality compared to placebo. Systematic search for trials was conducted in the Cochrane hypertension group register, CENTRAL, MEDLINE, EMBASE, AMED and CINAHL upto November 2011.Search identified two randomized controlled trials for inclusion. One trial included 47 hypertensive patients and showed that garlic significantly reduces mean supine systolic blood pressure by 12mmHg (95% CI 0.56 to 23.44mmHg, p=0.04) and mean supine diastolic blood pressure by 9mmHg (95% CI 2.49 to 15.51mm Hg,p=0.007) versus placebo. The author further states that garlic was "free from side effects" and that no serious side effects were reported. The second trial couldn't be meta-analysed as they did not report the number of people randomized to each treatment group. They did report that 200mg of garlic powder given three times daily, produced a mean reduction of systolic blood pressure by 10-11mg and of diastolic blood pressure by 6-8mmHg versus placebo.

Conceptual Frame work

The conceptual framework of the study was based upon J. W. Kenny's open system model. All living systems are open in that there is a continual exchange of matter, energy and information. Open Systems have varying degrees of interaction with the environment from which the system Receives input and gives back output in the form of matter. Energy and information for Survival all system must receive varying types and amount of matter, energy and Information.

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The main concepts of the system model are Input, Throughput, Output and feedback

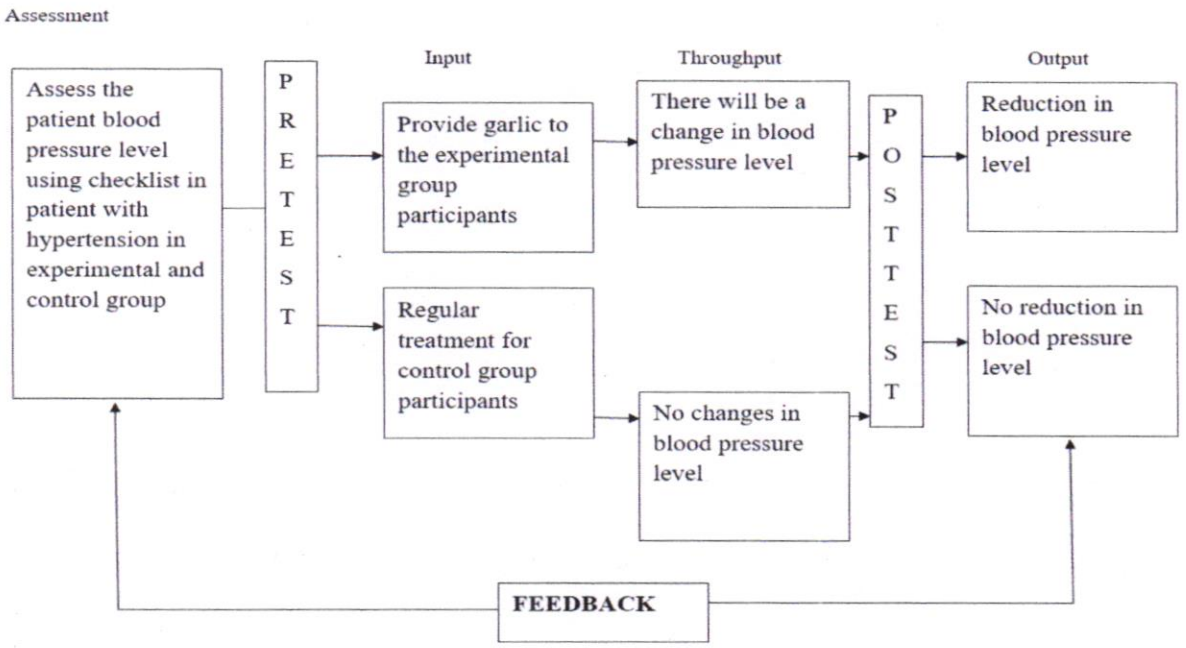

Figure 1: Conceptual Framework Based on J.W.Kenny's Open System Model

METHODOLOGY

Trial design: Randomized open-label parallel group trial was selected with 1:2 allocation ratios for experimental group and control group.

Study Setting:

The study was conducted at Venkatachalam in Nellore. Venkatachalam is located 23.2 kilometers away from the Narayana College of Nursing. Overall population of Venkatachalam is 75,981 out of which males are 18,140, females are 15,134. 2256 participants having hypertension. Health facilities such as primary health Centre & anganwadi centers, Government schools are available.

Population

Target population

Target population of the present study includes all hypertensive patients.

Accessible population

Accessible population of this study was hypertensive patients residing in Venkatachalam, Nellore

Sample Size

Sample size was 60 who fills inclusion criteria. An eligible sample was recruited by lottery method of simple Random technique. Eligible samples were randomly allocated to

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Experimental Group (30) and controlled group (30) through the chits. In chit, every 1 number was allocated to Experimental group and every 2 number in chit allocated to control group.

Criteria for Sample Selection

Inclusion criteria

The study participants includes;

- Who are willing to participate.
- Both female & male clients.
- Who can speak and understand Telugu or English.
- Who have mild hypertension (systolic 130-139 mmHg & diastolic 80-89mmHg) and moderate hypertension (systolic 140-159 mmHg & diastolic 90-99 mmHg).

Exclusion criteria:

The study participants includes;

- Who have complication like heart failure, neuropathy, hormonal disorder etc.
- Who have severe blood pressure > 180/> 110 mmHg.
- Prior history of adverse reaction to garlic.
- Pregnancy or lactation.

Data Collection Tool:

The tool used for this study consists of 4 sections. Section I to III consist of structured questionnaire

Section I:

- Demographic Data: It includes age, gender, educational status, occupation, religion, marital Status, Income, type of family

Section II:

- Clinical profile: Time of diagnosis, Duration of treatment, previous medical history, Type of treatment, family history of hypertension.

Section III:

- Life style pattern: Type of diet, Exercise, Smoking, BMI.

Section IV:

- The self-structured checklist was used to assess the blood pressure for experimental and control group.

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Each individual was informed of the overall objectives and procedures of this trial before obtaining the written informed consent. The study protocol was approved by a research ethics committee, Narayana College of Nursing.

Table 1: The Distribution of blood pressure level in experimental group and in control group before and after administration of garlic therapy.

n=60

Level of blood pressure	Experimental group				Control group			
	Pre test 1st day		Post test 15th day		Pre test 1st day		Post test 15th day	
	F	%	F	%	F	%	F	%
<120/80	-	-	7	23.3	-	-	-	-
121/81-139/89	12	40	23	76.7	7	23.3	16	53.4
140/90-159/99	17	56.7	-	-	21	70	14	46.6
≥160/100	1	3.3	-	-	2	6.7	-	-

12 (40%) participants had 121/81-139/89mm of Hg in pre Intervention, whereas in post intervention (15th day) 23(76.7%) participants had 121/81-139/89mmHg and 17(56.7%) participants had 140/90-159/99 mm of Hg in pre intervention, whereas in post intervention (15th day) none of them had 140/90-159/99 mm of Hg in the experimental group.

In control group, 7 (23.3%) participants had 121/81-139/89 mmHg in pre intervention, in post intervention (15th day) 16 (53.4%) participants had 121/81-139/89 mmHg and 21 (70%) participants had 121/81-139/89 mmHg in pre intervention, whereas in post intervention (15th day) 14 (46.6%) participants had 121/81-139/89 mmHg in control group.

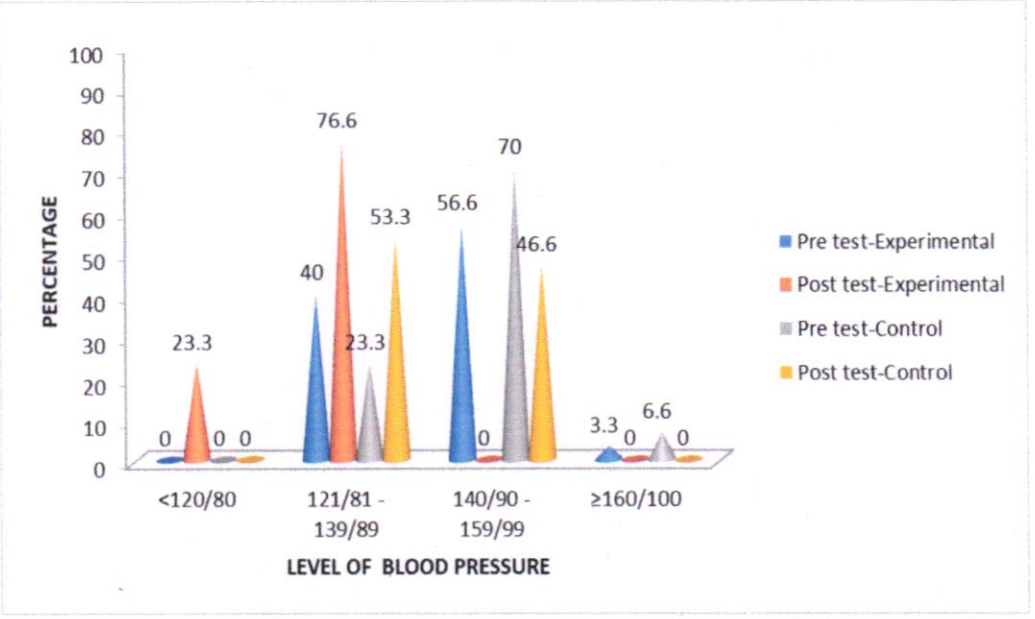

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Table 2: Comparison of mean in pre and post assessment in experimental group.

Test	Mean	Mean difference	SD	'Z' test	Remarks
Pre Intervention	140.3/80	21.7	9.96	Cv:6.64 Tv:12.25 P:0.05	NS
Post Intervention	118.6/80		5.41		

The pre intervention mean blood pressure of the experimental group was 140.3/80 with a standard deviation of 9.96. With a standard deviation of 5.41, the post intervention mean blood pressure was 118.6/80.The Z value that was achieved, 6.64, was less than the tabulated value of 12.25 at the 0.05 threshold of non-significance, indicating that the results from the preceding table were confirmed.

The study's conclusions demonstrate the information offered on lowering blood pressure levels in hypertensive patients by administering garlic therapy. As a result, the research hypothesis was rejected and the null hypothesis was accepted

DISCUSSION

The goal of the current study is to evaluate the effect of consuming garlic therapy using 60 samples—30 for the experimental group and 30 for the control group. 19 participants (63.3%) had normal blood pressure, 11 participants (36.6%) had mild blood pressure, 3 participants (10%) had normal blood pressure, 23 participants (76.6%) had mild blood pressure, and 4 participants (13.3%) had moderate blood pressure in the control group.

The obtained "z" value is 6.64, the mean value is 21.7, and the standard deviation is 5.41. As a result, there is a significant association between blood pressure and sociodemographic Variables such sex, education, family history of hypertension, and body mass index.

LIMITATIONS

The limitations of the current study is the small number of patients with mild and moderate hypertension which may affect the generalization.

RECOMMENDATIONS

- A longitudinal study can be conducted to assess the effectiveness of garlic therapy in maintaining blood pressure level.
- This study can be done as a comparative study in different settings.
- The effectiveness of garlic therapy can be tested for other disease conditions like hyperlipidaemia, and other cardiac disease etc.

CONCLUSION

- In conclusion, our present trial indicates that garlic supplementation can be useful to reduce blood pressure.

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Conflict of Interest

- The authors declare that they have no competing interests.

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"A Study To Assess The Effectiveness Of IEC On Menopausal Symptoms And Perceptions Among Menopausal Women At Venkatachalam, Nellore"

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Abstract

Introduction : *Menopause is a crucial period in a woman's life. The quality of life declines during this period due to the various problems associated with estrogen deficiency and aging. With increasing life expectancy of women all over the world, 25%-30% of a woman's life is in the postmenopausal period. Coping with the pressures of modern life and the mood swings of menopause together can be overwhelming Attention to the health and emotional needs of these women is important for the individual, family and community.*
Need for the study: *Menopause marks a time of dramatic hormonal and often social changes for women both risk factor and health needs are likely to change as women pass through menopause The numbers our women involved are large.Using age 50 as a proxy for menopause about as 25 million women met pass through menopause in 2022 and we estimate that in 1996 there were 467 million post-Menopausal women in the world with an [1]average age of about 60 years. By 2030 the world population of menopausal and post-Menopausal women is projected to increase to 1-2 billion with 47 million new entrants each year. The Mortality implications of menopause are also substantial.*
Objectives: *Evaluate the effectiveness of IEC on menopausal symptoms and perceptions among menopause women.*
Materials and methods: *Pre experimental one group Pretest-posttest study design was adopted for this study. The sample size was 100 menopausal women at Venkatachalam,Nellore. Non probability convenience sampling technique was used to select the study participants. Structured questionnaire was used to assess the effectiveness of IEC on menopausal symptoms and perception among menopausal women . Pilot study was conducted for 1 weeks after obtained the permission from concerned authorities. The data collection was conducted for 1weeks after obtaining the formal written permission from concerned authorities.100 menopausal women was selected by using non probability convenience sampling technique. Each day 6-7 participants will be selected for the data collection. Make the participants to sit in a comfortable room. A brief introduction was given by the investigator. Confidentiality of responses was assured. The Structured questionnaire and checklist was administrated to all participants. IECwas given to all the participants. It was taken 15-20 minutes for each participant. After that post test was conducted with same tool to all participants. The data was collected, coded, organized and analyzed by using descriptive and inferential statistics based on objectives.*
Result : *With context to knowledge on Menopausal symptoms and perceptions among menopausal women in Venkatachalam Nellore in on pre - test, 1%(1) had B+,12%(12)had*

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B, 18%(18) had C, 69%(69) had D. Post test menopausal symptoms among menopausal women,12%(12)had A+, 27%(27)had A , 27%(27) had B+,17%(17) had B,9%(9) had C and 8%(8) had D . The results shows that the null hypothesis was rejected and research hypothesis was accepted.

The mean and standard deviation of pre-test and post-test knowledge on Menopausal symptoms among menopausal women that pre test mean of knowledge score was 9.27 with SD 4.77.The post test mean of knowledge scores was 18.64 with SD 3.76. The calculated value of 'Z' test was 2.805 and table value was 1.96.. The calculated value was more than the table value; hence the null hypothesis was rejected and research hypothesis was accepted.

***Conclusion :** The study concluded that majority in pre test 69%(69) had D+ grade and post test 27%(27)had A and 27%(27) had B+ grade had knowledge on menopausal symptoms. There is a significant increase in the knowledge on menopausal symptom and perception among menopausal women. The IEC was found to be an effective strategy to increase the perception on menopausal symptoms among menopausal women .*

***Keywords:** Effectiveness, IEC, Menopausal Symptoms And Perceptions, Menopausal women.*

INTRODUCTION

Menopause is a crucial period in a woman's life. The quality of life declines during this period due to the various problems associated with estrogen deficiency and aging. With increasing life expectancy of women all over the world, 25%-30% of a woman's life is in the postmenopausal period. Coping with the pressures of modern life and the mood swings of menopause together can be overwhelming Attention to the health and emotional needs of these women is important for the individual, family and community.[1]

Menopause is defined as a cessation of menses for a period of 12 months or more without any physiological or pathological causes. It is a retrospective diagnosis that can be made with certainty only after 12 months of amenorrhea in the appropriate age group. It is an indication of ovarian follicular depletion and resultant estrogen deficiency. Cessation of menstrual periods in women aged <40 years was called premature menopause earlier, but currently, it is referred to as primary ovarian insufficiency (POI).[1,2,3]

Menopause is a natural biological process. But the physical symptoms, such as hot flashes, and emotional symptoms of menopause may disrupt the menopause women sleep, lower their energy or affect emotional health. Menopause women might experience some signs and symptoms, the signs and symptoms including irregular periods, vaginal dryness, hot flashes, chills, night sweats ,sleep problems ,mood changes, weight gain and slowed metabolism, thinning hair and dry skin, loss of breast fullness. Signs and symptoms, including changes in menstruation can vary among women. Most likely, menopause experience some irregularity in women's periods before they end. A perception of the menopause as a positive even varies in different countries between 60%-90% and menopausal are found to be less common in societies where menopause is viewed as positive rather than negative event.[4,5]

Various factor including menopausal status, educational and social background, culture and Physical and emotional health May influence women's perceptions of menopause. This study documents elements influencing attitudes towards Menopause among women.

NEED FOR THE STUDY

Menopause marks a time of dramatic hormonal and often social changes for women both risk factor and health needs are likely to change as women pass through menopause The numbers our women involved are large. Using age 50 as a proxy for menopause about as 25 million women met pass through menopause in 2022 and we estimate that in 1996 there were 467 million post-Menopausal women in the world with an average age of about 60 years. By 2030 the world population of menopausal and post-Menopausal women is

projected to increase to 1-2 billion with 47 million new entrants each year. The Mortality implications of menopause are also substantial

In India, a cross sectional study conducted on 2013 proved that the average age of attaining menopause was 48.26 years. Prevalence of symptoms among ladies were emotional problems (crying spells, depression, irritability) 90.7%, headache 72.9%, lethargy 65.4%, dysuria 58.9%, forgetfulness 57%, musculoskeletal problems (joint pain, muscle pain) 53.3%, sexual problems (decreased libido, dyspareunia) 31.8%, genital problems (itching, vaginal dryness) 9.3%, and changes in voice 8.4%. Only 22.4% of women knew the correct cause of menopause. According to literature, at least 60% of ladies suffer from mild symptoms and 20% suffer severe symptoms and 20% from no symptoms.

An average healthy 4% of Indian Women are menopausal between the age of 29-34 years it goes up to8%in care of women between 35 and 39 years. Menopause is marginally lower in upper areas [16.1%] as against rural [18.3%] In Andhra Pradesh the menopausal symptoms in women are 31.4% and in The Nellore District the percentage of Menopausal women is 75%.

OBJECTIVES

- To assess the level of knowledge regarding menopausal symptoms and perceptions among Menopausal women.
- To evaluate the effectiveness of IEC on menopausal symptoms and perceptions among menopause women.
- To find out the association between the effectiveness of IEC on menopausal symptoms and perceptions among menopause women with their selected socio demographic variables.

RESEARCH HYPOTHESIS

H1: there is statistically difference on pre-test and post-test knowledge on Menopausal symptoms and perceptions among Menopause women.

H2: There is statistically significant association between the pre-test knowledge on Menopausal symptoms and perceptions among Menopause women with their selected socio demographic variables.

H3: There is statistically significant association between post-test knowledge on Menopausal symptoms and perceptions among Menopause women with their selected socio demographic variables.

OPERATIONAL DEFINITION

Effectiveness :- The degree to which something is successful in producing a desired result. In the study the effectiveness indicates IEC on Menopausal symptoms and perceptions among Menopause women.

Knowledge:- Refers to level of understanding and information known regarding menopausal symptoms women and perceptions.

Menopause :-The end of possible sexual reproduction as evidenced Periods by normally between the ages of 45-55 years.

Menopausal Women:-It refers to the Female aged between 45-55 years

Menopausal symptoms:-It refers to physical and emotional symptoms experienced during menopause among Menopausal women.

Perception :-Most of menopausal women perceive menopause as natural condition and not aware about hormone replacement therapy and the mean age of menopause is comparable to that mean reported in other part of Iraq. Among menopause women tiredness was the most common complaint was followed by hot flushes and night sweats.

ASSUMPTION:-

Women who have some knowledge regarding Menopausal symptoms and perceptions among menopausal women in Venkatachalam Nellore.

DELIMITATIONS:

The study is delimited to.

- Venkatachalam, Nellore
- A sample size of 100 women
- 4weeks of data collection period only

MATERIALS & METHODS:

Research approach

The quantitative Research approach.

Research design

Pre-experimental one group pre-test , post-test design was chosen.

Study Design	O1	X	O2
Pre-Experimental study	Pre-test	IEC on Menopausal symptoms and perceptions	Post-test

O1= pre-test

X=intervention= IEC on Menopausal symptoms and perceptions among Menopause women.

O2= post-test

Population: All Menopausal women

Target population:- All Menopausal women.

Accessible population:- Menopausal Women are residing in Venkatachalam, Nellore district.

SETTING OF THE STUDY

The study was conducted in Venkatachalam village, at Nellore district, A.P, it is located 15 KM towards north district, headquarters Nellore. The total population is 61,275males are30,784 and females are 30,491 living in 205 houses, Menopausal women are 100. The total area in detail of Venkatachalam in 200 hectors.

SAMPLE

Menopausal women at Venkatachalam, who fulfill the inclusion criteria was considered as sample.

SAMPLE SIZE

The sample size for the present study was 100 Menopausal women Yamen's formula

n= N/1+ N (e2)

where n = sample size.

N = total strength = 100

e = desired level of precision =0.05

n= N/1+ N (e2)

= 100/1+100(0.05)2

By considering the 10%.attrition, a sample of 10 is added to the estimated sample of 100 requesting a total of 100. So the sample size for the study is 100.

The estimated participants for the study was 100 menopausal women.

SAMPLING TECHNIQUES

Non probability convenience sampling technique.

CRITERIA FOR SAMPLE SELECTION

Inclusion criteria

The women who are,

- In the group of 45 to 55 Years.
- Only menopause women.
- Residing in Venkatachalam only.
- Willing to participate in study.

Exclusion criteria

Women who are:

- The women who are below the age of 45.
- Not available during data collection.

STUDY VARIABLES

Dependent Variable:- Level of knowledge on menopausal symptoms and perceptions among Menopausal women.

Independent variables:- IEC on Menopausal Symptoms.

TOOL

It Consists of 3 parts

Part I:-Socio demographic data such as Age, age at menopause. Religion, marital status, occupation, education, type of family, number of children and sources of information.

Part II: Structured questionnaire consist of 25 items related to Menopausal symptoms.

Part III: Checklist to evaluate the menopausal perception among Menopausal women .

SCORE INTERPRETATION

The knowledge level was categorized as follows

GRADE	PERCENTAGE
A+	91-100
A	81-90
B+	71-80
B	61-70
C	51-60
D	<50

SCORE KEY

Correct answer is given a score of '1'

Wrong answer is given a score of '0'

SCORING KEY FOR CHECKLIST

Checklist consist of 10 questions of perceptions among Menopausal women.

Response	Score

Low Perception	0-3
Medium perception	4-7
High Perception	8-10

CONTENT VALIDITY

Content validity was obtained from academic and research experts in field of Nursing. The suggestions and opinion of the experts was included and the tool was modified before conducting main study.

Reliability

The reliability of the tool was tested by split half Method.

R=2r/1-r

R = 0.9

ETHICAL CONSIDERATIONS

Ethical clearance certificate was obtained from the Institutional Ethics Committee.

DATA COLLECTOIN PROCEDURE

Prior formal permission from concerned authorities was taken to conduct the study. The data was collected from 3/10/2023 to 12/10/2023. Written informed consent was taken from Menopausal women, after explaining the purpose of study and establishes good rapport with the participants. A sample of 100 menopausal women was selected by using non probability convenience sampling technique. Each day 6-7 participants will be selected for the data collection. Make the participants to sit in a comfortable room. A brief introduction was given by the investigator. Confidentiality of responses was assured. The Structured questionnaire and checklist was administrated to all participants.IECwas given to all the participants. It was taken 15-20 minutes for each participant. After that post test was conducted with same tool to all participants. The data was collected, coded, organized and analyzed by using descriptive and inferential statistics based on objectives.

PLAN FOR DATA ANALYSIS

SNo	Data Analysis	Method	Remarks
1.	Descriptive statistics	Frequency, percentage, distribution	Distribution of socio demographic variables
		Mean and standard deviation	To Assess the effectiveness of IEC on menopausal symptoms and perceptions among menopause women.

2.	Inferential statistics	Chi- square test	To Find out the association between the level of knowledge on menopause symptoms and perceptions among menopause women at venkatachalam, Nellore.
		Z test	To evaluate the effectiveness of IEC on menopausal symptoms and perceptions among menopausal women at Venkatachalam, Nellore.

RESULTS:

Presentation of the data.:
The data were organized and presented under following headings.

SECTION – I :
Frequency and Percentage distribution based on their socio demographic variables amongMenopausal women .

SECTION – II :
Frequency and Percentage distribution based on their knowledge of menopausal symptoms and perceptions among menopausal women .

SECTION – III :
Association between the effectiveness of IEC on Menopausal symptoms and perceptions among menopausal women with their selected Socio demographic variables.

SECTION – I
FREQUENCY AND PERCENTAGE DISTRIBUTION BASED ON THEIR SOCIO DEMOGRAPHIC VARIABLES AMONG MENOPAUSAL WOMEN

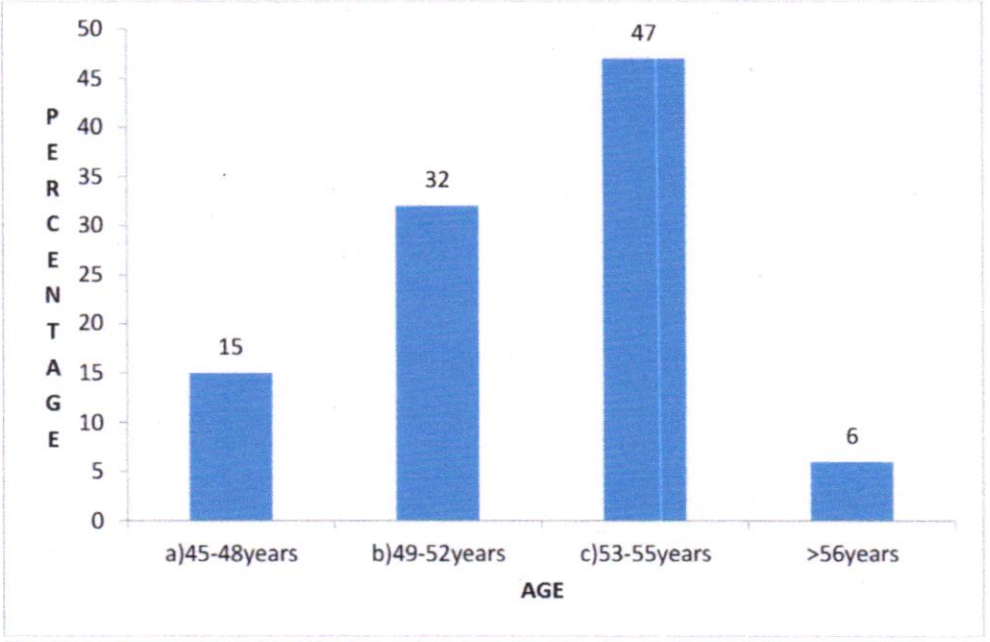

Fig.No-1 Percentage distribution of menopausal women based on age in years.
Figure No-1 shows the frequency and percentage distribution of age, were 15(15%) between to 45-48years, 32(32%) between to 49-52years, 47(47%)between to 53-55years. 6(6%) between to >56.

Table –1: Frequency and Percentage distribution of adults based on religion

(n=100)

Religion	Frequency (f)	Percentage (%)
a) Hindu	51	51
b) Muslim	10	10
d)Christian	39	39
TOTAL	100	100

Table–1 shows the frequency and percentage distribution of religion were51(51%) are Hindu, ,10(10%) are muslims,30(39%) are Christians.

Table –2: Frequency and Percentage distribution of adults based on number of children.

(n=100)

Number of child	Frequency (f)	Percentage (%)
a) 1	12	12
b) 2	41	41
c) 3	34	34
d) More than 4	13	13
Total	100	100

Table –2 shows the frequency and percentage distribution of number of childwere 12 (12%) had 1child ,41(41%) had 2children 34(34%) had 3children, and 13(13%) had more than 4 children.

Table –3: Frequency and Percentage distribution of adults based on marital status.

(n=100)

Marital status	Frequency (f)	Percentage (%)
a) Married	71	71
b) Divorced	5	5
c) Unmarried	6	6
d)Widow	8	8
TOTAL	100	100

Table –3 shows the frequency and percentage distribution of marital status were 71(71%)belongs to married and 5(5%) belongs to divorced,6(6%) belongs to unmarried,8(8%) belongs to widow.

Figure No-3: Frequency and Percentage distribution of adults based on education

Figure–3: shows the frequency and percentage distribution of education were 38(38%) belongs to illiterate,38(38%) belongs to Primary education,17(17%) belongs to secondary education and 7(7%) belongs to degree.

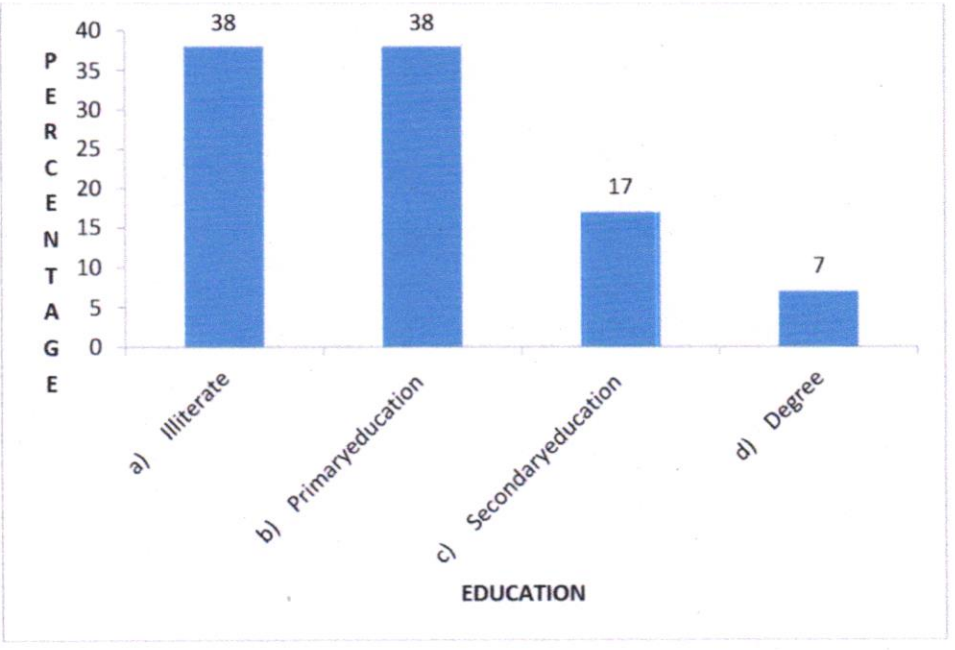

Fig.No.3: Percentage distribution of adults based on education

Table –4: Frequency and Percentage distribution of adults based on occupation

(n=100)

Occupation	Frequency (f)	Percentage(%)
a) Home maker	55	55
b) Govt employee	8	8
c) Private employee	23	23
d) Business	14	14
Total	100	100

Table –4: shows the frequency and percentage distribution of occupation were 55(55%) belongs to homemaker,8(8%) belongs to govt.employee, 23(23%) belongs to private employee and 14(14%) belongs to business.

Figure-4: Frequency and Percentage distribution of adults based on income/month

Figure No-4- shows the frequency and percentage distribution of income in rupees were 55(55%) belongs to Rs<10000, 22(22%) belongs to Rs.10001-30000, 11(11%) belongs to Rs .20001-30000, 4(4%) belongs to Rs. 30002-40000,and 8(8%) belongs to Rs.>40000

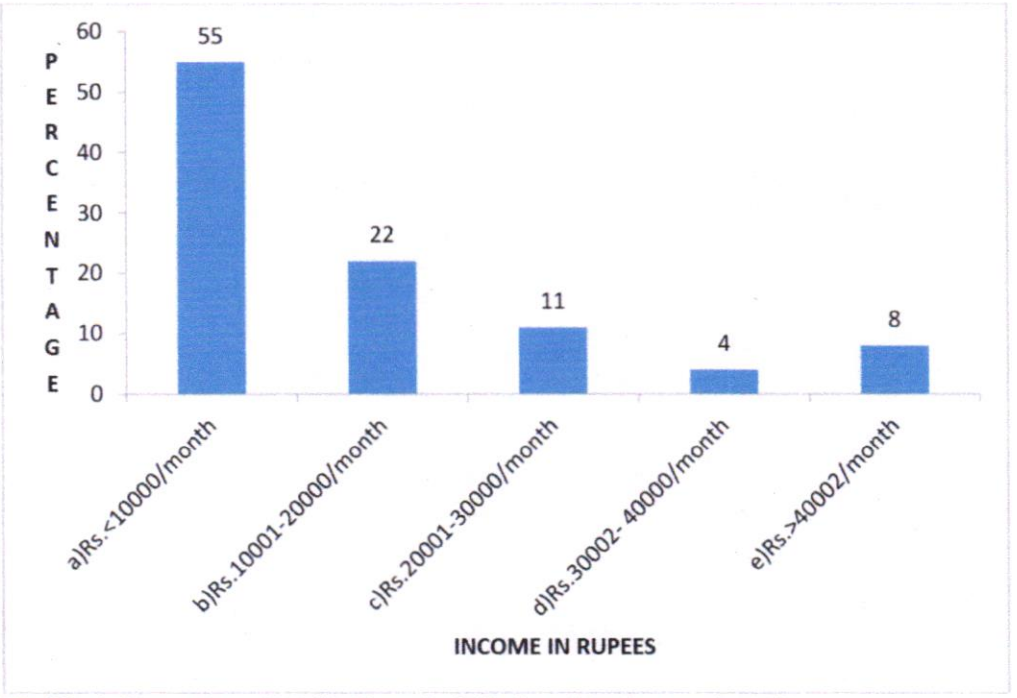

Fig.No.4: Percentage distribution of adults based on income/month.

Table –5: Frequency and Percentage distribution of adults based on Type of family.

(n=100)

Family	Frequency (f)	Percentage (%)
a)Nuclear family	38	38
b)Joint family	38	38
c)Extend family	17	17
TOTAL	100	100

Table –5: shows the frequency and percentage distribution of type of family were 38(38%) belongs to nuclear family,38(38%) belongs to joint family and 17(17%) belongs to extended family.

Figure–5: Frequency and Percentage distribution of adults based on age at menopause

Figure-5: shows the frequency and percentage distribution of age at menopause were 23(23%) belongs to 45-48 years,37(37%) belongs to 49-52years,35(35%) belongs to 53-56 years,and5(5%) belongs to >56 years

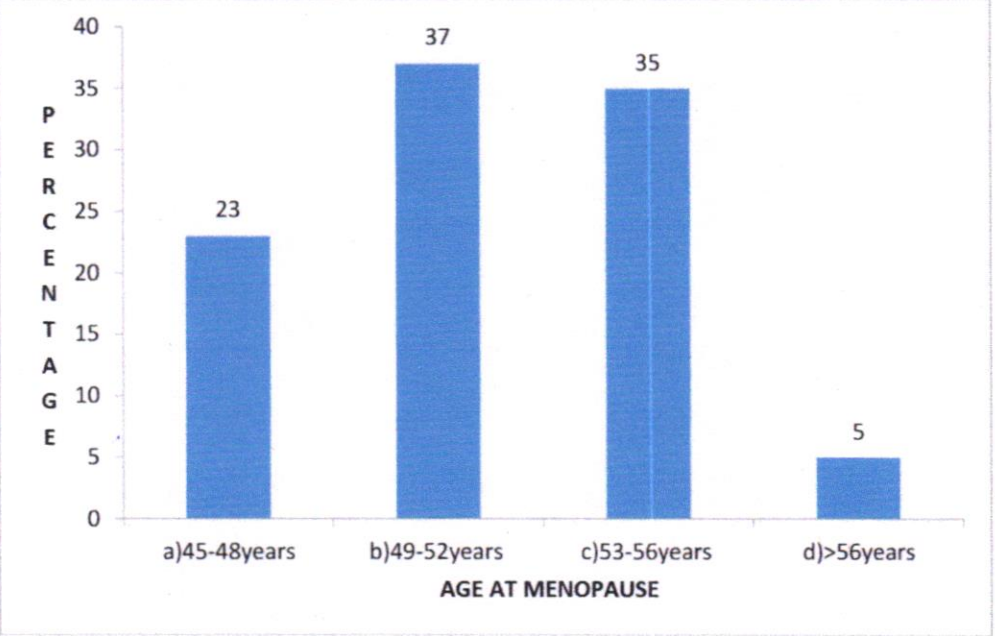

Fig.No.5: Percentage distribution of adults based on age at menopause

Table–6: Frequency and Percentage distribution of adults based on source of information

(n=100)

Source of information	Frequency(f)	Percentage(%)
a)Health professional	42	42
b)Mass media	18	18
c)Books/journal	13	13
d)Friends/neighbours	27	27
Total	100	100

Table –6 shows the frequency and percentage distribution of source of information were 42(42%) belongs to health professional, 18(18%) belongs to mass media, 13-(13%) belongs to books/journals, and 27(27%) belongs to friends/neighbours.

SECTION II

FREQUENCY AND PERCENTAGE DISTRIBUTION BASED ON THEIR LEVEL OF KNOWLEDGE ON MENOPAUSAL SYMPTOMS AND PERCEPTIONS AMONG MENOPAUSAL WOMEN .

Table –7 Frequency and Percentage distribution based on their level of knowledge on menopausal symptoms among menopausal women.

(n=100)

Knowledge	PRE-TEST		POST-TEST	
	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
A+	-	-	12	12
A	-	-	27	27

B+	1	1	27	27
B	12	12	17	17
C	18	18	9	9
D	69	69	8	8
Total	**100**	**100%**	**100**	**100%**

Table –7: Discussed the effectiveness of menopausal symptoms amongmenopausalwomenon pre - test, 1%(1) had B+,12%(12)had B, 18%(18) had C, 69%(69) had D.Post test menopausal symptoms among menopausal women,12%(12)had A+, 27%(27)had A ,27%(27) had B+,17%(17)had B,9%(9) had C,and 8%(8) had D .

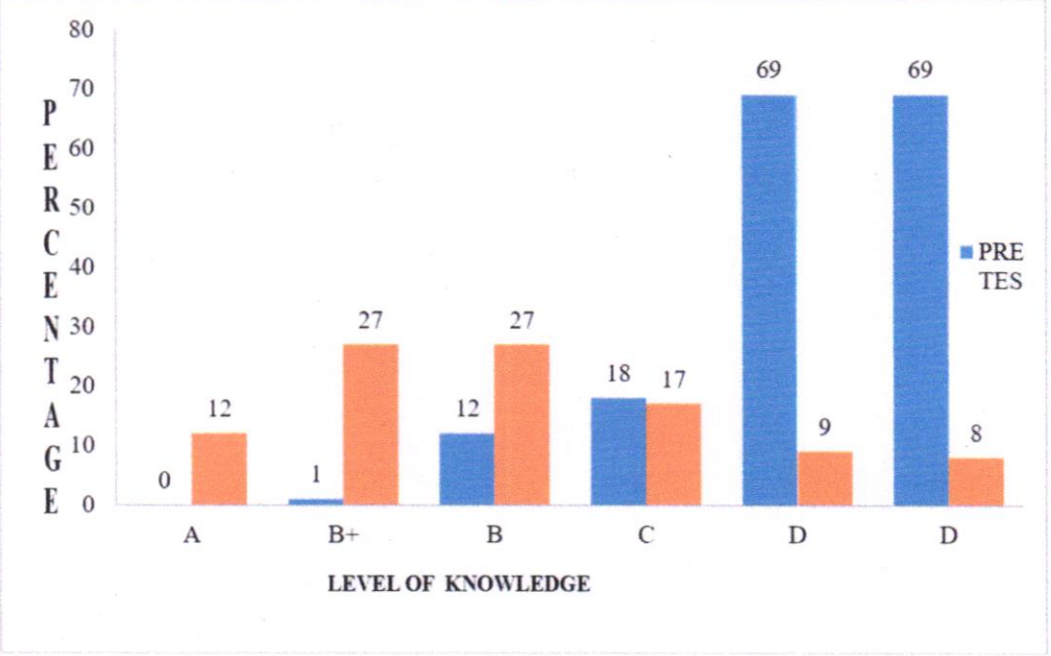

Fig.No.6: Percentage distribution of menopause women based on level of knowledge on pre and post test.

Table -8 :Frequency and Percentage distribution based on their effectiveness of IEC on menopausal perceptions among menopausal women

Perception on Menopausal women		Menopausal women			
		Pre test		Post test	
		F	(%)	F	(%)
Perception	High perception	13	13	41	41
	Medium perception	38	38	48	48
	Low perception	49	49	11	11
	Total	100	100	100	100

Table 8: Discusses the effectiveness of menopausal perception amongmenopausal women on pre - test, 13(13%) had high perception, 38(38%) had minimal perception, and 49(49%)

had low perception.Post test menopausal perception among menopausal women, 41(41%) had high perception, 48(48%) had medium perception and 11(11%) had low perception.

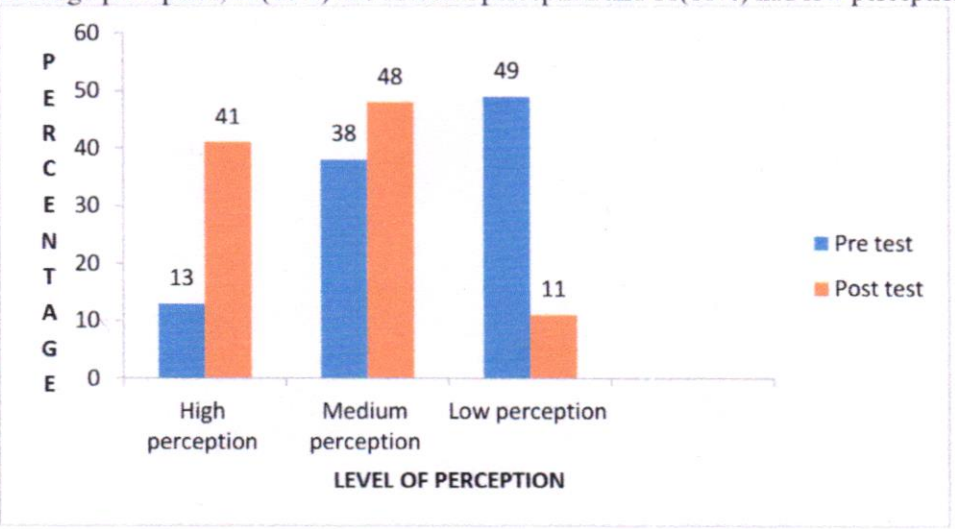

Fig.No.7: Percentage distribution of menopause women based on level of perception.

SECTION –III

MEAN AND STANDARD DEVIATION OF EFFECTIVENESS OF IEC ON MENOPAUSAL SYMPTOMS AND PERCEPTIONS AMONG MENOPAUSAL WOMEN.

Table No -9: Mean and Standard Deviation of knowledge on menopausal symptoms amongmenopausal women.

(n=100)

Criteria	Pre test		Post test	
Menopausal symptoms	Mean	SD	Mean	SD
	9.27	4.77	18.64	3.76

Table –9: Encloses the effectiveness of menopausal symptoms amongmenopausalwomenon pre- test knowledge among menopausal women,that mean value was 9.27 with standard deviation of 4.77. And post test knowledge among menopausal women ,that mean value was 18.64 with standard deviation of 3.76.

Table No-10: effectiveness of menopausal symptoms among menopausal women.

Criteria	mean	SD	Z value	Remark
Pretest	9.27	4.77	Cv=2.618 Tv=1.96 P=<0.05	S*
Post test	18.64	3.76		

Table No-10 The calculated value of 'Z' test was 2.618 and the table value was 1.96. The calculated value is more than the table value; hence the null hypothesis was rejected and research hypothesis was accepted. There is significance of effectiveness of menopausal symptoms among menopausal women at Venkatachalam, Nellore.

Table No -11:Mean and Standard Deviation of effectiveness of IEC on menopausal perceptions among menopausal women

Criteria	Pre test		Post test	
	Mean	SD	Mean	SD
Menopausal perception	4.23	2.96	6.81	2.38

Table –11: Encloses the effectiveness of knowledge among menopausal women that mean value was 4.23 with standard deviation of 2.96.And post- test among menopausal women that mean value was 6.81 with standard deviation of 2.38.

Table No-12: Effectiveness of menopausal symptoms among menopausal women.

Criteria	mean	SD	Z value	Remark
Pretest	4.23	2.96	Cv=11.537 Tv=1.96 P=<0.05	S*
Post test	6.81	2.38		

Table No-12: The calculated value of 'Z' test was 11.537 and the table value was 1.96. The calculated value is more than the table value; hence the null hypothesis was rejected and research hypothesis was accepted. There is significance of effectiveness of menopausal symptoms among menopausal women at Venkatachalam, Nellore.

SECTION – IV

It is post test association between the effectiveness of IEC on Menopausal symptoms and perceptions among menopausal women with their selected Socio demographic variables.

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S/NO	Demographic Variables	A+	A	B+	B	C	D	Chi Square
		f	f	f	f	f	f	
1	**Age**							CV=15.87 TV=24.99 Df =15 P=0.05 NS
	45-48 yrs	2	7	2	1	2	1	
	49-52 yrs	5	5	10	7	3	2	
	53-55yrs	4	14	15	8	2	4	
	>56yrs	1	1	0	1	2	1	
2	**Religion**							CV=14.72 TV=18.31 Df=10 P=0.05 NS
	Hindu	10	15	15	5	5	1	
	Muslim	1	2	2	2	1	2	
	Christian	1	10	10	10	3	5	
3.	**Number of child**							CV=16.17 TV=24.99 Df=15 P=0.05 NS
	1	1	3	3	1	2	2	
	2	4	15	15	4	2	1	
	3	5	6	6	10	3	4	
	More than 4	2	3	3	2	2	1	
4	**Marital status**							CV=26.67 TV=24.99 Df=15 P=0.05 S
	Married	5	21	22	14	5	4	
	Divorced	0	0	1	0	2	2	
	Unmarried	2	1	1	1	0	1	
	Widow	5	5	3	2	2	1	
5	**Education**							CV=11.15 TV=24.99 Df=15 P=0.05 NS
	No illiterate	4	11	12	7	2	2	
	Primary	3	11	11	7	4	2	
	Secondary	4	3	2	2	3	3	
	Degree	1	2	2	1	0	1	
6	**Occupation**							CV=50.99 TV=24.99 Df=15 P=0.05 S
	Homemaker	3	21	23	4	2	2	
	Govt employee	3	1	0	0	2	2	
	Private employee	3	2	2	11	3	2	

	Business	3	3	2	2	2	2	
7	**Income**							CV=24.68 TV=31.41 Df=20 P=0.05 NS
	<10000 Rs	4	18	21	7	3	2	
	10001-20000	4	4	2	7	3	2	
	20001-30000	3	2	2	1	1	2	
	30002-40000	0	1	1	1	1	0	
	>40000	1	2	1	1	1	2	
8	**Family**							CV=5.90 TV=18.31 Df=10 P=0.05 NS
	Nuclear family	4	12	16	10	3	3	
	Joint family	4	10	6	5	3	3	
	Extended family	4	5	5	2	3	2	
9	**Age at menopause**							CV=13.76 TV=24.99 Df=15 P=0.05 NS
	45-48 years	5	6	7	3	1	1	
	49-52 years	5	9	8	10	3	2	
	53-56 years	2	10	10	3	5	5	
	>56	0	2	2	1	0	0	
10	**Source of information**							CV=17.51 TV=24.99 Df=15 P=0.05 NS
	Health professional	8	7	8	10	4	5	
	Mass media	2	5	5	4	1	1	
	Books/journal	1	5	5	2	0	0	
	Friend/neighbour	1	10	9	1	4	2	

Note :

NS= Non Significant
TV= Table Value
CV= Calculated Value
S=Significant
Df=Degree of Freedom
P<0.05 level of significant

- In relation to age, calculated value is 15.87 and table value is 24.99 The calculated value is greater than table value, so there is no significant association.
- With context to religion, calculated value as 14.72 and table value is 18.31 The calculated value is less than table value, so there is no significant association.
- In association to number of child calculated value is 16.17 and table value is 24.99 The calculated value is less than table value, so there is no significant association
- with associated to marital status , calculated value is 26.67 and table value is 24.99. The calculated value is more than table value, so there is significant association.
- With reference to educational status, calculated value is 11.15 and table value is 24.99. The calculated value is less than table value, so there is no significant association.
- In accordance to occupation, calculated value is 50.99 and table value is 24.99 The calculated value is less than table value, so there is significant association.

- with show to income in rupees, calculated value as 24.68 and table value is 31.41. The calculated value is less than table value, so there is no significant association.
- Regarding type of family, calculated value is 5.90, and table value is 18.31 The calculated value is more than table value, so there is no significant association.
- In relation to age at menopause, calculated value is 13.76 and table value is 24.99 The calculated value is greater than table value, so there is no significant association.
- with references to source of information, calculated value as 17.51 and table value is 24.99 The calculated value is less than table value, so there is no significant association.

CHECKLIST ON LEVEL OF PERCEPTION

SNO	DEMOGRAPHIC VARIABLES	HIGH PERCEPTION	MEDIUM PERCEPTION	LOW PERCEPTION	Chi Square
1	**Age**	f	f	f	CV=4.26 TV=12.59 Df=6 P=0.05 NS
	45-48 yrs	4	10	1	
	49-52 yrs	15	15	2	
	53-55yrs	20	20	7	
	>56yrs	2	3	1	
2	**Religion**				CV=10.48 TV=9.49 Df=4 P=0.05 NS
	Hindu	23	27	1	
	Muslim	5	4	1	
	Christian	13	17	9	
3.	**Number of child**				CV=12.63 TV=12.59 Df=6 P=0.05 S
	1	5	5	2	
	2	20	20	1	
	3	15	15	4	
	More than 4	1	8	4	
4	**Marital status**				CV=37.18 TV=12.59 Df=6 P=0.05 S
	Married	31	40	0	
	Divorced	1	3	1	
	Unmarried	4	0	2	
	Widow	5	5	8	
5	**Education**				CV=6.32 TV=12.59 Df=6 P=0.05 NS
	No illiterate	14	21	3	
	Primary	14	20	4	
	Secondary	10	5	2	
	Degree	3	2	2	
6	**Occupation**				CV=17.51 TV=12.59 Df=6 P=0.05 S
	Homemaker	22	30	3	
	Govt employee	2	2	4	
	Private employee	11	11	1	
	Business	6	5	3	
7	**Income**				CV=4.62 TV=15.51 Df=8 P=0.05
	<10000 Rs	22	29	4	
	10001-20000	10	10	2	

	20001-30000	4	5	2	NS
	30002-40000	2	1	1	
	>40000	3	3	2	
8	**Family**				CV=2.27 TV=9.49 Df=4 P=0.05 NS
	Nuclear family	18	25	5	
	Joint family	13	13	5	
	Extended family	10	10	1	
9	**Age at menopause**				CV=4.56 TV=12.59 Df=6 P=0.05 NS
	45-48 years	9	10	4	
	49-52 years	16	16	5	
	53-56 years	14	20	1	
	>56	2	2	1	
10	**Source of information**				CV=9.76 TV=12.59 Df=6 P=0.05 NS
	Health professional	18	18	6	
	Mass media	5	10	3	
	Books/journal	8	3	2	
	Friend/neighbour	10	17	0	

- In relation to age, calculated value is 4.26 and table value is 12.59 The calculated value is less than table value, so there is no significant association.
- With context to religion, calculated value as 10.48 and table value is 9.49 The calculated value is more than table value, so there is significant association.
- In association to number of child calculated value is 12.63 and table value is 12.59 The calculated value is more than table value, so there is significant association
- with associated to marital status , calculated value is 37.18 and table value is 12.59. The calculated value is more than table value, so there is significant association.
- With reference to educational status, calculated value is 6.32 and table value is 12.59. The calculated value is less than table value, so there is no significant association.
- In accordance to occupation, calculated value is 17.51 and table value is 12.59 The calculated value is more than table value, so there is significant association.
- with show to income in rupees, calculated value as 4.62 and table value is 15.57. The calculated value is less than table value, so there is no significant association.
- Regarding type of family, calculated value is 2.27, and table value is 9.49. The calculated value is less than table value, so there is no significant association.
- In relation to age at menopause, calculated value is 4.56 and table value is 12.59 The calculated value is less than table value, so there is no significant association.
- with references to source of information, calculated value as 9.76 and table value is 12.59 The calculated value is less than table value, so there is no significant association.

NURSING IMPLICATIONS OF THE STUDY:

The findings of the study have implications in various area such as Nursing practice, Nursing Education, Nursing administration and Nursing Research.

NURSING PRACTICE:

- The role of midwife in counseling women who have experienced menopause more important and it will help them to manage symptoms and cope with the experience.

NURSING EDUCATION:

- Educating the people about IEC on Menopausal symptoms would help them to change in their body functions.

NURSINGADMINISTRATION:

- The nurse administrator should include IEC on menopausal symptoms and perceptions among menopausal women in their curriculum to help their self and their community whenever needed.

NURSING RESEARCH:

- The essence of Nursing Research is to build up body of knowledge and practice in nursing as an evolving profession. The result of the study can be provided a shared knowledge base to formulate the protocol by which the menopausal symptoms and perceptions can be managed easily.

LIMITATIONS:

The study limited with only 100 participants from a single setting. Also non probability convenience sampling was used as sampling technique to select study participants. Hence, the study results could not be generalized.

CONCLUSION:

The study concluded that majority in pre test 69%(69) had D+ grade and post test 27%(27)had A and 27%(27) had B+ grade had knowledge on menopausal symptoms and perceptions. There is a significant increase in the knowledge on menopausal symptom and perception among menopausal women. The IEC was found to be an effective strategy to increase the knowledge on menopausal symptoms and perceptions among menopausal women .

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"A study to assess the effectiveness of Protocol for connecting Haemodialysis on Chronic Kidney disease (CKD) patients among the staff nurses in Dialysis Unit, Narayana Medical College Hospital, Nellore"

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Abstract : *Kidney is one of the major vital organ in human body .Proper function of the urinary system is essential to filter and remove organic waste products from the blood. Dysfunction of the kidney may occur at any age with varying levels of severity. Renal failure is the severe impairment or total lack of kidney function. In renal failure there is an inability to excrete metabolic waste products and water as well as functional disturbance of all body systems. Renal failure is classified as acute or chronic. Chronic kidney disease is defined as evidence of kidney damage (proteinuria or hematuria) or structural renal abnormalities (polycystic kidney disease) and glomerular filtration rate (GRF) less than 60ml/min present for greater than 3 months. It is important to take care of vascular access to prevent complications in chronic renal failure with haemodialysis. CRF patients are more prone to develop complication related to infection, clotting, and rupture. Before starting haemodialysis, an important step is preparing a vascular access i.e. used to remove the patient's blood that it can be filtered through the dialyzer . It needs to be prepared either weeks or months before the actual procedure starts and able to deliver blood flow rates as high as 400 to 500ml/min through the dialyzer.*

OBJECTIVES: To assess the protocol for connecting haemodialysis on CKD patients among the staff nurses in dialysis unit.To prepare and implement the protocol for connecting haemodialysis to CKD patients in dialysis unit. To evaluate the effectiveness of protocol on connection of haemodialysis to CKD patients in dialysis unit. To find the association between effectiveness of protocol for haemodialysis to Chronic Kidney disease (CKD) patients among the dialysis staff nurses with their selected socio demographical variables.

METHODOLOGY: A quantitative research approach is used to assess the effectiveness protocol for connecting haemodialysis on CKD patients among staff in dialysis unit. The research design was pre experimental pre test post test research design. The study was conducted in Narayana medical hospital Nellore. 60 staff were selected by non probability convenience sampling technique. The demographic data was collected by interviewing the staff nurses. The pretest was done by using observational checklist to assess the knowledge of haemodialysis among staff nurses. The protocol for connecting haemodialysis was implemented to the staff nurses in dialysis unit. Post test was done after 21st day by using the same observational checklist to assess the effectiveness among the staff nurses in dialysis unit.

RESULTS: Staff nurses during pre test, 27 (45%) had very good practice 33(55%) had good practice where as in post test 42(70%) had Excellent practice 18(30%) had very good practice. Comparison of mean and standard deviation of pretest and post test scores among staff nurses . During pretest mean is 39.66 with standard deviation 6.29. The post test mean is 67.91 with standard deviation 8.24. The calculated value of paired Z test is 10.02 and table value is of 5,24. The calculated value is greater than the tabulated value, so there is significance improvement in connecting haemodialysis on CKD patients among staff nurses. In staff nurses' pre test, there is significant association between selected socio demographic variables of staff nurses such as clinical experience and designation. In staff nurses post test there is significant association between selected socio demographic variables of staff nurses such as educational qualification, clinical experience and designation.

Keywords: *Effectiveness, Protocol, Connecting Haemodialysis, Chronic kidney disease, CKD Patients.*

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1. INTRODUCTION:

Kidney is one of the major vital organ in human body .Proper function of the urinary system is essential to filter and remove organic waste products from the blood.[1] Dysfunction of the kidney may occur at any age with varying levels of severity. Renal failure is the severe impairment or total lack of kidney function. Renal failure is an inability to excrete metabolic waste products and water as well as functional disturbance of all body systems. Renal failure is classified as acute or chronic. Chronic kidney disease is defined as evidence of kidney damage (Proteinuria or hematuria) or structural renal abnormalities (polycystic kidney disease) and glomerular filtration rate (GRF) less than 60ml/min present for greater than 3 months.[2] The World Health Report 2010 estimates that the diseases of the kidney and urinary tract contribute to over 8,50,000 deaths and over 15 million disability-adjusted life years[3]. Even this is considered an underestimate, due to problems of CKD classification and limited data on CKD from observational studies many developing countries including India or from personal experience of nephrologists. Much less is known about earlier stages of CKD when symptoms may be mild or neglected by patients or their caring physicians[1]. CKD is the disease which glomerular filtration rate is less than 15ml/hr. It is the most devastating medical, social and economic problem for patients and their families. The estimated new cases of end stage of renal disease 100 per million people in a year globally, and 1 lakh patients from India. Most CKD patients reporting to tertiary care centers in India are in the final stage where renal replacement therapy (RRT) is the only opinion at this stage. In India due to lack of financial resources, lack of trained manpower & infrastructure leads to severe strain on existing health policies in the light of the increasing burden of CKD. Several thousands of patients all over the world are surviving and achieving reasonable quality of life on maintenance of dialysis[1]. Haemodialysis is a medical procedure that uses a dialyzer to clean the blood of toxins, uremic waste extra salt and fluids through a dialysis machine. It helps to maintain proper ions balance such as potassium, sodium chloride and bicarbonate and keeps blood pressure under control. Hence, it is proved that haemodialysis is a life saving procedure for renal failure patients[3]. It is important to take care of vascular access to prevent complications in chronic renal failure with haemodialysis. CRF patients are more prone to develop complication related to infection, clotting, and rupture. Before starting haemodialysis, an important step is preparing a vascular access i.e. used to remove the patient's blood that it can be filtered through the dialyzer. It needs to be prepared either weeks or months before the actual procedure starts and able to deliver blood flow rates as high as 400 to 500ml/min through the dialyzer[1]. Shyam.C. stated that chronic kidney disease is the most problem in medical, social and economic problem for both patients and their families of our country. The approximate prevalence CKD disease of 800 per million populations and the frequency of end stage renal disease are 150-200 per million populations[4].

1.1 NEED FOR THE STUDY :

Bohm M 2015 reported that the number of patients being treated for CKD globally was estimated to be 3,010,000 at the end of 2014 and with a 7% growth rate ,continues to increase at the significantly higher than the world population. of these 3,010,000 CKD patients, approximately 2,358,000 were undergoing dialysis treatment and around 652,000 people were living with kidney transplants[5]. In the 2015 Global burden of disease study, kidney disease was the 12th most common cause of death, accounting for 1.1 million deaths worldwide. Overall CKD mortality has increased by 31.7% over the last 10 years.

As per Indian council of Medical Research 2014, 40-60% cases of CKD are recorded under Diabetes and hypertension. Prevalence of diabetes in Indian adult population increase to 7.1%, (varying from 5.8% in Jharkhand to 13.5% in Chandigarh).In India, there are around 35,000 patients undergoing dialysis at different centers[5]. Mukhesh khanna 2013 has conducted a study about the burden of chronic kidney disease in India (Chennai, Delhi and Bhopal) .The study shows that, in Chennai; the prevalence at the community level is 8600 per million populations. The second study based in Delhi revealed a prevalence of chronic kidney disease of 7852 per million populations. The third study shows in Bhopal revealed that the incidence of 151 per million populations suffered from end stage renal disease[6]. In the Prakasam district of Andhra Pradesh, India (known as the Uddanam area), 2013 60% of the local population has been found to have CKD. Nearly 4000 people have died due to CKD, and one third of the population in Uddanam suffered from CKD. One possible link was the silica and heavy metals in groundwater. Then, water from Uddhanam region was tested by the Ground Water Department and Indian Council of Medical Research in 2013.The test has confirm that due to the excessive silica and heavy metal had happened the CKD[7]. In 2009, more than 3,70,000 patients were treated to maintain haemodialysis in the United States. Haemodialysis patients require a vascular access which can be catheter or a graft or enlarged blood vessel that can be punctured to remove and replace blood. They are high risk for infection with antimicrobial-resistant bacteria. Measuring and tracking rates of infection and utilizing is an important part of

prevention[4]. The National Kidney Foundation's Kidney Disease Outcomes Quality Initiative (KDOQI) 2016 provided evidence-based guidelines for all stages of chronic kidney disease (CKD). In 2015 update of the KDOQI Clinical Practice Guideline for Hemodialysis Adequacy is intended to assist practitioners for caring patient's preparation during haemodialysis. The literature reviewed for this update includes clinical trials and observational studies published between 2000 and March 2014. New topics include high-frequency haemodialysis and risks; prescription flexibility in initiation timing, frequency, duration, and ultra filtration rate; and more emphasis on volume and blood pressure control. Appraisal of the quality of the evidence and the strength of recommendations followed the Grading of Recommendation Assessment, Development, and Evaluation (GRADE) [8]. Barboutis NG 2012 conducted a study about an outbreak of haemodialysis catheter related bacteria with sepsis caused by Streptococcus in a haemodialysis unit. It was significantly associated with the presence of a haemodialysis catheter (p=0.028) and care for more than 30 mint by a specific nurse during the last during the last two haemodialysis sessions (p=0.0070). The study shows that group a B Streptococci strain was transmitted from one patient to the others through the hands of medical personal. The importance of strict infection control practices in haemodialysis units are depending on the practices who are working in dialysis unit[9]. Good quality of life and survival on maintenance dialysis depends on following major factors namely[10];-

i) The dose of dialysis delivered or solute removal achieved,
ii) Time on dialysis,
iii) Adequacy of nutrition,
iv) Family and socio-economic support,
v) Management of co-morbid illnesses and
vi) Prevention & management of infections.

In our country the quality of dialysis delivered to patients can vary from centre to centre. The quality could range from very poor to as good as any centre in the world because there is no minimum defined standard of care of maintenance dialysis[10]. With the above mentioned articles and studies, investigator understood that the incidence and prevalence of CKD patients are increasing worldwide and haemodialysis is the way to expand their life, so investigator justified the need to improve the haemodialysis on the care of the clients with chronic failure undergoing haemadialysis[11].

2. OBJECTIVES:

- To assess the protocol for connecting haemodialysis on CKD patients among the staff nurses in dialysis unit.
- To prepare and implement the protocol for connecting haemodialysis to CKD patients in dialysis unit.
- To evaluate the effectiveness of protocol on the connection of haemodialysis to CKD patients in dialysis unit.
- To find the association between effectiveness of protocol for haemodialysis to Chronic Kidney disease (CKD) patients among dialysis staff nurses with their selected socio demographical variables.

2.1RESEARCH HYPOTHESIS:

H_1:. There is a statistically significant effectiveness of protocol on connecting haemodialysis among dialysis staff nurses
H_2:- There is a statistically significant association with effectiveness of protocol and selected socio demographic variables.

2.2 CONCEPTUAL FRAMEWORK

The conceptual framework for this study was modified Roy's Adaptation Theory.

3. METHODOLOGY :

RESEARCH APPROACH:

A quantitative research approach was utilized the protocol for connecting haemodialysis on CKD patients among the staff nurses in dialysis unit, Narayana medical college hospital, Nellore.

RESEARCH DESIGN:

The research design reveals the study is Pre experimental one group pretest-post test research design

X: Intervention – protocol for connecting haemodialysis.
O_2: Post-test to determine the scores of connecting haemodialysis on CKD patients among staff nurses in dialysis unit.

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SETTING:

The study was conducted in dialysis unit at Narayana Medical College Hospital, Nellore. The hospital comprise 1750 beds with all specialties and well equipped. It is located in 2nd floor superspeciality hospital with 20 beds and 20 dialysis machines and everyday minimum 55 patients and maximum 70 patients are getting admission for haemodialysis.

POPULATION :-

Target population:

Staff nurses who are working in dialysis unit at Narayana Medical College Hospital.

SAMPLE:

The samples was staff nurses who are working in dialysis unit at Narayana Medical college Hospital units, Nellore and who fulfill the inclusion criteria

SAMPLING TECHNIQUE:

Non probability convenience sampling techniques was adopted to select the samples.

SAMPLE SIZE:

The sample size consist of 60 staff nurses in dialysis units, at Narayana Medical College Hospital, Nellore.

CRITERIA FOR SAMPLE SELECTION

INCLUSION CRITERIA:

1. Staff nurses working in dialysis unit
2. Both male and female staff nurses
3. Who are willing to participate in the study.

EXCLUSIVE CRITERIA:

1. Who are not available during the study.
2. Staff nurses who have clinical experience less than 1 months
3. Staff nurses who are working in other wards.

VARIABLES:

- **Independent variables:-** protocol for connecting haemodialysis.
- **Dependent variables:-** Dialysis unit staff nurses.

DESCRIPTION OF THE TOOL:-

The tool consist of three parts

PART-I

Socio-demographic variables including age, gender, educational Qualification, clinical experience, marital status, designation and attended CNE programme related to haemodialysis.

PART-II

It consists of 3 parameter observational checklists with to assess the effectiveness of protocol for connecting haemodialysis on CKD patients are:-

- *Physiological parameter*
- *Haemodialysis catheter connection checklist*
- *Arteriovenous fistula cannulation checklist*

SCORE INTERPRETATION

Poor	-	1-20
Good	-	21 -40
Very Good	-	41-60
Excellent	-	61-80

PART-III INTERVENTION PROTOCOL

DAY	SESSION	PROCEDURE
Day-1	Session-1	Assess the protocol for connecting haemodialysis on CKD patients
Day 2-21	Session-2	Implement the protocol for connecting haemodialysis on CKD patients
21st days	Session-3	Post test was conducted

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CONTENT VALIDITY:
Content validity of the tool was obtained from the experts for their opinion and suggestions. The suggestions of the experts were included and the tool was modified before conducting the main study data collection.

RELIABILITY:-
The reliability of the tool was established by half split method by using the formula=2r/1+r and r value obtained was 0.9. The stability of the test was confirmed by test and retest method.

ETHICAL CLEARANCE:
Ethical clearance was obtained from the Institutional Ethics committee of Narayana Medical College Hospital, Nellore.

4. DATA ANALYSIS AND INTERPRETATION:

The data obtained was analyzed based on the objectives of the study by using descriptive and inferential statistical methods

1. **Descriptive statistics:** Frequency and percentage, Mean and Standard deviation to analyze distribution of socio demographic variables.
2. **Inferential statistics:**

- To assess the effectiveness of protocol for connecting haemodialysis on CKD patients among staff in dialysis unit.
- To find out the association between effectiveness of protocol for haemodialysis on CKD among staff nurses in dialysis unit with their socio demographic variables.

DATA ANALYSIS:

Section I: Frequency and percentage distribution of socio demographic variables of staff nurses
Section II:-Frequency and percentage distribution of protocol for connecting haemodialysis among staff nurses
Section III: Effectiveness of protocol for connecting haemodialysis on CKD patients among staff nurses
Section IV: Comparison of mean and standard deviation of pre-test and post test scores for connecting haemodialysis among staff nurses
Section V: Association between protocol for connecting haemodialysis among staff with their socio demographic variables in staff nurses

SECTION-I: Frequency and percentage distribution of socio demographic variables of staff nurses in dialysis unit

Table 1: Frequency and percentage distribution of staff nurses based on demographic variables **(n=60)**

Demographic variables	f	%
Age in years		
a. 20-25 years	21	35
b. 26-30 years	37	62
c. 31-35 years	2	3
Gender		
a. Male	9	15
b. Female	51	85
Educational Qualification		
a. B.Sc(N)	35	58
b. Post B.Sc (N)	4	7
c. GNM	21	35
Clinical Experience.		
a. < 1year	7	12
b. 1-3 year	30	50
c. 4-5 year	23	38
Marital status		
a. Married	29	48

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Designation		
a. In-charge	3	5
b. B.Sc Staff	35	58
c. GNM staff	22	37
Attended CNE programme related to dialysis.		
a. Yes	37	62
b. No	23	38

Table 1- Shows that with regard to age in staff nurses, 21(35%) were 20-25 years, 37 (62%) were 26-30 years, 2 (3%) were 31-35 years, with regard to gender in staff nurses, 9(15%) were males and female 51(85%), educational qualification in staff nurses, 35(58%) studied B.Sc(N),4(7%) studied post B.sc(N),and 21 (35%) studied GNM, regard to clinical experience in staff nurses, 7 (12%) were <1year, 30 (50%) were 1-3 year, 23 (38%) were 4-5 years, Regarding to marital status in staff nurses, 29 (48%) were married and 31 (52%) were unmarried, designation in staff nurses, 3 (5%) were In-charge, 35 (58%) were staff and 22 (37%) were GNM staff. And who has attended CNE programme related to dialysis in staff nurses 37 (62%) were attended CNE programme related to dialysis and 23 (38%) were not attended CNE programme related to dialysis.

SECTION II

TABLE 2:- Frequency and percentage distribution of protocol for connecting haemodialysis among staff nurses between pre and post in dialysis unit

Sl. No	Protocol	Pre test		Post test	
		f	(%)	f	(%)
1	**Physiological parameter**				
	Excellent practice	-	-	52	87
	Very good practice	28	47	8	13
	Good practice	32	53	-	-
2	**Haemodialysis catheter connection checklist**				
	Excellent practice	-	-	52	87
	Very good practice	28	47	8	13
	Good practice	32	53	-	-
3	**Arteriovenous fistula cannulation checklist**				
	Excellent practice	-	-	52	87
	Very good practice	28	47	8	13
	Good practice	32	53	-	-

Table -2 shows that the protocol for connecting haemodialysis in staff nurses results shows that Physiological parameter 32 (53%) had good practice , and 28 (47%) had very good practice in pre test scores and 52(87%) had Excellent practice and 8(13%) had very good practice in the post test

With regard to Haemodialysis catheter connection checklist in staff nurses, the pre test scores 32 (53%) had good practice, and 28 (47%) had very good practice, in post test 52(87%) had Excellent practice and 8(13%) had very good practice.

With regard to Arteriovenous fistula cannulation checklist in staff nurses, the pre test scores 32 (53%) had good practice, and 28 (47%) had very good practice and in post test 52(87%) had Excellent practice and 8(13%) had very good practice.

SECTION III:-

Table 3:-Effectiveness of protocol for connecting haemodialysis on CKD patients among dialysis staff nurses between pre and post test in dialysis unit

(n=60)

SL NO	Level of practice	Pre test		Post test	
		f	%	f	%
1	Excellent practice	-	-	42	70
2	Very good practice	27	45	18	30
3	Good practice	33	55	-	-

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Table3:- shows that in staff nurses, during the pre test 27(45%) had very good practice, 33(55%) had good practice where as in post test 42(70%) had Excellent practice 18(30%) had very good practice

SECTION IV:-

Table 4:-Comparison of mean and standard deviation of pre-test and post test scores of connecting haemodialysis in staff nurses

(n=60)

SL. NO	Group	Pre test		Post test		'Z' value
		Mean	SD	Mean	SD	
1	Staff nurses	39.66	6.29	67.91	8.24	c=5.24, t=2.660 df=59, p<0.05 S*

Table 4: The results indicate that in staff nurses, the pre test mean is 39.66 and standard deviation is 6.29 and whereas the post test mean is 67.91 and standard deviation is 8.24. The calculated value is 5.24 greater than tabulated value is 2.66. The calculated value is greater than tabulated value. So, it can be concluded that, there is a significant improvement of connecting haemodialysis on CKD patients among the staff nurses.

SECTION-V

Table 5:-Association between protocol for connecting haemodialysis with socio demographic variables of staff nurs

(n=60)

Demographic variables	Very good practice		Excellent practice		Chi square $\square^2$
	f	%	f	%	
Age in years					C=5.75 t= 5.99 at df=2 p<0.05 NS
20-25 years	6	10	15	25	
26-30 years	7	17	30	50	
31-35 years	-	-	2	3	
Gender					C=5.75 t= 5.99 at df=2 p<0.05 NS
Male	4	7	5	8	
Female	14	23	17	28	
Educational Qualification					C=6.4 t= 5.99 at df=2 p<0.05 S*
B.Sc(N)	17	28	18	30	
Post B.Sc (N)	3	5	1	2	
GNM	17	28	4	7	
Clinical Experience.					C=6.13 t=5.99 at df=2 p<0.05 S*
< 1year	2	3	5	8	
1-3 year	4	7	26	43	
4-5 year	1	2	22	37	
Marital status					C=3.68 t=3.84 at df=1 p<0.05 NS
Married	9	15	20	33	
Unmarried	7	12	24	40	
Designation					C=6.1 t= 5.99 at df=2 p<0.05 S*
In-charge	-	-	3	5	
B.Sc Staff	4	7	31	52	
GNM staff	2	3	20	33	
Attended CNE programme related to dialysis.					C=3.72 t=3.84 at df=1 p<0.05 NS
Yes	6	10	31	52	
No	5	8	18	30	

P<0.05 level of significance
S*- Significant
t-table value
C- Calculated value
NS- No significant
df=(r-1)(c-1)

Table 10 shows that association between the post test scores on effectiveness of protocol for connecting haemodialysis on CKD patients among staffs with selected socio demographic variables in staff nurses.

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- With regard to **age** in staff nurses the calculated value is 5.75 and table value is 5.99. The calculated value is less than the table value. So, there is no significance at the level of $p<0.05$
- Concern with **Gender** in staff nurses the calculated value is 3.81 and table value is 3.84. The calculated value is less than the table value. So, there is no significance at the level of $p<0.05$.
- Pertaining to **Educational Qualification** in staff nurses the calculated value is 6.4 and table value is 5.99. The calculated value is greater than the table value. So, there is significance at the level of $p<0.05$
- About the duration of **Clinical experience** in staff nurses the calculated value is 6.13 and table value is 5.99. The calculated value is greater than the table value. So, there is significance at the level of $p<0.05$
- In the context of **Marital status** in staff nurses the calculated value is 3.68 and table value is 3.84. The calculated value is less than the table value. So, there is no significance at the level of $p<0.05$
- In association with **Designation** in staff nurses the calculated value is 6.0 and table value is 5.99. The calculated value is greater than the table value. So, there is significance at the level of $p<0.05$
- About the history of **attended CNE programme related to dialysis** in staff nurses the calculated value is 3.72 and table value is 3.84. The calculated value is less than the table value. So, there is no significance at the level of $p<0.05$

5. MAJOR FINDINGS OF THE STUDY:

The results shows effectiveness of protocol for connecting haemodialysis on CKD patients among dialysis staff nurses in experimental group, the calculated 'Z'
Value of checklists (5.24) is greater than the table value (2.66) at (0.05), So the null hypothesis is rejected and research hypothesis is accepted.
The study reveals that there is a significance improvement by assessing of protocol for connecting haemodialysis on CKD patients among the staff nurses in dialysis unit in experimental group.
The association between effectiveness of protocol for connecting haemodialysis on CKD patients among the staff nurses with post test scores in experimental group with their selected socio-demographic variables shows that there is significant such as educational qualification, clinical experience and designation and there is no significant such as age, gender, marital status and attended CNE programme.

6. IMPLICATIONS OF THE STUDY:

Nursing education:
Education in nursing has a vital role to play because the students who have learned today are going to deal with human beings tomorrow". Hence the right method of education with opportunity to practice and apply what was been taught is essential.
Nursing practice:
The protocol for connecting haemodialysis helps to enhance the quality of nursing practice. The goal emphasizes the need of nurse to be knowledgeable and informed to provide safe, effective and protective care for patients with haemodialysis
Nursing administration:

The hospital administration is the key person to plan, organize and conduct in-service education programme to nursing personnel regarding the connecting haemodialysis in dialysis unit. Nursing teachers should teach regarding haemodilaysis to student's nurses in order to enhance the outcome of the patients
Nursing research:
Research could be conducted on a large sample with a view to develop a procedure annual or policy. The importance of research utilization in clinical practice in relation to improve the patient outcome, enhance professional practice and deliver the cost effective service

7. CONCLUSION:

Protocol for connecting haemodialysis on selected checklist helps the staff nurses to provide effective care while connecting haemodialysis on CKD patients and to improve the quality of care and cost effectiveness.

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A Descriptive Study to Assess the Knowledge on Prevention and Homecare Management of Lung Cancer Among Smokers in Selected Villages, Nellore

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Abstract

The study has entirely focused on the lives of smokers of ***Dhakilivari Palem Village*** within Nellore district. It has been found that preventive measures have not been taken by them to get rid of lung cancer. This study has used different techniques, including correlation, standard deviation, and simple random method of sampling for conducting the survey authentically.

Keywords: Lung Cancer, Smoking, Risk Factors, And Preventive Measures

1. Introduction

Lungs are considered foundational organs that enable an exchange of gas amidst blood and the environment. Cancer refers to the situation in which cells of the body proliferate unchecked, and lung cancer occurs in the lungs. The Spread of this cancer can arise from different organs, and Lung cancer has commonly occurred due to smoking bidis and cigarettes in males of India [1]. However, the weak relation to smoking in Indian females indicates that other risk factors can be present besides smoking. The results of lung cancer have been poor in spite of several advancements in diagnostic methods, therapeutic interventions, as well as molecular transformations currently [2]. This study has focused on prevention along with homecare management possessed by lung cancer among smokers within some villages in Nellore. The study has been delimited to 100 smokers, ***"Dhakilivari Palem Village,"*** and data from six weeks has been collected. This study will help improve the knowledge of the management of home care and prevention of cancer in the lungs among smokers.

2. Literature Review

Part I

P1. Commonness of Cancer in Lungs

[3] conducted a study on ***"Small-cell lung cancers (SCLC)"*** that accounted for approximately 15% of entire lung cancers. The risk of SCLC emerges due to the carcinogens

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of cigarettes, and it has been found that 1/3rd of patients possess earlier-phase disease. Treatment can be done with ***"curative multimodality therapy,"*** and most people keep metastatic disease. There has been an urgent necessity for delivering tailored drugs to those patients who have been likely to behave. A study was conducted by [4] on patients having 5% expression of PD-L1. No connection has been there between nivolumab with expanded ***Progression-free survival (PFS)*** and chemotherapy. It has been discovered from this study that Nivolumab increases PFS and ***"Overall Response Rate (ORR)"*** within patients. The patients in which these have been increased possess high ***Tumor Mutation Burden (TMB)*** as per outcomes of exploratory retrospective examination.

P2: Management of Home Care and Prevention of the Lung Cancer

There has been the utilization of the data from ***the "American Cancer Society Cancer Prevention Study"*** of follow-up of twelve years. This has been done on primary avoidance, smoking, and cessation of smoking in the study of [5].Former smokers are more prone to lung cancer in the upcoming days, as per projected mortality rates. These smokers have paved the way for primary measures for prevention, including chemoprevention, and secondary measures for prevention, including screening.

Part II: Conceptual Framework

The model of health promotion refers to the positive and dynamic status of health that promotes health behavior. It results in advanced well-being, functional capability, and better life quality within all phases of development. The emphasis of this specific model is on three domains-

-Traits and experiences of individuals

-Affect and cognition specific to behavior

-Behavioral result

The basis of the conceptual framework is the theory of a general system having *input, throughput, output,* and *feedback.*

Input

The system is nursing students possess input after being within the system itself, as well as obtained from the surrounding. These variables of social demography are input age between 20 and 60 years, academic qualification, gender, income of family, and marital status. There has been the presence of residence and kind of family, as well as information sources are included within the input.

Throughput

The action necessitated accomplishing the delineated output that assessed the knowledge about the management of the home case and prevention of lung cancer. This has been done by the utilization of age within years, gender, academic qualification, and income of the

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family. There has been an involvement of residence place, occupation, family type, and information source questionnaire.

Output

Output has been the feedback to the system and has assessed the knowledge about the management of homecare and prevention of lung cancer among smokers.

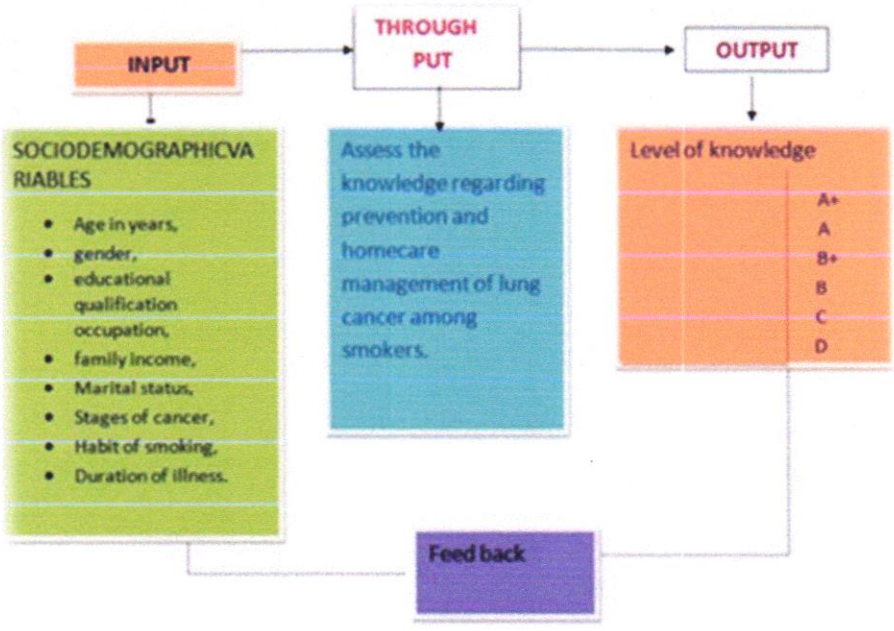

Figure 1: Conceptual Framework

3. Methodology

The approach of Quantitative Research has been utilized for assessing knowledge on the management of homecare and prevention of lung cancer among smokers. The adoption of a design of descriptive research that is cross-sectional has been used in this study. The study has been done within Dhakkilivari Palem in the Nellore District within AP. The net population has been 1095, and among them, 563 and 520 are males and females residing within 205 houses. All smokers are considered as the population for this study, and the accessible population has been 100 smokers in the middle age groups of 20 years to 50 years within Dhakkilivari Palem village. Smokers have been the sample by whom inclusion criteria have been fulfilled. 100 is the sample size, and the sampling technique of simple random has been adopted. Structured questionnaires have been used for assessing knowledge on the prevention and management of home care of lung cancer among smokers.

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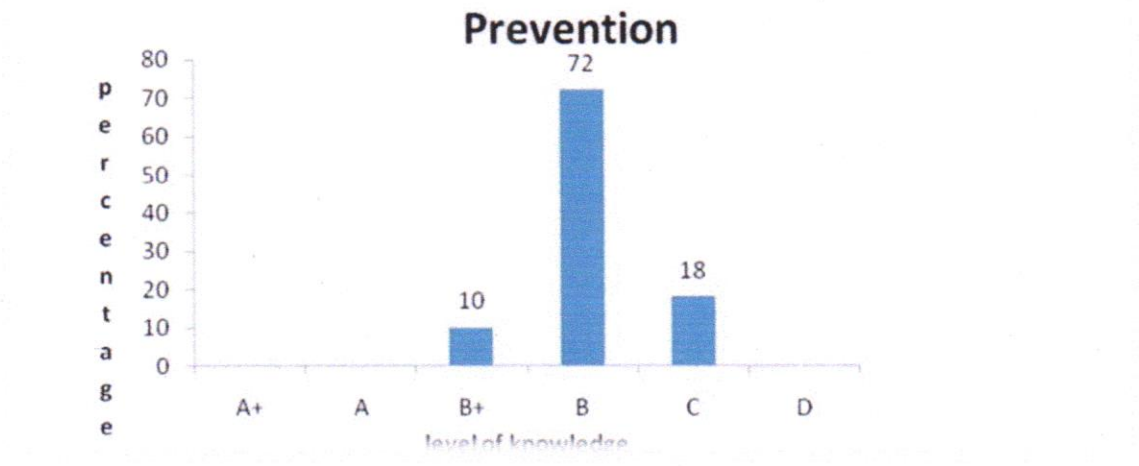
Data Analysis and Interpretation

Table 1: Score Interpretation for Management of Homecare and Prevention

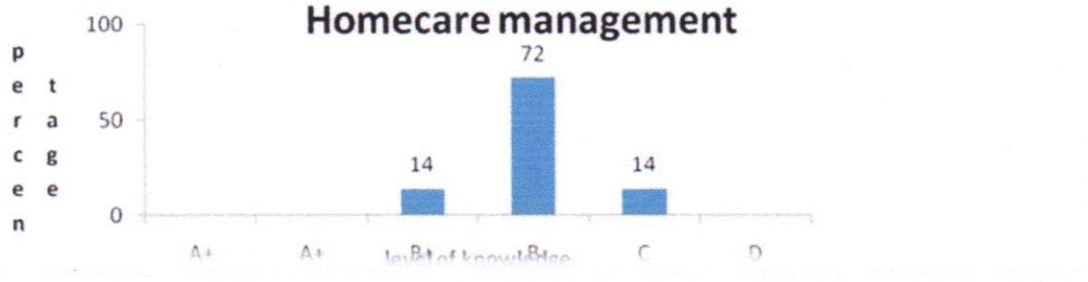
(Source: Self-made)

GRADE	SCORE
Grade A+	91-100%
Grade A	81-90%
Grade B+	71-80%
Grade B	61-70%
Grade C	51-60%
Grade D	=<50%

The score of every correct answer has been done as 1 and incorrect as 0. A selection of 10 respondents has been made for the Pilot Study utilizing a sampling technique of simple random. The data has been gathered within 20 to 30 minutes and has been analyzed, as well as tabulated utilizing inferential and descriptive statistics. It is discovered from the pilot study that there has been the feasibility of the tool for doing the survey.



Graph 1: Percentage Distribution of Lung Cancer Prevention



Graph 2: Percentage Distribution of Homecare Management

The above two graphs have demonstrated that B grade is 72 %, and hence, there has been a need of more knowledge in acquiring preventive measures and management of homecare.

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Table 2: Mean and Standard Deviation of Prevention and Management of Homecare for Lung Cancer (Source: Self-Created)

CRITERIA	MEAN	STANDARD DEVIATION
Prevention	5.30	.969
Homecare Management	5.45	1.009

The mean score of prevention has 5.30 with Standard Deviation of 0.969, as well as, of homecare management has been 5.45 having Standard Deviation of 1.009.

Table 3: Correlation of Prevention and Management of Homecare for Lung Cancer (Source: Made by self)

CORRELATION	PREVENTION		HOMECARE MANAGEMENT		PEARSON CORRELATION& COEFFICIENT
	FREQUENCY (f)	PERCENTAGE (%)	FREQUENCY (f)	PERCENTAGE (%)	
A+	-	-	-	-	0.99
A	-	-	-	-	
B+	18	18	14	14	
B	72	72	72	72	
C	10	10	14	14	
D	-	-	-	-	

The correlation in the middle of management of homecare and prevention has been shown in the above table. 0.99 is Pearson Coefficient that depicts positive correlation amidst management of homecare and prevention of the lung cancer amidst Nellore district.

4. Discussion

It has been found that most people within rural areas in Nellore district are unaware of the adverse impact of smoking. It has been understood from the study that most of them are unconscious of the symptoms of lung cancer and its treatment.

5. Conclusion and Recommendation

It has been concluded from the study that there has been a need of making the people aware about the harmful impacts of smoking on lungs. The people in rural areas of Nellore district are not aware of preventive measures for lung cancers. This study can be conducted further with a big sample size.

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A Study to Assess the Effectiveness of Hot Water Foot Bath Therapy on the Quality of Sleep among the Elderly at Narayana Medical College and Hospital, Nellore

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Abstract

This study has the aim to understand the effectiveness of hot water foot bath therapy among elderly people for the quality of sleep has been focused on in this study. 60 elderly persons participated in the study conducted in NMCH and a quantitative research approach has applied. A non-equivalent control group (experimental and control group) have been adopted as the research design where pre-test and post-test have been conducted. GSQS or, Modified Groningen Sleep Quality Scale has been used as a tool and several demographic variables have also been utilized. It has been found that in the results of the pre-test, 43.3% (13) had poor sleep, 16.6%(5) had moderate sleep, and 40%(12) had good sleep. In post-test 26.6% (8) having poor sleep, 43.3%(13) moderate sleep, and 30%(9) good sleep among the elderly peoples. This study will be beneficial for the well-being of elderly people to overcome anxiety and stress.

Keywords: Modified Groningen Sleep Quality Scale, Footbath, Hot Water Footbath Therapy, Elderly People, Control Group, Experimental Group

1. Introduction

Footbath refers to the intervention method of nursing that is helpful for elderly people to feel relaxed. Sleep and wakefulness have a functional relationship with the temperature of the core body and the rhythm of skin temperature. Quality sleep is important for maintaining mental health, tissue repair, and the maintenance of the immune system in elderly people. A footbath with hot water provides good sleep as it relaxes the mind and body of the individual. Therapy of foot bath by hot water defines as the foot immerses in the hot water for about 15 to 30 mins at a temperature of 39 to 41 degrees Celsius. This article paper will assess footbath therapy utilizing hot water and the effect of this therapy on elderly people's sleeping.

2. Literature Review

Hot water footbath therapy

Dr. Bathmy

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Therapy of a warm foot bath instigates the vessels of blood to dilate which improves the circulation of blood (Sharma and Kumari, 2019). Heat produces by the therapy encourages sweating and leads to toxin release in the body. Elderly people across the world have gone through several mental and physical stresses due to their increasing age. Warm foot bath thus relieves stress among elderly people and it also provides body relaxation to the whole body (Saeki, 2000). Anxiety, sleep distortion and fatigue are also found in elderly people and with the implementation of hot water bath therapy elderly people can easily relive stressful moments. Foot care and foot massage with hot water decrease the heart rate and increase the temperature of foot skin and that contributes to physiological and psychological well-being.

Effectiveness of footbath therapy on the Outcomes of quality sleeping in elderly people

A warm foot bath is very essential for sleeping as it is considered a natural aid for sleeping. Stimulation of blood circulation occurs for taking a warm foot bath as it re-energises the whole body, keeps the body self-relaxed, and reduces inflammation in the body. Toxic produces in the body of elderly people in daily life due to unhealthy lifestyles, stress, and diet which results in the blockages for free blood circulation. Soaking the feet before taking a nap maintains the secretion of toxins in the body and it also allows kidneys to replenish the flow of blood in the body during sleeping. Ankles get relaxed, and muscles, ligaments and tendons also get relaxed after the implementation of hot water foot bath therapy on elderly people.

3. Methodology

Here in this study quantitative data analysis had been done and quantitative data refers to the first-hand data that had been gathered by the researchers themselves. A quantitative structure was made up of tools such as surveys and polls, and a sample size or quantity and quantitative research in the social sciences had been used for the collection of quantitative data. Descriptive and inferential statistics had been measured in the data analysis and to maintain the quality of the research a pilot study was also conducted.

Research design

The non-equivalent control group (experimental and control group) had been adopted as the research design where pre-test and post-test had been conducted.

Tools used

The tool here used was the ***GSQS*** or, ***Modified Groningen Sleep Quality Scale*** which consists of 14 items. The reliability of the tool had been established by utilizing the method of r-test relying on the prophecy formula of spearman brown, ***R=2r/1+r, r value =0.6***. Socio-demographic variables such as gender, age, residence, and habits were also taken into consideration during the conduction of the study.

4. Data Collection

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A total of 60 participants had selected for the study in ***NMCH or, Narayana Medical College and Hospital,*** Nellore and among them, 30 participants were taken in the control group and 30 were taken in the experimental group. In order to assess the sleep quality among the participants, a pre-test was done utilizing the ***Modified Groningen Sleep Quality Scale.*** Therapy of foot bath by hot water was given for 6 days as a pre-test procedure and on the 7th day the post-test was done.

5. Data Analysis

Data of elderly people had been analyzed in the following tables:

Table 1: Percentage and frequency distribution of socio-demographic variables (Age) for sleeping quality among elderly people

(N=60)

	Experimental		Control	
Age in years	F	%	F	%
a)60-65 years	12	40	7	23.3
b)66-70years	6	20	18	60
c)71-75 years	9	30	2	6.7
d) > 75 years	3	10	3	10
Total	30	100	30	100

The table shows that the age of the experimental group 3(10%) was above 75 years, 30%(9) were between the age of 71-75 years, 20%(6) were between the age group of 66-70 years, and 40% (12) were between 60 to 65 years. On the other hand, in the control group, 10%(3), 6.7%(2), 60%(18), and 23.3%(7) were found respectively for the above 75, 71-75, 66-70, and 60-65 respectively.

Table 2: Percentage and frequency distribution of in experimental group, the post and pre-test scores on the sleep quality among elderly people

(N=60)

Criteria	Experimental group			
	Pre test		Post test	
	F	%	F	%
a) Good sleep	9	30	15	50
b) Moderate sleep	9	30	10	33.5
c) Poor sleep	12	40	5	16.5
Total	30	100	30	100

This table shows that in pre-test 40%(12) were having poor sleep, 30%(9) moderate sleep, and 30%(9) good sleep. In post-test 16.5%(5) were having poor sleep, 33.3%(10) moderat sleep, and 50%(15) good sleep.

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Table 3: Percentage and frequency distribution of in control group, the post and pre-test scores on the sleep quality among elderly people

(N=60)

Criteria	Control group			
	Pre test		Post test	
	F	%	F	%
a) Good sleep	12	40	9	30
b) Moderate sleep	5	16.6	13	43.4
c) Poor sleep	13	43.4	8	26.6
Total	30	100	30	100

This table shows that in pre-test 43.3%(13) were having poor sleep, 16.6%(5) moderate sleep, and 40%(12) good sleep. In post-test 26.6%(8) were having poor sleep, 43.3%(13) moderate sleep, and 30%(9) good sleep.

Table 4: Percentage and frequency distribution of the post and pre-test for the effectiveness of hot water foot bath therapy among the elderly in the control group

Group	Criteria	Mean	S.D	Paired t-test
Experimental group	Post test	41.07	13.534	C= 2.139
	Pre test	47.07	14.797	T=2.04
				S*

This table shows that the pre-test mean was 41.07 with 13.534 SD, and the post-test mean was 47.07 with 14.797 SD. The value of the calculated table value was 2.04 and paired t-test was 2.139.

Table 5: Comparison of standard deviation and mean for the effectiveness of hot water foot bath therapy among elderly people for the quality of sleep in control and experimental group

(N=60)

Criteria	Experimental		Control		Independent t-test
	Mean	SD	Mean	SD	C= 2.019
Hot water foot bath therapy	47.07	14.797	39.93	12.124	T=2.76 Df=29 P<0.05 **S***

Here df n-1==29, df=degree of freedom, significance, and P<0.05 and from the table the SD was 14.797, and the post-test mean was 47.07. The value of the t-test was 2.76 and was greater than the table value.

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6. Findings and Discussion

60 elderly persons participated in the study conducted in ***NMCH*** and utilized the quasi-experimental non-equivalent design of the control group. Data were analyzed by the use of inferential and descriptive statistics according to the objectives of the study. Results of pre-test 43.3%(13) were having poor sleep, 16.6%(5) moderate sleep, and 40%(12) good sleep. In post-test 26.6%(8) were having poor sleep, 43.3%(13) moderate sleep, and 30%(9) good sleep among the elderly peoples. The quality of sleep among the elderly participants was assessed and the effectiveness of the hot water foot bath therapy was evaluated for the quality of sleep. Several demographical variables such as age were taken and the comparison of standard deviation and mean for the effectiveness of hot water foot bath therapy among elderly people for the quality of sleep in the control and experimental group was analyzed.

7. Conclusion

This paper has drawn a significant picture of the effectiveness of hot water foot bath therapy among elderly people for the quality of sleep. ***A modified Groningen Sleep Quality Scale*** has been used and several demographical variables have been taken for the paper. A study can be done further to assess hot water bath therapy's effectiveness as a non-pharmacological management to improve the quality of sleep among elderly people.

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A Study to Assess the Effectiveness of Buteyko Breathing Exercise on Respiration Outcome among Patients with COPD at NMCH, Nellore

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Abstract

An experimental and control group was implicated to assess the effectiveness of Buteyko Breathing exercises among patients with COPD admitted to the pulmonology ward in Narayana Medical College and Hospital, Nellore. There were 60 patients selected via the Convenience sampling technique having these diseases. Patients were chosen for respiratory outcomes that were assessed by an observational checklist consisting of several parameters. The data was then analyzed by inferential statistics and organized according to the objectives of the study.

Keywords: Buteyko Breathing Technique, Pretest, Post Test, COPD, Demographic Values, Mean.

1. Introduction

The respiratory system consists of a web of tissues and organs that help in breathing that includes lungs, airways, and blood vessels. Some muscles of the lungs are also the parts of respiratory system. This entire system works together to inhale oxygen that moves to the blood and exhale waste gases such as carbon dioxide called gas exchange. Chronic Obstructive Pulmonary Disease is a respiratory disease that progresses slowly and obstructs the path of airflow. This study will deal with the effectiveness of the Buteyko Breathing exercise among patients with COPD.

2. Literature Review

Effectiveness of Buteyko Breathing exercise on COPD patients

Chronic Obstructive Pulmonary Disease is a curable and preventable disease that involves pulmonary parenchyma, lung tissues, bronchioles, bronchi, blood vessels, and alveoli.

It is also referred to as a condition such as emphysema or chronic bronchitis with similar symptoms (Celli*et al.* 2019). It is the leading cause of death that occurs in the states. Over 16.4 million people have been diagnosed with this disease, but millions more are there having the disease without even being diagnosed. The disease causes potent long-term disability and causes death at an early stage. The number of people dying from the disease is rapidly

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increasing day by day (Ritchie *et al.* 2020). It is estimated that there are 30 million patients in India is responsible for growing percentage of COPD death rate, the highest in the world. More than 64.7 million is the estimated on the basis of age causes death rate per 100,000 among both genders.

Impacts of Buteyko Breathing exercise

The Buteyko Breathing technique or BBT is a kind of exercise that is used for several purposes. It enhances breath control that prevents breathlessness and promotes a prominent pattern of breathing and reduces over breathing (Vagedes*et al.* 2021). It is mainly used to improve certain conditions such as anxiety, asthma, and sleep concerns and also to clear blocked nasal passages. It can reduce symptoms of illnesses such as asthma, and stress and regulates overall health.

3. Methodology

The methodology part of the research work deals with the research design and research approach. The study design narrates the setting of the study, sample size, population, and sampling technique (Cox*et al.* 2019). It also describes criteria for development, sample selection, description of the tool and, content validity of the device, method of data collection, pilot study and data analysis methods based on the objectives.

Research approach

The research approach based on quantitative analysis was assumed to measure the effectiveness of the Buteyko Breathing exercise on Respiration outcomes among patients with COPD.

Research design

The experiment was designed as a post-test and pre-test with an intervention (Buteyko breathing exercise) and a control group.

Tools Used

Socio-demographic variables such as age, gender, treatment, and so on, inferential and descriptive statistical methods were used to evaluate the values.

4. Data Collection

The data were collected with written permission from the Medical Superintendent, HOD of the Pulmonology Department at NMCH Nellore. It took 4 weeks and obtained informed consent from patients. A total of 60 participants were selected and 30 were selected for the control groups with simple routine care (Rocha, 2019). The pre-test was done by using a modified Becker's score and was done for both groups. The intervention was given (Buteyko breathing exercise) for 6 days followed by 1 week; the post-test was done on the 7thday with the same tool for the both groups. The data was then evaluated using inferential and descriptive statistical methods respectively.

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5. Data Analysis

Data were analyzed using descriptive and inferential statistical methods based on the study objectives. In descriptive statistics, several methods such as Frequency, percentage, and Distribution Mean SD were observed to find out the respiratory parameters among these patients. In Inferential statistics, separate methods were used such as paired t-tests and so on to determine the effectiveness of the Buteyko Breathing Exercise among COPD patients in the Experimental group. Independent test was used to determine the difference between the scores of both groups. The chi-square test was used to find out the association between pre-test and post-test levels of respiratory outcomes.

Table 1; Distribution of Frequency and percentage based on age, (N=60)

S.NO	AGE IN YEARS	EXPERIMENTAL GROUP(N=30)		CONTROL GROUP (N=30)	
		F	%	F	%
1	20-30	2	6.7	1	3.3
2	31-40	5	16.7	7	23.3
3	41-50	9	30	10	33.4
4	Above50	14	46.6	12	40
	Total	30	100	30	100

This table shows the ages in the experimental group were 14(46.6%) between and above 50 years of age, 9 (30%) between 40-50 years of age,5(16.7%) between 30-40years of age, and 2(6.7%) between 20-30 years of age. In control group, 12(40%) were above 50 years of age,10(33.4%) between 40-50 years of age,7(23.3%) between 30-40 years of age and 1(3.3%) between 20-30 years of age.

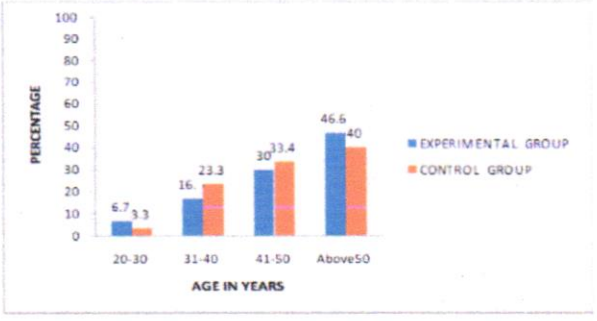

Figure 1; Distribution of percentage based on age

Table 2; shows the value between treated and non-treated patients in the control group as well as the experimental group

S.NO	Patient on treatment	EXPERIMENTAL GROUP(N=30)		CONTROL GROUP (N=30)	
		f	%	F	%
1	Yes	26	86.7	24	80
2	No	4	13.3	6	20
	Total	30	100	30	100

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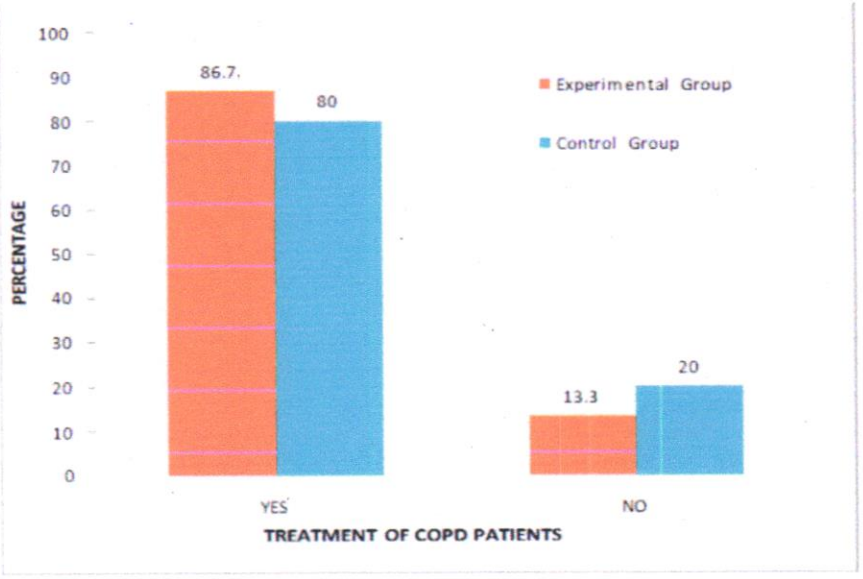

Figure 2; Distribution of percentage based on treatment

Table 3: a comparative study between the post-test and pre-test

Group		Mean	Standard deviation	Paired t-test
Experimental group	Pre test	13.8	3.71	C=0.930 T=0.86 Df=29 S*
	Post test	21.80	2.88	
Control group	Pre test	13.7	3.4	C=0.22 T=0.90 Df=29 NS
	Post test	13.9	3.6	

The above table shows the effectiveness of experimental group during the pre-test scores among patients. In experimental group calculated value is greater than table value and there is statistical significance. In Control group, the calculated value lesser than table values there is statistically no significant.

6. Results and Discussion

The above results state that the Buteyko breathing exercise was found to be helpful in improving the respiratory outcome among the patients. The scores of pretest were found to be effective in the experimental group among patients. The average pre-test was 13.8 with an SD of 3.71 and the post-test mean was 21.8 with an SD of 2.88. The calculated value was 0.930 and the table value was 0.86, the calculated value was greater than the table value so it is significant (Rosalba,2014). The experimental group's calculated value was higher than the table value, so there was a statistically significant difference in Buteyko Breathing Exercise on Respiration outcome among patients. The pretest mean of the control group was 13.7 with SD 3.4 and mean of post-test was 13.9 with SD 3.6. So, the value after calculation was less

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than the table so there was no statistical significance. Thus, null hypothesis (no significance) was canceled and the research hypothesis was granted.

7. Conclusion

The conclusion of the study states that Buteyko Breathing Exercise shows a statistically significant in improving the effectiveness of the exercise on Respiration outcomes among COPD patients. The study showed that 70%were normal Respiration outcomes and 30% were moderate Respiration outcomes. The pre-test mean was 13.8 with SD 3.7 and the post-test mean 21.8 with SD 2.8. The calculated value is 0.930 and the table value is 0.86. Buteyko Breathing Exercise is highly effective in the improvement of the Respiratory outcome among these patients as $P < 0.05$ that is at a significant level. This evidenced based practice can be incorporated into nursing practice to improve Respiratory outcomes among patients with COPD.

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A Study to Assess the Effectiveness of the Prone Position in Increasing Oxygen Saturation among Acute Respiratory Distress Syndrome Patients at NMCH, Nellore

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Abstract

This study has aim to understand the effectiveness of prone positioning among ARDS patients in increasing oxygen saturation. 60 patients from Narayana Medical College and Hospital, Nellore have been selected for this study and a quantitative approach has been applied. A non-equivalent control group consisting of experimental and control group have been adopted as the research design where pre-test and post-test have been conducted. In the pre-test it has shown that oxygen saturation 63.3%(19) and 36.7%(11) as moderate and poor saturation levels respectively. In the post-test, it has found that 76.7% (23), and 32.3%(7) has shown normal and moderate oxygen levels in the experimental group. In the control group pre-test 60%(18), and 40%(12) with moderate and poor saturation levels of oxygen. In the post-test 53.4%(16) and 33.3%(10) found moderate poor levels of oxygen saturation, and 13.3%(4) has shown normal oxygen saturation levels. This study will be beneficial for patients with breathing problems.

Keywords: ARDS, Prone Positioning, NMCH, Oxygen Saturation, Experimental Group, Control Group.

1. Introduction

The prone position of breathing refers to an effective method that involves the body positioning in such a way that assists the improvement of oxygenation in the lungs. The respiration process is divided into two phases namely inspiration and expiration whereas inspiration belongs to the active process that brings air inside the lungs and expiration excludes air out of the lungs. ***ARDS or, acute respiratory distress syndrome*** occurs due to the building of fluid in the alveoli and tiny muscles of the lungs. Pathophysiology of ARDS is marked by disruptions in the capillary alveoli and edema formation, and prone positioning can be helpful for patients with such conditions. This article will focus on the effectiveness of prone positioning among ARDS patients in increasing oxygen saturation.

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2. Literature Review

Increasing oxygen saturation among ARDS patients

ARDS or, acute respiratory distress syndrome refers to a fatal condition syndrome of the lung that is a serious condition for patients with poor oxygen supply in the lung. In order to increase oxygen saturation in the lungs of ARDS patients it is important for the health care professionals to give supportive care such as ventilator support, prone positioning, and medications alongside sedation. A ventilator machine is used to open the air sac that is shut down and also helps in breathing (Pleil *et al.* 2021). The ventilator is connected to the patient through a face mask and a tube inserted into the windpipe. Another way to improve oxygen saturation is to bring the prone positioning that increases the blood flow in the alveoli and also helps to reduce the blockages in the tissues of the lungs.

Effectiveness of prone positioning in ARDS patients to improve oxygen saturation

Prone positioning is generally used for patients with breathing problems and this position is utilized for the alternative to the ventilator. This position is often used for neck and back surgeries, collateral surgeries, tendon repairs, and vascular surgeries, and also for patients with oxygen saturation problems. The respiratory system generally is not modified during the prone positioning and after returning to the supine position respiratory mechanics got improved (Protti *et al.* 2022). It increases the blood flow in the alveoli and through the bloodstream, an extra amount of oxygen goes lungs. It improves the oxygenation in the lungs by redistributing the flow of blood in the lungs and that reduces lung pressure.

3. Methodology

Here in this study quantitative data analysis had been done and quantitative data refers to the first-hand data that had been gathered by the researchers themselves. A quantitative structure was made up of tools such as surveys and polls, and a sample size or quantity and quantitative research in the social sciences had been used for the collection of quantitative data.

4. Research Design

The ***non-equivalent control group*** had been adopted as the research design where pre-test and post-test had been conducted.

Tools Used

Observational checklist was the tool used here to access levels of oxygen saturation.

5. Data collection

There were a total of 60 participants chosen with the application of the ***Convenience sampling technique in NMCH or, Narayana Medical College and Hospital, Nellore.*** The data had been found in this study represented in a table and graphical form by the application of the primary data collection method and also applied the descriptive method of research

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design and ***Inferential statistics***. The study conducted the pre-test in addition to both experimental and control groups.

6. Data Analysis

Table 1: Frequency and distribution of percentage on the basis of age

(Source: SPSS)

Age in Years	Experimental Group (N=30)		Control Group (N=30)	
	f	%	f	%
a. 20-30 yrs	2	6.7	3	10
b. 31-40yrs	4	13.3	5	16.7
c. 41-50yrs	8	26.7	7	23.3
d. Above 50yrs	16	53.3	15	50
TOTAL	**30**	**100**	**30**	**100**

The above table stated the different ages of ARDS patients and they belong to both of the groups of experimental and control. There were approximately 6.7% belonged to 20 to 30 years, 13.3% belong to 31-40 years, 26.7% belong to 41 to 50 years and 53.3% were above 50 years in the 100 experimental group. Besides, approximately 10% belong to 20 to 30 years, 16.7% belong to 31 to 40 years, 23.3% belong to 41 to 50 years and 50% were above 50 years in the 100 control groups of ARDS patients. Therefore, it had been understood that individuals above 50 years, were experienced with this matter and give proper implementations for ARDS syndrome.

Table 2: Distribution of oxygen saturation for post and pre-test among ARDS patients in control and experimental group

Level of oxygen saturation	Experimental Group (N=30)				Control Group (N=30)			
	Pre-test		Post-test		Pre-test		Post-test	
	f	%	f	%	f	%	f	%
Normal OXYGEN SATURATION Level (95-100%)	-	-	23	76.7	-	-	4	13.3
Moderate OXYGEN SATURATION LEVEL (92-95%)	19	63.3	7	23.3	18	60	16	53.4
Poor OXYGEN SATURATION LEVEL (<92%)	11	36.7	-	-	12	40	10	33.3
TOTAL	**30**	**100**	**30**	**100**	**30**	**100**	**30**	**100**

In the experimental group, the pre-test showed 63.3%(19) of oxygen saturation in moderate, and 36.7%(11) as poor saturation level. In the post-test 76.7% (23) has shown normal oxygen saturation levels, and 32.3%(7) had shown moderate oxygen levels. On the other hand, in the

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A Study to Assess the Knowledge of Documentation while Taking Care of Mentally Ill Patients among Staff Nurses in the Psychiatric Ward of the Narayana Medical College Hospital at Nellore, Andhra Pradesh

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Abstract
The present study has determined the knowledge of documentation in caring for mentally ill patients among nursing staff in the psychiatric wards of Narayana Medical College Hospital at Nellore, Andhra Pradesh. The study has estimated demographic variables regarding 60 staff nurses, and it has been executed with the help of SPSS. Among 60 staff nurses, there are approximately 30% have done diploma, 38.3% have a B.Sc, 23.3% P.B.B.Sc, and 8.3% completed their M.Sc in nursing. From the study it has been found that proper documentation process offers clear proof of what takes place in mental health sessions. Without proper documentation, it is not feasible to assess therapeutic effectiveness as there is no comprehensible record of what took place in therapy session.
Key-words: Documentation, Record-Keeping, Quality Nursing Documentation, Nursing Care, Certified Nurse Educator (CNE), Accelerated Recovery Program (ARP)

Introduction

Nursing documentation is the entire record of patient care that is designed and delivered to patients by other caregivers or qualified nurses. It is the fundamental clinical data resource to meet professional and legal needs while taking care any patients. "Quality nursing documentation" has a significant role while taking care a patient especially mentally ill one

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through adequate better communication between others "care team members". The initial role of mental health nurses is to give the proper care and treatment to patients who suffer from psychiatric disorders. They carefully diagnose, measure blood pressure and make correct plans for treating cognitive patients. This study focuses on assess the knowledge on documentation while taking care of mentally ill patients among staff nurses in psychiatric ward at Narayana Medical College Hospital at Nellore, Andhra Pradesh.

Literature Review

Role of Nurses in the Assessment of Patients with psychiatric disorders

Staff nurses in the psychiatric ward give health promotions and perform the activities of self-care. The nurses aim to develop the efficacy of the Accelerated Recovery Program (ARP) for recovering their problem of CF and also evaluate intervention therapy, including cognitive behavior for patients [1]. Similarly, psychiatry nurses implement group therapy, including client education, support, and authoritative training for improving the mental health of psychiatric patients.

Application of King's goal attainment theory

The usage of this theory helps in determining the relationship between nurses and patients and also assists in increasing the capability of patients to achieve their goals. The utilization of King's goal attainment theory enables improving the effectiveness of nurses towards their responsibilities in taking care of patients [2]. Nurses usually implement the skills of interpersonal communication, problem-solving practice and also monitor and specify the behavioral conditions of cognitive health of psychiatric patients.

Methodology

The present research has used a Cross-Sectional Descriptive Research Design for obtaining the actual data and appropriate vision. This research design is applied to assess the occurrence of diseases in addition to the samples that are clinical-based [3]. The study has utilized the quantitative research approach for achieving logical responses. The application of this research approach helps in providing facts and understanding with regard to the main issue, which is a mental disorder [4]. A pilot study was conducted among staff nurses in the Narayana Medical College Hospital at Nellore, Andhra Pradesh. The utilization of the non-probability sampling technique assists the whole study to define a subjective method with reference to the population [5]. There are 60 staff nurses have been selected from Narayana Medical College Hospital, Nellore, with the application of the non-probability sampling technique. A large number of data has been gathered from the Institution's Ethics Committee, and consent has been collected from the regulations of the Narayana Medical College Hospital in Nellore. Moreover, the data that has been estimated is tabulated, investigated, and diagnosed with the help of a Descriptive and Inferential Statistical Procedure.

Data Analysis

Data of staff nurses have been analysed in these mentioned tables;

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SL.NO	AGE OF THE STAFF NURSES	FREQUENCY (f)	PERCENTAGE (%)
1.	A)<25	24	40.0
2.	B)26-35	14	23.3
3.	C)31-45	15	25.0
4.	D)>35	7	11.7
	TOTAL	60	100

Table 1: Frequency and distribution of the percentage of staff nurses regarding their age

(Source: SPSS)

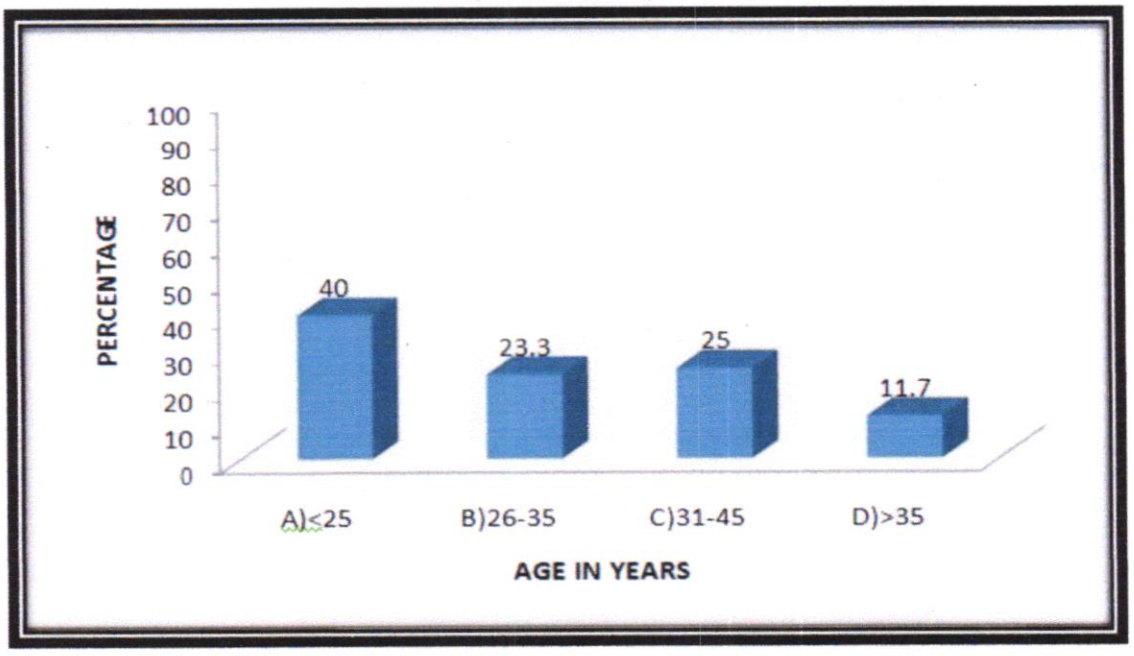

Figure 1: Distribution of percentage of staff nurses concerning age

The table stated among 60 staff nurses, 24 (40%) fall under <25 years of age, 14 (23.3%) fall under 26 to 35 years of age, 15 (25%) % in 31 to 45 years, and 7 (11.7%) were in >35 years.

SL.NO	GENDER	FREQUENCY (f)	PERCENTAGE (%)
1.	A) Male	2	3.3
2.	B) Female	58	96.7
	TOTAL	60	100

Table 2: Frequency and distribution of the percentage of staff nurses regarding their gender

(Source: SPSS)

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The above table has defined that there are approximately 2 (3.3%) were male and 58 (96.7%) were female nursing staff. The majority of female nurses is more significant than male as women psychiatric nurses thoroughly maintain the healthcare guidelines and ensure the cleanliness of the wards.

SL.NO	CLINICAL EXPERIENCE	FREQUENCY (f)	PERCENTAGE (%)
1.	A) 1-5	29	48.3
2.	B) 6-10	24	40.0
3.	C) 11-15	7	11.7
	TOTAL	60	100%

Table 3: Frequency and distribution of the percentage of staff nurses regarding their clinical experience

(Source: SPSS)

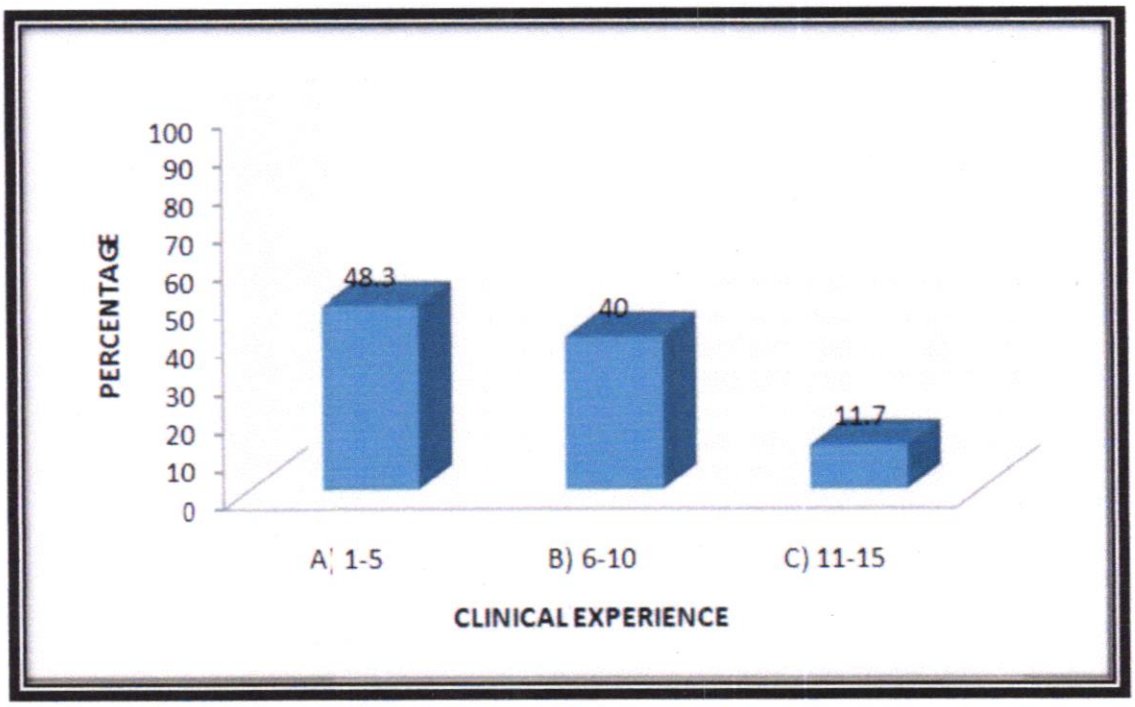

Figure 2: Distribution of percentage of staff nurses concerning clinical experience

The above table states that around 29 (48.3%) have a clinical experience of 1 to 5 years, 24 (40.0%) have 6 to 10 years, and 7 (11.7%) have 11 to 15 years of experience among 60 staff nurses.

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SL.NO	QUALIFICATION	FREQUENCY (f)	PERCENTAGE (%)
1.	A) Diploma in Nursing	18	30.0
2.	B) B.Sc Nursing	23	38.3
3.	C) P.B.B.Sc Nursing	14	23.3
4.	D) M.Sc Nursing	5	8.3
	TOTAL	**60**	**100%**

Table 4: Frequency and distribution of the percentage of staff nurses regarding their qualification

(Source: SPSS)

Among the 60 sample size, approximately 18 (30%) of staff nurses completed Diploma, 23 (38.3%) completed B.Sc, 14 (23.3%) completed P.B.B.Sc, and 5 (8.3%) completed M.Sc in nursing.

SL.NO	ATTENDED CNE PROGRAM	FREQUENCY (f)	PERCENTAGE (%)
1.	A) Yes	29	48.3
2.	B) No	31	51.7
	TOTAL	**60**	**100**

Table 5: Frequency and distribution of the percentage of staff nurses regarding their Attended CNE programs

(Source: SPSS)

The above table has demonstrated that among the 60 samples, there are approximately 29 (48.3%) stated yes, and 31 (51.7%) said no with regard to this program. This program upgrades the treatment quality, care, and self-satisfaction of patients and healthcare professionals.

SL.NO	LEVEL OF KNOWLEDGE	FREQUENCY (f)	PERCENTAGE (%)
1	A+	1	1.7
2	A	15	25.0
3	B+	38	63.3
4	B	6	10.0
	TOTAL	**60**	**100**

Table 6: Frequency and distribution of percentage with regard to structured questions in the application of proper knowledge on documentation among staff nurses

(Source: SPSS)

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The above table has shown, the knowledge of documentation with 60 nursing staff, approximately 1 (1.7%) whose knowledge level was A+, 15 (25.0%) ranked A, 38 (63.3%) graded B+, and 6 (10.0%) were ranked B.

CRITERIA	MEAN	STANDARED DEVIATION
Staff nurses knowledge	18.78	2.8

Table 7: Mean and standard deviation for the experiences of nursing staff with reference to addressing the knowledge of documentation

(Source: SPSS)

It has been clearly stated that the mean score of staff nurses was 18.78, and S.D was 28 regarding the knowledge of documentation.

Discussion and Findings

Discussion

The study has shown various tables and graphs that properly illustrates the frequencies and distribution of percentage in different features among 60 staff nurses. Therefore, nurses can implement Cognitive Behavior Therapy (CBT) and interpersonal communication that helps psychiatric patients to diminish their mental disorders. It has discussed the frequency and percentage distribution of staff nurses based on their age, gender, clinical experience, and knowledge level. The study represented the clinical experiences of staff nurses for understanding their skills and knowledge of them. Approximately 29 (48.3%) have a clinical experience of 1 to 5 years, 24 (40.0%) have 6 to 10 years, and 7 (11.7%) have 11 to 15 years of experience among 60 staff nurses. From the above study it can be discussed that, documentation is an important part of "mental illness treatment" in present time of accountability. It is the crucial evidence narrating the effects and need of patient's treatment. In simple words, at the time when a patient stated that certain treatment or therapy has been helpful to cure the illness, all though this is an opinion not a proper proof. Practical evidence narrates that treatment was significant and effectual to the patient care. It is mandatory to record the results of psychotherapy in measurable terms without dehumanizing or mechanizing the process. "Nursing documentation" generally comprises of nursing history or patient's background data referred as progress notes or "nursing care plan" [6]. The nursing assessment documentation is the proper recording of the procedures how a judgement related to patient's care was made. It makes the procedures of nursing evaluation visible through the presentation in the documented content.

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Findings

Demographic variables

- There are approximately 24 (40%) belong to <25 years of age, 14 (23.3%) fell under 26 to 35 years of age, 15 (25%) % to 31 to 45 years, and 7 (11.7%) were in >35 years.
- It has been found in this study that approximately 2 (3.3%) were male, and 58 (96.7%) were female nursing staff.

Based on the knowledge documentation, there are approximately 1.7% achieved A+, 25% A graded, 63.3% were B graded, and 10% obtained a B grade. The study utilized a cross-sectional descriptive research design that represented 53.3% of staff nurses achieved satisfied practice, 40% good practice, and 6.7% showed poor practice in managing documentation.

From the above study it has been found that "the nursing care plan" is a recording of nursing procedures in the form clinical documentation. It is a systematic procedure of structuring and delivering proper care to clients according to their psychiatric history [7]. It was mainly created in the hospitals to guide all the nurses in giving care to patients, though the format was practical based other than the "nursing process depended". "A Progress Note" is the documentation of nursing observations and actions in the process of nursing care, it assists them to monitor the entire course of patient care.

Conclusion

It has been concluded that staff nurses are required to implement awareness and therapies in the matter of improving the mental disorders of patients in psychiatric wards. It can be concluded that poor quality of documentation were key factors in the dereliction to identify patients who were "clinically deteriorating". Nurses are entirely responsible for controlling proper records of the care they are given and are accountable when the information is inaccurate also. Therefore, "a quality standard" is needed for proper recording of all the nursing documentation. Structured documentation can increase patient care by replacing the vague practice by nurses with accurate and cohesive data analysed by the overall "format of the care plan". Hence, the introduction of care plans and proper documentation are observed as a medium by which all nurses can increase stands of "record saving practice". A written documentation of the treatment, response, and care of the patients while taking care of them is the critical task of nurses.

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A Study to Assess the Knowledge Regarding Home Care Management of Selected Climate Change-Related Diseases among Nursing Students in Selected Nursing Colleges, Nellore

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Abstract

The project is to assess the knowledge regarding home care management of selected climate change-related diseases among nursing students in selected nursing colleges, Nellore. The primary objective of this research is to evaluate the physical and health issues linked to environmental changes among nursing students in chosen nursing colleges of Nellore. A primary quantitative data collection method has been used for this research. It has been found that there is a direct relationship in the middle of environmental changes and health issues, and nurses have a significant role in addressing those health-related issues. From the study, it has been concluded that nursing universities should incorporate health consequences and climate change within the nursing curriculum at all stages.

Keywords: Nurses, Climate-Change, Health Issues, Health-workers, Global-Warming

1. Introduction

"Climate change" is one of the important complications regarding the worldwide health issues of the twenty-first century. India is exceptionally threatened by complexities of environmentally changes due to its specific geographic place, prevalent health agitations, and climate-sensitive subsistence. Health workers have an important role in recognizing environmental changes and its different health impacts. One incorporation of climate change is the progressively severe weather that causes death, and illness through air pollution, heat stress, as well as infectious disease. In order to attain to "***climate change"*** adaptation and mitigation, using nurses in educating about climate change and its effect on health should be a priority. The nursing practices should include specific strategies to decrease health problems related to climate change through clinical care, patient assessment, policy making, and function with communities to reinforce resilience in ***"Narayana Nursing Institution"*** and "***ACSR Goverment Medical College, Nellore"***.

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2. Literature Review

Global Effect and Mechanism of climate changes on human health

Climate change mainly global warming might have extreme health outcomes for humans. Exposure to severe heat can guide to dehydration, heat stroke, respiratory, cerebrovascular, and cardiovascular disease (McKinnon *et al.* 2022). Specific kinds of populations are more threatens than others such s student's athletes, homeless people, and outdoor workers. These people tend to be more vulnerable to this heat as they spend maximum time outdoors. Older adults and low-income families might lack ingress to air conditioning which enhances their vulnerability to extreme heat. In addition to, pregnant women, young children, and older adults are less capable to manage their body temperature hence; they are more in danger of climate change. Large metropolitan cities such as Nellore have seen noticeable increases in diseases in people at the time of heat waves. Changes within the climate impact the air both outdoors and indoors, which leads to different respiratory issues such as asthma (Sambath *et al.* 2022). The health sectors such as "***Narayana Nursing Institution"*** and "***ACSR Government Medical College, Nellore"*** have a significant role in efficiently addressing the obstacles of environmental changes both in terms of controlling the unignorable health impacts of "***climate change"***, also decreasing the emissions of the greenhouse from the "***health sectors"***. Professionals of public health and hospitals are the first respondents to the adverse health impacts due to environmental changes.

The perception and awareness of nurses toward mitigation of climate change related to human health issues

Nurses are crucial in recognizing environmental issues that impact health, and having an understanding and knowledge of the interconnection between health and climate change is significant for them. It is important for nurses as they can drive changes in health organizations to decrease emissions (Patel *et al.* 2022). It can be said that nurses have immense capability to make variances and strike for actions to identify climate change. It has been found that maximum nurses are aware of their duties in the action of climate change, yet the majority of them considered that mitigation of climate change is not a significant concern within the nursing profession. Nurses should show their function in alleviating climate change daily since they fight with health-related problems due to environmental changes within their profession and also in their personal lives (Ryan *et al.* 2020). Nurses also can generate policy alteration at the regional, local, global, and national levels by advocating clean energy and safeguarding natural sources.

3. Methodology

Research methodology is a procedure to systematically clarify the research issues; it details the approach of researchers to make sure valid and reliable results. The primary quantitative data collection method has been used to study the data. The main reason to use this research approach it is focused, fast, relatable, and scientific (Sileyew, 2019). It depends on fewer variables and concrete numbers; it also assists to remove biases from the specific research. In

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this reserach, a descriptive research design has been taken as it permits the researchers to analyze the distribution of more variables without any hypotheses (Mohajan, 2020). A survey has been conducted for completing the research, and in this survey, a total of 31 individuals had participated. This study has followed a deductive approach as it explains causal relationships in the middle of variables and concepts. At the time of conducting this research, no participants were forced to participate in the survey.

4. Findings & Discussions

It has been found that the goals of "***United Nations Sustainable Development***" identify the urgent requirement for global action to control climate change as an emergency health catastrophe. Identifying sustainability and climate change will be a huge segment of future nursing perspectives.

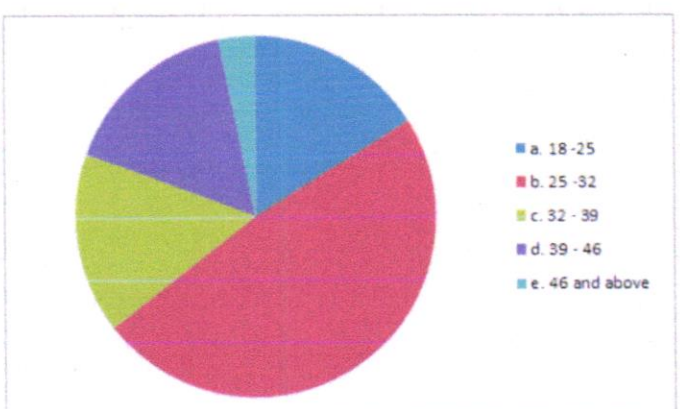

Figure 1: Age of the participants
(Source: MS-Excel)

The participants' age in this research was between 18 years and above, and they are mainly from the health sector. The maximum number of participants was aged between 25 to 32 years.

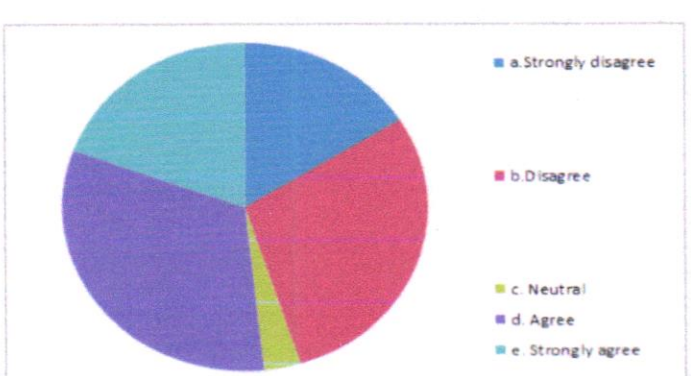

Figure 2: Nurses have a crucial role in recognizing the health-related issues due to climate change
(Source: MS-Excel)

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In the above data set, it has been asked to the participants that nurses have a crucial role in identifying health-related issues due to climate change. A maximum number of participants agreed with that statement, they stated that nurses are important to recognize the problems of health that happened due to the climatic change.

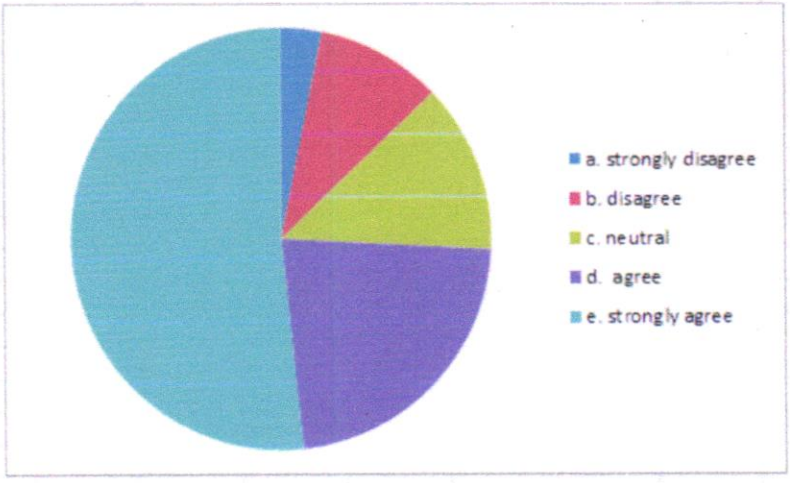

Figure 3: There are different adverse impacts on health due to climate change
(Source: MS-Excel)

In the above figure, the participants had been asked that there are different adverse impacts on health due to climate change. The majority of participants had strongly agreed with the statement.

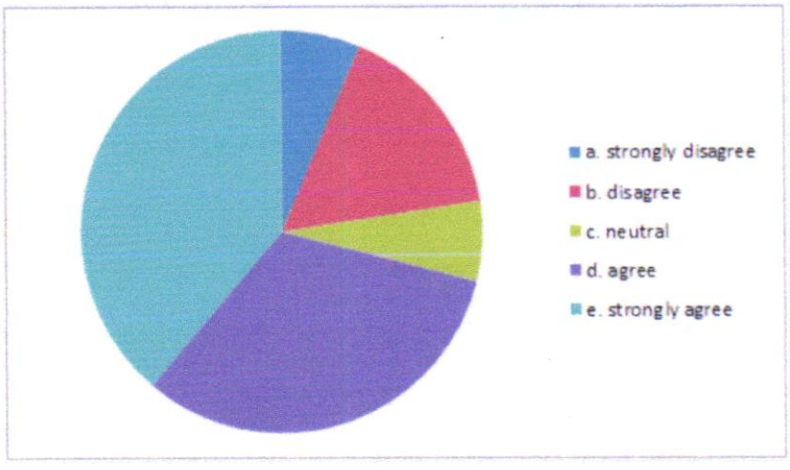

Figure 4: The awareness of environmental change and health issues among nurses is important
(Source: MS-Excel)

In this part, the respondents had been asked that the awareness of environmental change and health issues among nurses is significant. The majority of the participants strongly agreed with the fact.

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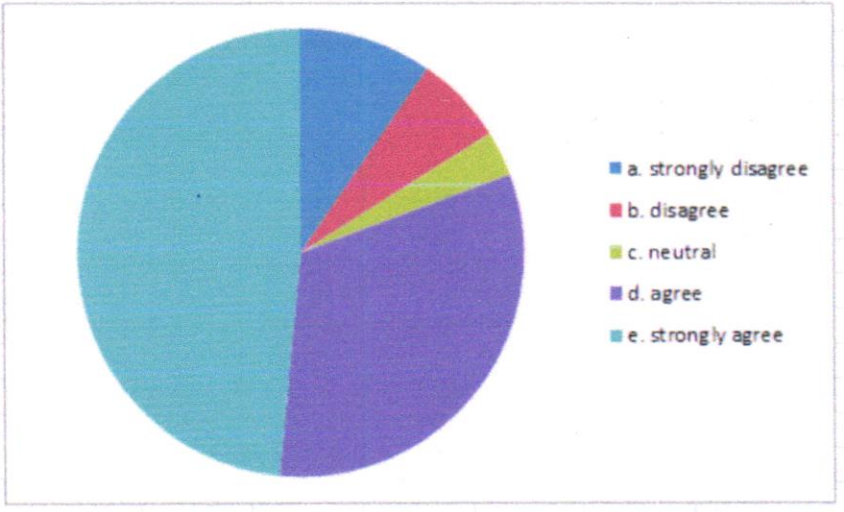

Figure 5: Climate change has severe effects on people from middle and low-income households

(Source: MS-Excel)

In the above data figure, the respondents had been asked whether climate change has severe effects on people from middle and low-income households. Here, also the majority of the participants strongly agree with the fact.

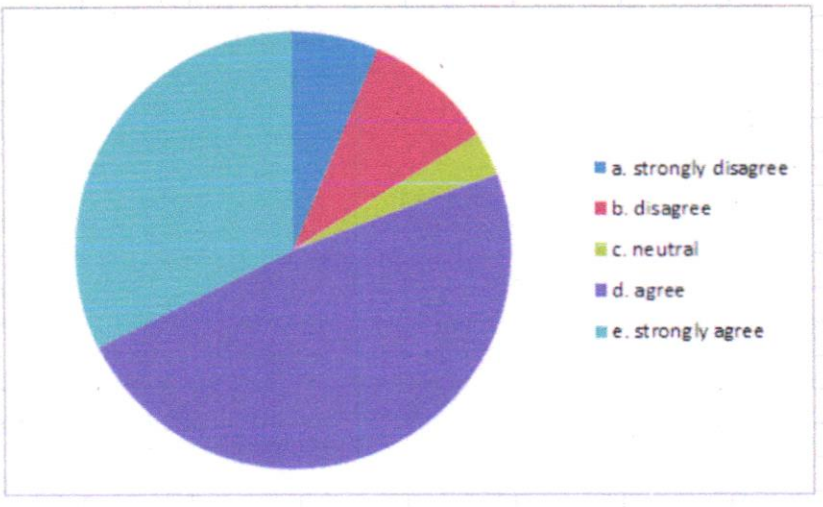

Figure 6: Nurses can mitigate the emissions of greenhouse gasses from the health sectors

(Source: MS-Excel)

In the above figure, the participants had been asked whether nurses can mitigate the emissions of greenhouse gasses from the health sectors. A maximum number of respondents strongly agreed with the fact.

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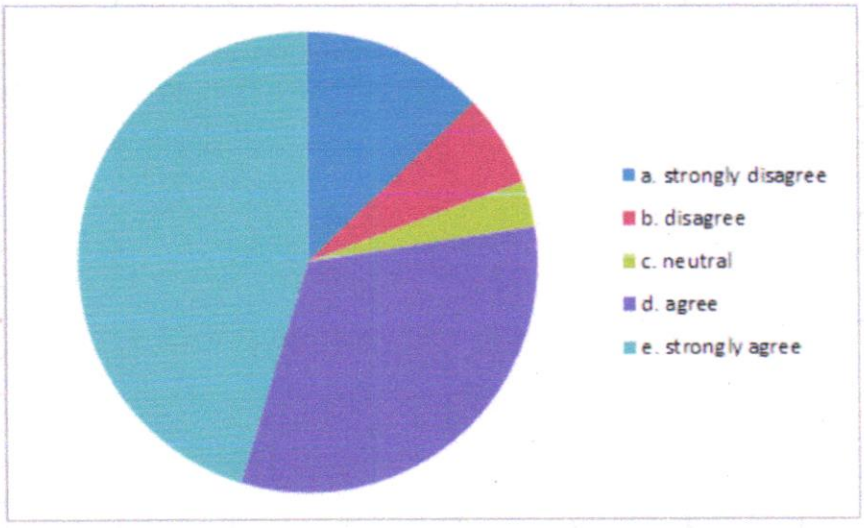

Figure 7: There is a relationship between climate change and people's health
(Source: MS-Excel)

In the above data set, the respondents had been asked whether there is a direct relationship in the middle of "***climate change***" and people's health. Here, the majority of the participants strongly agreed with the fact.

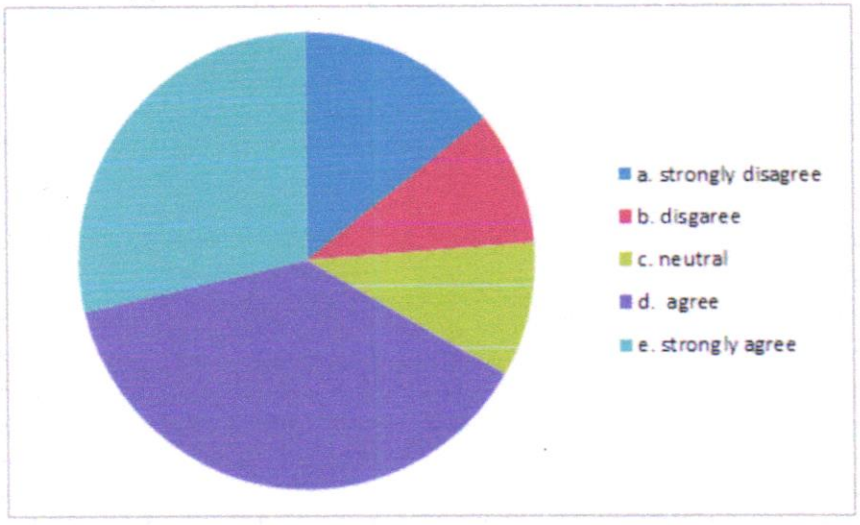

Figure 8: Nurses face different obstacles while attending to the patients
(Source: MS-Excel)

In the above-presented data set, respondents had been asked whether nurses face different obstacles while attending to patients. The maximum numbers of participants have agreed with the statement.

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5. Conclusion

From the above study, it can be concluded that nursing students had positive attributes to the inclusion regarding the ***"climate change"*** and sustainability within the curriculum of nursing. They are strategically significant in the war against climate change in healthcare. More provisions are required within the mainstream health problems due to environmental changes in medical education, as involvement of nursing students in its related health problems is increasing.

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Appendices

Q.1 What is your age?

a. 18 - 25
b. 25 - 32
c. 32 - 39
d. 39 - 46
e. 46 and above

Q.2 Nurses have a crucial role in recognizing the health-related issues due to climate change, do you agree?

a. Strongly disagree
b. Disagree
c. Neutral
d. Agree
e. Strongly agree

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Q.3 There are different adverse impacts on health due to climate change, do you agree?

a. Strongly disagree
b. Disagree
c. Neutral
d. Agree
e. Strongly agree

Q.4 The awareness of environmental change and health issues among nurses is important, do you agree?

a. Strongly disagree
b. Disagree
c. Neutral
d. Agree
e. Strongly agree

Q.5 Climate change has severe effects on people from middle and low-income households, do you agree?

a. Strongly disagree
b. Disagree
c. Neutral
d. Agree
e. Strongly agree

Q.6 Nurses can mitigate the emissions of greenhouse gasses from the health sectors, do you agree?

a. Strongly disagree
b. Disagree
c. Neutral
d. Agree
e. Strongly agree

Q.7 There is a relationship between climate change and people's health, do you agree?

a. Strongly disagree
b. Disagree
c. Neutral
d. Agree
e. Strongly agree

Q.8 Nurses face different obstacles while attending to the patients, do you agree?

a. Strongly disagree
b. Disagree
c. Neutral
d. Agree
e. Strongly agree

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A Study to Assess the Effectiveness of Cluster Care on Physiological Parameters among Preterm Newborns Admitted in NICU at NMCH, Nellore

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Abstract
The frequent clustered nursing care justified the requirement of constant care service for preterm newborns. This study aims to assess the association of different physiological parameters among "preterm babies" admitted to the NICU at NMCH, Nellore. This study has used a "quantitative research approach" and "quasi-experimental non-equivalent control group design". A total of 60 preterm newborns have been selected to obtain the study result and fulfill the aim. It has been found that clustered care for different physiological developments among preterm newborns is essential.
Keywords: Cluster Care, Gestation Weeks, Nursing, Delivery, NICU, Preterm Newborns, and Premature

Introduction

Preterm baby or premature baby refers to the birth of any child at less than thirty-seven weeks of the gestation period, contrarily to full-term delivery at nearly forty weeks. The classification of preterm born is generally first, "early preterm birth" (32 to 34 weeks), second, "late preterm birth" (34 to 36 weeks), and third, "much early preterm birth" (prior to 32 weeks). The preterm delivery percentage at 32 to 36 gestation weeks, has increased constantly over the past years. The gestation age during birth is the most significant prognosticator of the subsequent survival and health of the infant. Moreover, premature babies are at higher risk of cerebral palsy, vision problems, developmental delays, and hearing problems. Although the prime reason for preterm birth is still

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unknown, the "National Intensive Care Unit" has the basic latent to offer quality sleep to preterm babies. The objective of this study is to evaluate the effectiveness of "cluster care" regarding "physiological parameters" with experimental and control groups. The aim of this study is to assess the association of different physiological parameters among preterm babies admitted to the NICU at NMCH, Nellore.

Review of Literature

Impacts of clustered care on preterm newborns

The Preterm babies admitted to the NICU require special care to survive, as there they are exposed to invasive and painful processes along with some environmental stimuli. They experienced some noninvasive processes comprising position change, health care, weighting, nutrition, and changing diapers that are stressful in different ways for them. Stress reflected on preterm babies by different methods might result in huge neurological damage that consequences in "abnormal development"[1]. Here, one of the most significant stresses is a disruption of the sleep cycle of newborns. Different studies have resulted that newborns are exposed to nearly sixteen non-invasive and invasive processes at the time of their initial fourteen days of NICU admission [2]. The NICU center is full of acoustic and optical stimuli, along with medical treatments as well as nursing care cause stress on the newborns. Early childbirth within advanced and developed nations is 5 to 12 percent, whereas in developing countries it comprises nearly 40 percent [3]. "Cluster care" is the process that has been implemented in some areas as an agent of "stress relief" for the newborns. This care aims to offer a longer period of rest in newborns, minimize infections, and decrease hospitalization of neonates "admitted to the NICU".

The association of different physiological parameters among preterm babies

Positive impacts of clustered care on newborn babies are reduced oxygen requirement, improved comfort of babies, and decreased stress-related parameters. The newborn's comforts aid in adjustment to the "extrauterine environment" and optimistically impact social, sensory, emotional, physiological, and mental development [4]. "Apnea frequency" reduced average "heart rate" and enhanced weight gain had been observed in newborns who have more sleeping and resting duration through cluster care implementation. The utilization of non-pharmacological and pharmacological methods in pain management is significant for improving premature babies' comfort levels [5]. Nurses are operating in the "NICU" are needed to offer "cluster care" to the newborns in the "individualized developmental care" extent.

Methodology

This study has used a "quantitative research approach" and "quasi-experimental non-equivalent control group design". Two distinct groups have been selected to conduct this study where, one group had undergone intervention, whereas the other one had not undergone any intervention.

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Group	Pre-assessment	Intervention	the control group
Experimental	O_1	X (Cluster care - "kangaroo mother care", and weight gain)	O_2
Control	O_1		O_2

Table 1: Selected two groups

This specific study was done in the "NICU" of the "Narayana Medical College Hospital", Nellore, and the targeted population was "preterm newborn babies". The "Non-probability convenience" sampling technique has been used here, and the sample size comprises a total of 60 "preterm newborns" (here, 30 were in the "experimental group" and the rest were in "the control group").

Inclusion criteria:

Preterm babies who were,

- Born in between 32 to 37 weeks of gestation periods.
- Admitted to NICU.

Exclusion criteria:

Preterm babies who were,

- Have neurological defects.
- Critically ill.
- Have defects from birth.

Variables:

The independent variables were the newborns who had undergone clustered care. The dependent variables were physiological parameters among newborns evaluated by checklist.

The checklist reliability was evaluated with the help of the "split half process" which is $r = 2r/1+r$, here r valued for 0.9. The information of this study was determined by "descriptive statistics" and the feasibility of the tool was evaluated by doing the study from July 27, 2022, to August 01, 2022, with six study participants. A certificate of ethical clearance was acquired from the ethics chamber of "Narayana College of Nursing", Nellore. In order to conduct this study, by describing the nature of this study, informed consent has been obtained from the newborns' parents.

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Data Analysis and Discussion

(n=30+30)

Age	Experimental group(n=30)		Control group(n=30)	
	Frequency	Percentage%	Frequency	percentage %
<7days	24	80	19	63.3
7 – 14 days	6	20	11	36.7
Total	**30**	**100**	**30**	**100**

Table 2: Percentage and Frequency distribution of newborns dependent on age

The above table presented that, among the experimental group babies aged below 7 days were 80 percent (24), and those aged between 7 to 14 days were 20 percent (6). The babies aged below 7 days were 63.3 % (19) and those aged between 7 to 14 days were 36.7 % (11) in the control group.

(n=30+30)

Birth weight in grams	Experimental group(n=30)		Control group(n=30)	
	Frequency	Percentage%	Frequency	Percentage%
1500-1700	8	26.6	13	43.3
1701-1900	9	30	9	30
1901-2100	2	6.7	2	6.7
2101 - 2300	8	26.7	6	20
2301 - 2499	3	10	-	-
Total	**30**	**100**	**30**	**100**

Table 3: Percentage and Frequency distribution of newborn babies depended on birth weight

From the above table it has been observed that in the experimental group, babies' birth weights from 1500 to 1700 gms were 26.6 % (8), 17901 to 1900 gms were 30 % (9), and 1901 to 2100 gms were 6.7 % (2). Also, the birth weight of babies from 2101 to 2300 gms were 26.7 % (8) and 230 to 2499 gms were 10 % (3). In the control groups birth weights of babies from 1500 to 1700 gms were 43.3 % (13), 1701 to 1900 gms were 30 % (9), and 1901 to 2100 were 6.37 % (2). Also, the

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birth weight of babies from 2101 to 2300 gms were 20 % (6), and data from 2301 to 2499 gms were invalid.

(n=30+30)

	CRITERIA	PRE-ASSESSMENT		POST ASSESSMENT	
Sl.NO	Physiological parameters	Frequency	Percentage	Frequency	Percentage
1	Normal	8	26.6	7	23.3
2	Moderate deviation	16	53.4	14	46.7
3	Severe deviation	6	20	9	30

(a)

(n=30+30)

	CRITERIA	PRE-ASSESSMENT		POST ASSESSMENT	
Sl. N O	Physiological parameters	Frequency	Percentage	Frequency	Percentage
1	Normal	10	33.3	17	56.7
2	Moderate deviation	12	40	10	33.3
3	Severe deviation	8	26.7	3	10

(b)

Table 4: Contrast of cluster care on newborns' physiological parameters in (a) the control group and (b) the experimental group

From the above tables, it has been observed that in the control group, the rate of physiological parameters of pre-assessment was 26.6 %(Normal), 53.4 % (Moderate deviation), and 20% (Severe deviation). In the post-assessment period, the values were 23.3 % (Normal), 46.7 % (Moderate deviation), and 30 % (Severe deviation). In the experimental group, the rate of physiological parameters of pre-assessment was 33.3 % (Normal), 40% (Moderate deviation), and 26.7% (Severe deviation). In the post-assessment period, the values were 56.7% (Normal), 53.3% (Moderate deviation), and 10% (Severe deviation).

Villarroel *et al.* opined that preterm babies were sometimes admitted to the NICU just after birth as they were not fully matured and had some medical conditions that needed specialist care [6]. Frequency medical and nursing supervision is offered to the newborns until they are ready to be released from the hospital setting.

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Conclusion

From the above study, it can be concluded that "cluster care" defines to the implementation of "individually planned care" for "premature newborns". This will be advantageous for narrating the "cluster care" concept to nurses who generally care for premature newborns in "the NICU". the development and growth of babies is a long-term process, here scientific discharge guidance is an effective continuation in terms of "cluster nursing care".

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control group prep-test 60%(18) had shown moderate saturation level of oxygen,40%(12) with poor saturation level. In the post-test 53.4%(16) had shown moderate oxygen level and 33.3%(10) had shown a poor level of saturation, and 13.3%(4) had shown normal oxygen saturation level.

Table 3: Effectiveness of prone position for post and pre-test among ARDS patients in control and experimental group

Group	Criteria	Mean	Standard deviation (SD)	Paired t-test
Experimental	Pre-test	43.67	1.028	C=117.139 t=2.04 P <0.05 S ***
	Post test	15.17	.913	
Control	Pre-test	42.63	4.098	C=0.044 t=2.04 P <0.05 NS
	Post test	42.6	3.400	

S** Significant NS=Non-Significant P<0.05 $df_{(n-1)}=29$

From the above table, it was found from the experimental group that the mean of the pre-test was 43.67 and the SD was 1.028. The post-test SD was 0.913 and the mean was 15.17. The calculated paired t-test was 117.139 and the tabulated value was 2.04. On the other hand, it was found from the control group that the mean of the pre-test was 42.63 and the SD was 4.098. The post-test SD was 3.400 and the mean was 42.60. The calculated paired t-test was 2.04 and the tabulated value was 2.04.

7. Findings and Discussion

60 persons participated in the study conducted in ***NMCH***, there were approximately 53.3% belonging to greater than 50 years and 6.7% belonging to 20 to 30 years. The pre-test showed 63.3%(19) of oxygen saturation in moderate, and 36.7%(11) as poor saturation level. In the post-test 76.7% (23) has shown normal oxygen saturation levels, and 32.3%(7) had shown moderate oxygen levels in the experimental group. in the control group prep-test 60%(18) had shown moderate saturation levels of oxygen,40%(12) with poor saturation level. In the post-test 53.4%(16) had shown moderate oxygen level and 33.3%(10) had shown a poor level of saturation, and 13.3%(4) had shown normal oxygen saturation level. The effectiveness of prone positioning in ARDS patients to improve oxygen saturation had been discussed and the effectiveness of prone position for post and pre-test among ARDS patients in the control and experimental group had shown in the table.

8. Conclusion

This paper has drawn a significant picture of the effectiveness of prone positioning among ARDS patients in increasing oxygen saturation levels. Therefore prone positioning effectively helps patients suffering from ARDS and help in increasing the level of oxygen saturation.

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A Quasi-Experimental Study to Assess the Effect of Swaddling on the Management of Pain During Heel Prick among Neonates Admitted in the Neonatal Intensive Care Unit at NMCH, Nellore

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Abstract

Swaddling is a simple and quick nonpharmacologic method that can be utilized by nurses to decrease heel stick pain in neonates. The aim of this study is to evaluate the impact of swaddling on the management of pain during heel prick among neonates admitted to the neonatal intensive care unit at NMCH, Nellore. The data has been collected by the primary quantitative data collection method in this research. It has been found that neonates face moderate to severe pain at the time of heel prick. It can be concluded that there are noticeable constraints within the pain score at the time of heel prick along with swaddling.

Keywords: Swaddling, Neonates, Heel Prick, Pain Management

1. Introduction

Neonates experience more pain than others due to the existence of the central and peripheral structural significance for nociception. Preterm neonates are entrusted to intensive care connected with a multiple of agonizing procedures. The maximum number of common pain management carry out at the time of infancy are heel prick, regular injection, vaccination without any pain management, and vein puncture. Pain management of neonates is a complex task to accomplishin a ***"NICU or Neonatal Intensive Care Unit"***in NMCH, located in Nellore. Some factors such as physical environment and medical procedures serve as tensely imparting components for neonates within NICU. Neonates encounter pain throughout their initial stages of life that caused adverse impacts for long time such as apnea, respiratory distress, desaturation, hypotension, and also negative impacts on the ***"central nervous system"***. Management of pain within preterm is also categorized as non-pharmacological or pharmacological. The agents of opiates or narcotics pharmacological are utilized for controlling severe pain. There aresome risks related to the use of those narcotics as sedation, seizures, and respiratory issues. Methods of non-pharmacology such as swaddling, music, non-nutritive sucking, facilitated tucking, kangaroo care, and maternal touch assists in decreasing the pain.

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2. Literature Review

The impact of swaddling on the management of pain during heel prick

Swaddling is the procedure of snugly muffling a baby within a blanket for security and warmth. It keeps the newborns comfortable and helps babies from being annoyed by their own startle reflexes. A neonate or newborn is a baby who is under the age of 28 days, at the initial stages of life; babies are at a higher possibility of dying (Bucsea and Riddell, 2019). It is important that proper care should be provided tothem at this period due to this. This helps to enhance the survival rate of the child and attributes a foundation for a fresh life. Every neonate responded uniquely to pain, nurses have the authority to decrease the pain of these babies in the hospital setting (Talebi*et al.* 2022). Both heel warming and swaddling lessen the neonate's pain responses at the time of heel prick. Heel warming consequences in a decreased pain response for neonates compare to swaddling related for pain recovery. Swaddling assist neonates sleep longer, sustains face scratching, and also decreases anxiety. There are still some risks included with it such as decreased arousal, hip dysplasia, and overheating.

The techniques of non-pharmacology for pain management among neonates

A significant development in analyzing the clinical correlates of neonates has consequences in higher attention to pain management at the time of "***neonatal intensive care***". There are some "***nonpharmacological therapies***" that have been explored such as nonnutritive sucking without or with the use of sucrose, facilitated tucking or swaddling, and a stipulation of multi-sensorial (Fitri*et al.* 2021). Other than this the efficiency of these procedures is quite evident, they could not give analgesic in severe or moderate pain to the neonate. The model of pain management which is the approach of 5P denotes physical, psychological, pharmacological, process, and procedural pain management assessments that are significant for directing the pain control efforts for neonates.

3. Methodology

Research methodology gives an overall description of the procedures adopted by the researchers within the study. In this study, the primary quantitative data collection method has been used to collect the study data. The main reason to use this data collection method is to analyze the phenomenon dimension of the research or to create a hypothesis (Sileyew, 2019). This study has used the descriptive research design as it aims to systematically collect data to analyze a situation, population, or phenomenon. Moreover, it assists to answer the questions related to the issues of the research. This research has used the deductive research approach; here researchers begin the research with a generalization, theory, and hypothesis through data collection as well as observations (Casula*et al.* 2021). In this research, a total of 31 participants have been chosen from the intensive care unit at NMCH, Nellore to gather the data relating to the study, and the survey method has been followed. At the time of collecting research data, no participants were forced to answer the research questions. The data of this study has been collected based on the responses of the participants and no other external sources have been used here.

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4. Findings & Discussions

From the above study, it has been found that among neonates the pain is quite unavoidable ad unexplainable at the time of invasive procedures. The responsible nurse must know the newborn's feelings at this time.

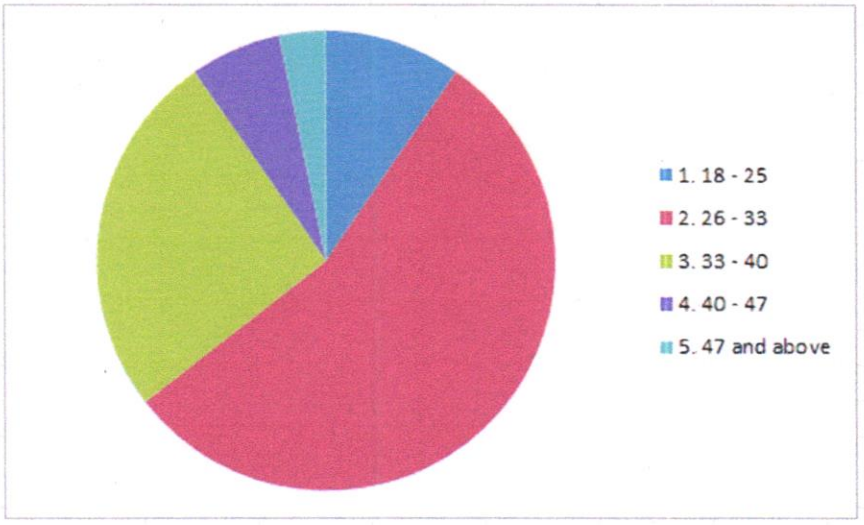

Figure1: Participant's age (Source: MS Excel)

The age of the participants in this study has been between 18 years to 47 years and above. A maximum number of participants are aged between 26 years to 33 years.

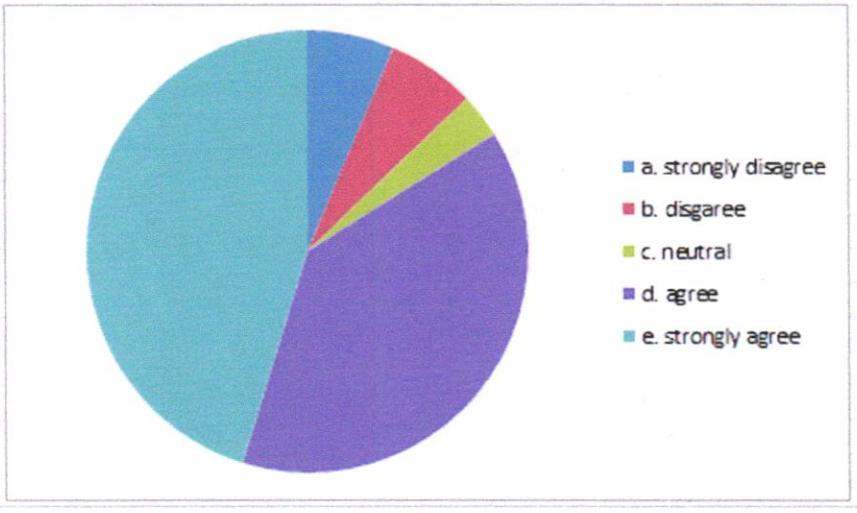

Figure 2: Swaddling procedures help in pain management during heel prick among neonates (Source: MS Excel)

The above data set stated whether the swaddling procedures assist in pain control at the time of heel prick in neonates. The majority number of the respondents strongly agreed with the matter.

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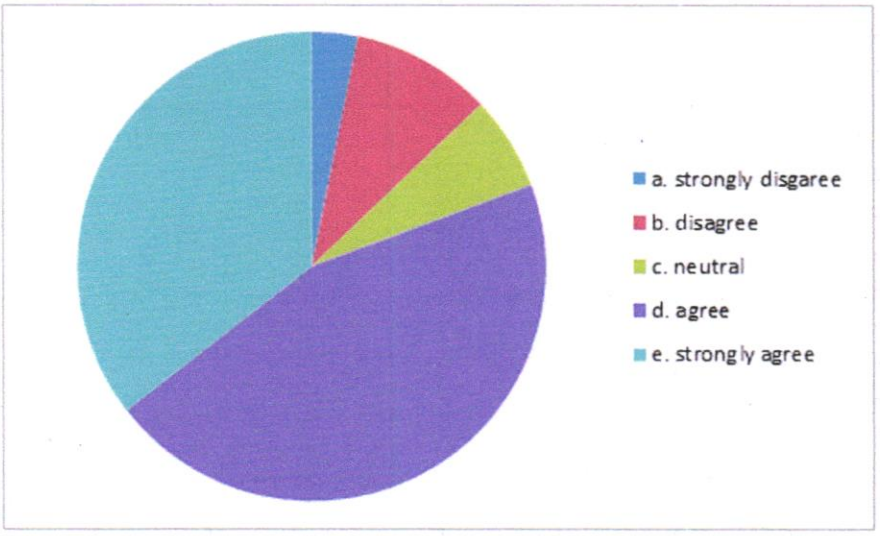

Figure 3: Pain management in NICU is quite a challenging task (Source: MS Excel)

In the above data figure, the respondents have been asked if pain management within NICU is a challenging and tough task to accomplish. The majority of the participants showed their approval of the fact.

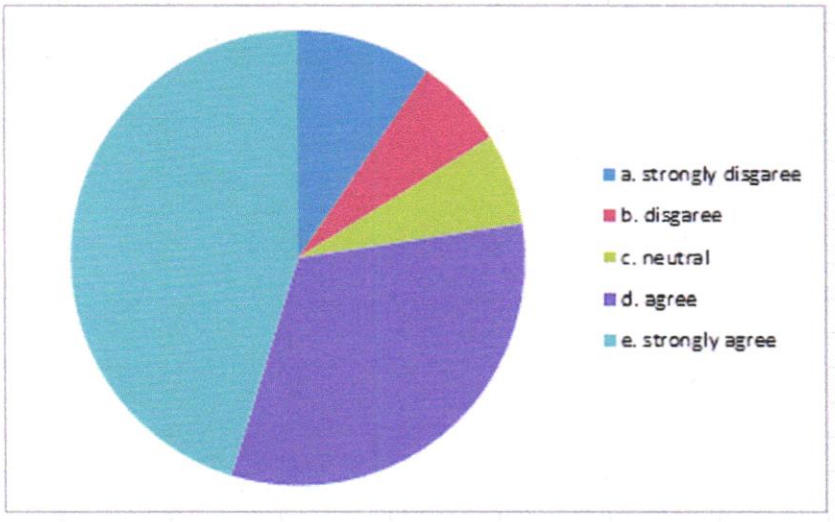

Figure 4: Neonates are at higher risk of dying when they lack proper nursing care in hospital settings (Source: MS Excel)

The above figure represents the maximum number of respondents who strongly agreed with the fact that neonates are at a higher chance of dying at the time they lack proper nursing care.

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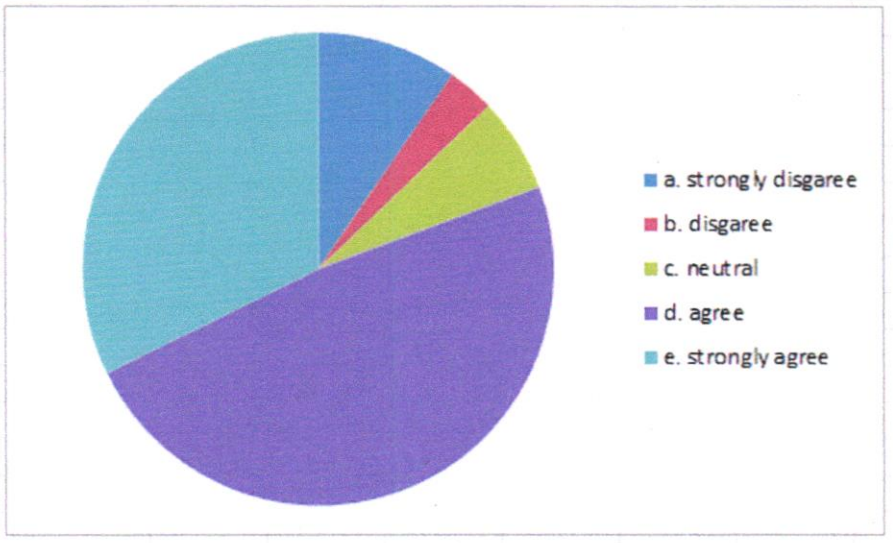

Figure 5: Neonates encounter pain throughout their initial stages of life has long time bad impacts on their health (Source: MS Excel)

The above data set presents that the maximum number of participants strongly agreed with the statement that neonates who experience severe pain throughout their beginning stage of life have long-lasting adverse effects on their health.

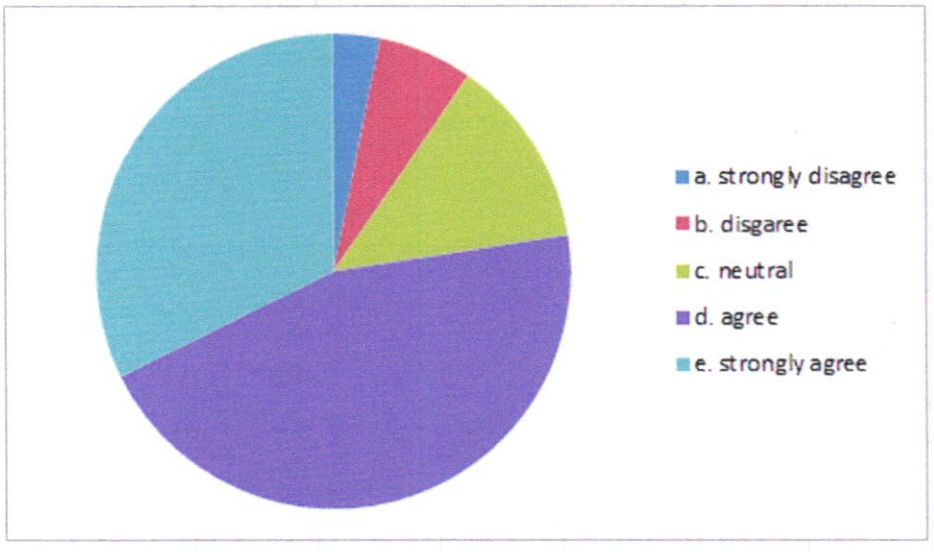

Figure 6: There is a risk related to the opiates pharmacological agents uses to decrease pain (Source: MS Excel)

The above data figure represents that the majority of the respondents agreed with the fact that there is risk linked to the use of opiated pharmacological agents to reduce pain in neonates.

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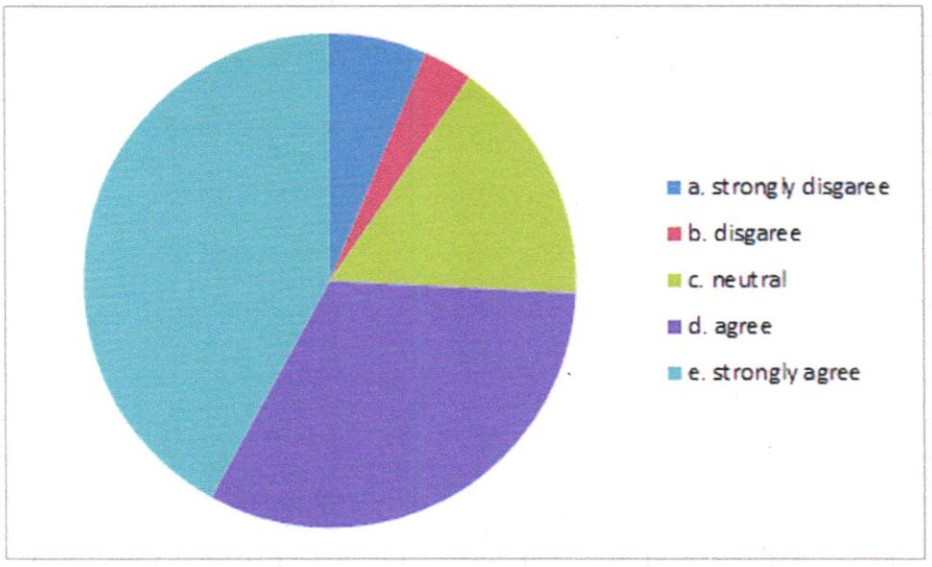

Figure 7: Both heel warming and swaddling lessen the neonate's pains at the time of heel prick (Source: MS Excel)

The above figure stated that a maximum number of the participants strongly agreed with the statement that both heel warming and swaddling decrease the newborn's pain at the time of heel prick.

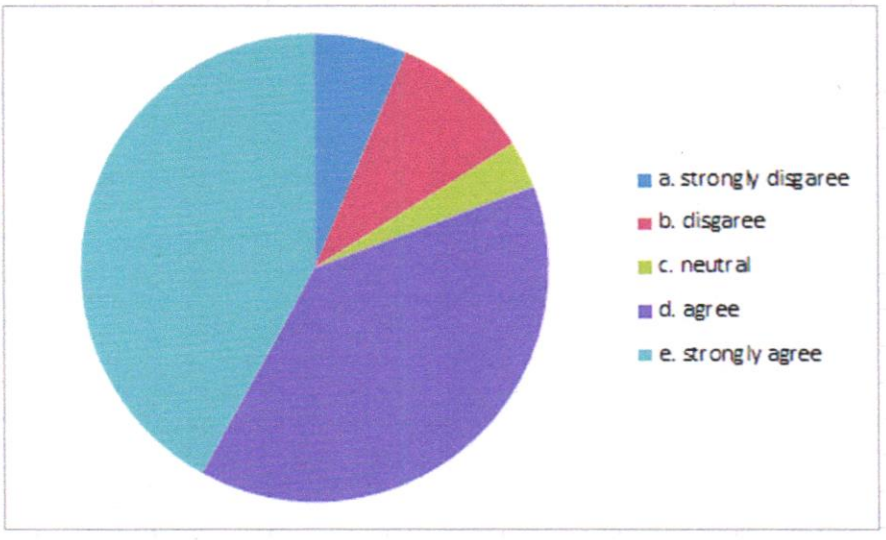

Figure 8: Swaddling helps neonates from being annoyed by their own startle reflexes (Source: MS Excel)

From the above data set, it can be stated that the majority of the participants strongly agreed with the matter that swaddling truly helps neonates from being annoyed by their startle reflexes.

5. Conclusion

From the above study, it can be concluded that swaddling for pain management of neonates is effective, low-cost, convenient, and practical. Heel pricks or routine procedures are the most

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common painful medical methods at the time of the neonatal stage. Swaddling is a procedure that helps to keep newborns relaxed by decreasing their pain at the time of heel prick.

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Appendices

Q.1. What is your age?

a. 18 - 25
b. 26 - 33
c. 33 - 40
d. 40 - 47
e. 47 and above

Q.2. Swaddling procedures help in pain management during heel prick among neonates, do you agree?

a. Strongly disagree
b. Disagree
c. Neutral
d. Agree
e. Strongly agree

Q.3. Pain management in NICU is quite a challenging task, do you agree?

a. Strongly disagree
b. Disagree
c. Neutral
d. Agree
e. Strongly agree

Q.4. Neonates are at higher risk of dying when they lack proper nursing care in hospital settings, do you agree?

a. Strongly disagree
b. Disagree
c. Neutral
d. Agree
e. Strongly agree

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Q.5. Neonates encounter pain throughout their initial stages of life has long time bad impacts on their health, do you agree?

a. Strongly disagree
b. Disagree
c. Neutral
d. Agree
e. Strongly agree

Q.6. There is a risk related to the opiates pharmacological agents uses to decrease pain, do you agree?

a. Strongly disagree
b. Disagree
c. Neutral
d. Agree
e. Strongly agree

Q.7. Both heel warming and swaddling lessen the neonate's pains at the time of heel prick, do you agree?

a. Strongly disagree
b. Disagree
c. Neutral
d. Agree
e. Strongly agree

Q.8. Swaddling helps neonates from being annoyed by their own startle reflexes, do you agree?

a. Strongly disagree
b. Disagree
c. Neutral
d. Agree
e. Strongly agree

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A Psychological Study into the Virtues that are Important for a Psychiatric Nurse

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Abstract

Psychiatric nurses have received the required training to take care of the psychological and physical well-being of mental patients. The main purpose of this article is to explore the virtues that are important for nurses in psychiatry. Virtues in psychiatry are all about doing the right thing by the patient, their loved ones and society in a broader sense. Nurses can save various challenges in psychiatric care and often might be subjected to a lot of stress. On the other hand, they also serve as support staff and source of information for doctors and specialists. Virtue holds a significant place in this entire endeavour to deliver the best patient experience. Hence, this paper has discussed all about the virtues that are important for nurses in psychiatry. The article has used secondary sources of information to present the results and provide a discussion into the matter. All the virtues and their importance for a psychiatric nurse has been discussed in detail in the study.

Keywords: Psychological, Mental Patients, Psychiatric Nurses, Virtues

1. Introduction

Psychiatric nurses have played a great role in taking care of the psychological and physical well-being of mental patients. This treatment and managing all mental patients are really a confidential job and much responsibility should be required for taking care of all patients. In this concern, all psychiatric nurses mandate proper training which can require a better degree of treating those mental patients. As mentioned by Rice, Stalling &Monasterio (2019), advanced practices in Psychiatric-mental health are the second largest group of behavior professionals within the health. Heat care is done with the help of some registered nurses which are especially granted nurses for managing perfect requirements in "psychiatric mental health" conditions. The comprehensive care to the individual families, community, and groups is that aspect for all the patients. Psychiatric sunrises are the most vital in caring for those mental health-disordered patients. This type of therapy is provided in a variety of settings and mainly develops a strong therapeutic connection which creates a long lifespan.

This therapy creates a huge amount of oranges nursing, neurological and psychological expertise that ensures perfection in confidential care. From the viewpoint of Delaney &Vanderhoef (2019), "psychiatric mental health" (PMH) registered nurses and "Advanced Practice Registered nurses (APRN)". The nurses in psychiatric mental health should follow some rules and that is the most vital in touch care. All the patients singing with individuals should achieve the main goal of recovering these patients. The virtues in treating all mental patients can require better action within the major creativity. In this concern, all the nurses should assure the best action by revealing honesty, loyalty, and most positive behavior in front of mental patients.

Support activity on the physical and mental health of those psychiatric patients is mainly possible with a reliable psychiatric nurse. This supportive action can be continued without the action of positions among the families

and community. This can recover all the states of that mental patient. Professional nurses require a particular training program that helps in specialization and standardization in the treatment system. This function leads to favorite mental health patients and their families. All the patients mainly manage all the areas processed with forming a team and Thai types of teamwork can meet perfection on the major development along with perfect requirements. All the users need to ensure all the psychiatric patients receive the good and right treatment and this subsequently creates an adjustment to stabilize formation with perfect medication. Most of the common care is required with performing safety management and risk assessment switch assists for grooming all mental patients.

2. Aim of the Study

The main objective of this study is to evaluate a psychological study into the virtues that are important for a psychiatric nurse.

3. Materials And Methods

The methodology in the study is much important which ensures the major framework and technique of the study which can form better action on the justification at the time of finalization. The researcher of this study should choose a qualitative method for conducting this study which can help in understanding the major beliefs, experiences, attitudes, and interactions of the study. From the viewpoint of Akter*et al.* (2019), the Integration of qualitative study assists in the strategic maintenance of the study. This increases the attention and provides guidelines regarding the main subject of the study. This type of method helps to clarify and perfectly justify virtues that are important for nurses in psychiatry. In this concern, the gathering of secondary data is based on perfect insights and investigation of major findings. As mentioned by Lemon & Hayes (2020), secondary data collection is done by gathering information from authentic books, peer-reviewed journals, and some magazines which belong to recent sources.

The researcher in this study has chosen indirect approaches, interpretivism research philosophy, and cross-sectional research design. All of these main strategies are helpful in maintaining the creation of a clear view and justifying the entire topic in-depth study. According to Van Dael*et al.* (2020), major action and investigating relevant insights from depth study create betterment in the study which specifies satisfaction in front of the readers. The reliability and validity of qualitative study mainly meet with the assurance of authentic insights in each section. Consistency and accuracy can form the best action within the fruitful consideration. The strategy of the study can be approved with the help of inclusion and exclusion criteria.

The researcher should include that all the information is secondarily gathered and should be taken from authentic peer-reviewed journals which are published after 2019. On the other hand, in the exclusion criteria, researchers should not take all the secondary information from irrelevant journals which are published before 2019. The information should be gathered based on the important role played by the psychiatric aspects. The researcher should not shift from the topic which may not be fruitful for justifying the subject. The reliability and validity approval can help in ensuring the ethical maintenance of this study.

4. Findings

4.1 The importance of the role of psychiatric nurses in psychiatry

Psychiatric disorders can be healed with the helpful perfect action of a psychologist, though after the treatment the patient needs perfect care for a few days. This personal care has been taken by that psychiatric nurse. Perfect training or mentoring facilities can create compatibility for treating the mental patient. There are many treatments that have been maintained by psychiatric nurses that are most similar to those of psychologists. As mentioned by Robiner, Tompkins & Hathaway (2020), psychological therapy and medication prescription also can be provided by those nurses as the course and training program leads to behaving like an assistant of psychologists. The primary care of the nurse is to assure patients about their reliable treatment and develop positive aspects in the mind of those mental patients.

Getting a specialized nurse job in a psychiatric unit, proper education, and turning should be required unless this cannot lead to better action during the taking care of those psychiatric patients. The emotional distribution of mental care of the patients can get huge amounts of emotional breakdown and is recovered with the perfect care of psychiatric nurses. From the viewpoint of Söderberg, Wallinius&Hörberg (2020), psychiatric nurses are built for perfect communication which is directed toward proper therapy and the development of relationships. The core professional health care can be accessed by increasingly vulnerable and general individuals. Primary mental health can be obtained from proper treatment facilities of those psychiatric nurses in the public and private sectors (Phoenix, 2019). The fundamental caring concept enables explaining reliable action among the patients.

4.2 The Role of virtue ethics in psychiatric nursing

Major virtues in the nursing profession consist of professional knowledge skills, morality, and ethical conduct along with trustworthiness within the practice of the main job. In the viewpoint of Sala Defilippis, Curtis& Gallagher (2019), virtue ethics for nursing jobs is mainly concerned with the characteristics of individual nurses who seek appropriate action that can enhance their well-being. The virtue of the conduction of major development can be done with the help of discussing the vitality of developing the habits of mind and character of all the types of issues of all patients. Engaging and resolving all the issues and problems of the patients is done with the application of ethical principles. In the viewpoint of DeSimone (2019), the ANA code of ethics speaks about the ethical obligations meaning all nurses. This is clarified with the care of a person and there should be dignity compression in all the stages of managing patients. The practice of psychiatric nurses should be loyal to a job that can be fruitful for the development of the main strategy.

There are some actions of psychiatric nursing that must work to create respect for maintaining the dignity of a person. As mentioned by Rushton, & Pappas (2020), nursing integrity can proceed with the help of individual opportunity by supporting all nurses. Individual opportunity should be experienced with experiencing trust, and the hope of achieving the highest ethical awareness which is respectful for those types of jobs. On the other hand, the ethical maintenance in certain creations leads to a huge negative effect on protecting the patient's health and major importance can be discussed with ethical competence. Ethical knowledge acts towards the management within the ethical consideration which is based on the appearance of all nurses with perfect behavior and loyalty within patients of mental patients.

In professions, nurses should be loyal to the job which can maintain better treatment among all patients. Patients should appear with certain actions and the highest approach among major developments in the recovery strategy. As mentioned by Mittelstadt(2019), there are many principles that are present with ethical knowledge that acts as behavioral development. The behavior and appearance depend upon the treatment process of psychiatric patients. These Patients are seeking good-behaving nurses and these types of nurses can perfectly behave with patients. Good behavior and developing trust along with growing a relationship is most of the better therapy to recover all mental patients.

The medical ethic showcases the doctors and ensures they should appear with better behavior which gets satisfactory measurements among all the professionals. This section of all patients advocates the proper touch of nursing practices that give better care among those patients in this action of the manor testing princesses. As mentioned by Epstein *et al.* (2019), medical ethics is the best for understanding the major characteristics of good medical activities. These ethical practices among nurses can meet the perfect care for psychiatric patients. A distinctive approach c medical ethics, virtue ethics can meet better action which forms enabling moral characters for promoting wellness among patients.

There are many methods that are adopted by the individuals who seek patients which are underlying scientific principles which remain the same for the major establishment. From the perspective of Tehranineshat*et al.* (2020), the nursing principles are maintaining privacy which is manageable for ethical maintenance which is maintained with the help of the perfect behavioral approach of nurses. The journey on the job can be the perfect way to recover all the metal patents. The major therapy on creating the best maintenance of those mental

patients. The action which is given by the psychometric treatment can proceed with the help of proper time management and material care for the patients. All the patients should maintain better action within the acceptance impact within the good feelings of the respective behavior among the individuals.

The actions of major nurses are the most effective in showcasing perfect loyalty and honesty within the major treatment. On the other hand, the positive behavior of nurses is the most effective in mental patient care in which all patients can get assured about the treatment process. On the other hand, the non-judgmental processes of nurses may appear aggressive among those nurses. As mentioned by Simillidou*et al.* (2020), actions with negative performance in front of mental patients, may create negativity in the treatment processes. The behavior of most patients should not be judgmental as mental disorders cannot appear like normal patients. In this way, nurses should appear like a host; so that patients can get assured about proper retirement pressures.

Those nurses should keep a sincere interest in front of the major mental patients and all the patients are all directly changing from separate rooms and indirect techniques which can be restricted. According to Lindström, Sturesson&Carlborg (2020), a nurse shows main responsibility which may not be rejected by the patients due to showcasing desire as the main expectation. The nurses should take care of the patient's main feelings and give priority to the maintained activities to understand different behavioral patterns for all the patients. This allows them to make their own choices and design on the patients as much as possible. The action and profitable development can develop with the perfect touch of avoiding sensitive appearance.

The communication between nurses and psychiatric patients should be based on the needs, interests, and wants of the main attention of all nurses which can maintain better action which can create the highest chance of focusing on points and reality which is the most vital for obvious issues. From the viewpoint of Johnstone (2021), listening is an active ethical practice in psychiatric practices which should be shown as a genuine move in treating those mental patients. Virtual ethics can be of four forms such as prudence, temperance, justice, and courage which are the most important for treating mental patients. The prudent is practical for revealing wisdom and they can be rational for perfect determination within the caring of mental patients.

Justice is simply reciprocity in which just certain judgment can be done with political justice and this is not becoming within the dealing with judgmental, action. In addition, courage can be fortified with the right feeling and confidence which is regulated with perfect emotion. This action may be revealed with much judgment as the feelings of the patient are more formed with less effective development. Excessive timidity can perform boldness within the courage within the striking balance. These virtue ethics can be maintained with the major action of certain treatment maintenance.

4.3 Several challenges faced by nurses in practicing virtues of and their importance for a psychology

Nurses face challenges regarding the treatment processes of maintaining mental patients. As mentioned by Liang *et al.* (2020), anxiety and depression are compared with the public which is the most occupational pressure in the workplace. On the other hand, professional skills sometimes meet the requirement. In this concern, certain virtues cannot be maintained. The anxiety is revealed mainly with the less effective conduction, and this may form less trust among increasing value within the clinical psychology. Mental patient management in a dangerous state cannot be possible for nurses in this condition. Those nurses are getting dissatisfied with their job. On the other hand, compression fatigue requires a huge amount of pressure on maintaining all mental patients. Mental disorder management requires many touches at the time treating high mental disorders.

Different types of psychological treatments are available in the health sector such as Cognitive Behavioural Therapy (CBT) and Dialectical Behavioural Therapy (DBT). Nurses face several types of issues to provide proper treatments for mental patients. Sexual harassment, physical violence, administrative challenges, stigma, discrimination, and administrative challenges. These issues create a negative impact on the personality of nurses within the health sector.

5. Discussion

Psychiatric disorders mainly recover with the virtue of ethical treatment within mental patients. More effective training among those nurses can be effective in considering better effects on patients. The treating of all the mental patients with the toughest cases of mental disorders needs proper tanning and education within those among psychiatric nurses. These nurses are assured of a better job communicating and there should be perfect action among nurses for managing better carrying those patients. Medical science always appears with ethical maintenance and treatment. In this way, the perfection of treatment can appear with perfect action on medication procedure. Virtue ethics can be maintained with the perfect establishment of ethical practices among caring mental patients.

ANA code of ethics speaks about the stem of main ethics which helps in the development of perfect clarification for caring for patients. Caring for patients depends upon reliability and loyalty within the main job which is creating the best action for mental patient care. Perfect management can prepare for treating patients with mental disorders. The mental disorder can lead to managing the range of action among the patients and this may create a proper cure for the patient many negative appearances of the patients may not get better treatment facilities among the patients. Loyal and honest may perform the best action in treating all the patients which assures the best action among the psychological practices. The nurses mainly acted positively. The application of different components in virtues in the nature of the study can be depicted with the reliable treatment process. The loyalty to this type of treatment can be perfectly satisfying among psychiatric patients. On the other hand, many psychiatric nurses face many challenges during the practice of psychological treatment.

6. Conclusion

Promotion and maintenance are the most vital for creating better action in caring for mental patients. Intake screening, evaluation, and triage conduction are the major activities in managing those mental patients. On the other hand, these nurses should have the ability to feel the patients better in all situations and recover those individuals from minor disorders and negative thighs. Treating for boosting the mental power of those patients, the self-care activity can be based on a training session.

Prosper music therapy can establish recreational advantages among mental patients and there should be a facility for teaching music and dance to mental patients. This treatment can assure the virtual importance of psychiatric nurses. In this concern, all the points get refreshed by feeling the music and this may cue the mind of those patients. Hospital authorities should take certain responsibility for recruiting nurses who have the ability to teach music to mental patients which can create better attraction to culture. Proper action can perfectly develop the relationship between patients and nurses.

Creative activities can bring happiness to psychological patients which can be an advantage for the nurse. The critical thinking ability of patients also can be explored through innovative creations such as puzzle solving. It can be considered a stress-removing activity.

Drawing practices also can be included in the treatment and led by nurses that increase the mental development of the patients. The psychological nurses can understand the thought process of the patient considering the drawing pattern of the patients.

Enhanced communication with patients helps to develop strong relationships with the patients that provide a comfort zone to the patients along with nurses also get an advantage to treat them more efficiently. Meditation is another way to treat psychiatric patients and also benefited the nurses to remove stress. The concentration ability of patients also has been increased through meditation activities. Proper medication and treatment simultaneously with proper monitoring and observation also have been highly recommended for psychiatric patients.

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Establishing the Relationship between Adolescents' Mental Health and Family Culture

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Abstract

Adolescent's mental health refers to the condition of people who are facing several problems and difficulties in their lives. The relationship between the teenager's mental health and the family is the most important thing to be positive in life's decisions. The effects of having teen mental issues in the family have been described in the project. The main objectives of this research articles are analyzing various kinds of mental health issue within the teens. Moreover, the precautions of a family or parents who are handling issues in their teen's mental health are also described in the project. However, for the research methodology, the secondary qualitative research methodology has been applied in this research methodology. The major findings and discussion of this research methodology is the difference in age and mind setup is creating issues between teens and families. The conclusion of this research article is the importance of maintaining the relationship between the parents and teens is creating the solutions to the problems and making them mature to face any situation.

Keywords: Adolescence, Mental Health, Relationship, Families, Parents

Introduction

Mental Health determines the successful state performance of mental function, fulfilling strong relationships with other people, productive activities, and the ability to change the cope with adversity. Mental illness is a range of more serious and less serious conditions, and physical health can be effective for mental health. Adolescents' Mental Health is a condition of mental illness that is a result of stress and depression [1]. Isolation, distance from families, and distance from the world make the problem, and that is effective for mental health. Emotional, physical, and abuse can make the poor condition of adolescents that affects mental problems. Mental health is also related to other health problem that is including substance abuse, sexual violence, and reproductive health teenage mental health is much more effective for people and it can grab any age group of people.

Adolescents are a period to develop the emotional and social habits that are important for mental well-being. There are a few symptoms of adolescents' mental problems, such as mood depression and disorders, somatization disorder, Behavior disorder disruption, Anxiety disorders and also suicidal thoughts [2]. These are hampering the life of people and also damage their life. There are several things that affect the people, such as depression, anxiety, and also distance from people can cause mental disorders. In this project, the relationship between the family and the affected people has been described. Families who are dealing with these types of people need to be much more careful with them and make healthy relationships with the patients. The culture of the families should be effective for the patients and they should cooperate with the patients. The gap in the relationship between families and teenagers is one of the main reasons for mental health problems. The condition of mental health can be effective for the families also as they are involved with their children in this fight.

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Literature Review

Effects of Adolescents 'Mental Health' on Family

The function of the family is the most important element in treating the condition of mental health problems. The basic treatment and needs of teenage patients should be provided by their families. It has been seen in several cases of mental health issues that are happened by the poor condition of family relations. The family should be sincere and serious about the children who are affected by mental issues. These days, people are busy in their personal and professional lives and do not have time for families. The gap has been made in families as they do not give time to each other. The condition that has been made by the situation affects children and teenage people. Teenage people want more independence and emotional distance from their parents and families [3]. In this age, people want to live their life in their own way and take their own decisions. These have made the gap or distances in the relationships with their parents. The parents are responsible for their children, and they should be protective of the children.

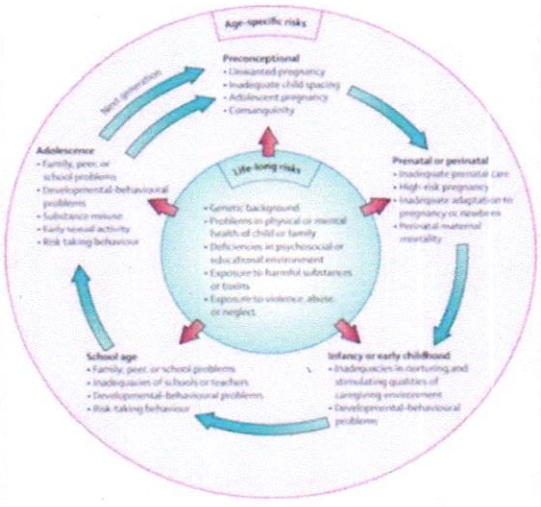

Figure 1: Effectiveness of mental issues in different ages [4]

Adolescents' mental issues are effective for their families as they cannot become stress-free for their children. The condition of the teenage people is also effective for the culture of the families. All the members of the family should be aware of the activities of mental problems. On the other hand, parents and families can change the climate that is effective for the patients. Families can play a key role that can improve the condition of mental health [4]. Parents can change the condition of their children's illnesses and help them to recover from their diseases. Family can be the medicine that improves mental issues more than anything.

The Family Precautions and the Cultural Structure Effects on the Teens

There is one important factor that has been received with little attention in supporting the adolescent's mental health the role that can be played by the parents. It has been established that caregiver participation of the parents to their children is related to the successful outcome in the children's life. The "Centers for Disease Control and Prevention" has reported that more than 44% of adolescents are feeling hopeless and sad in 2021 [5]. On the bases of an online survey, it has been found that 20% of teenagers are considered suicide, and almost 9% of them attempt suicide. The symptoms of mental health issues can manage by regular exercise, good sleep and quality meals that can defend the mental problems. Moreover, there are some strategies for behavior that have been made for the parents who are struggling with their children. There are many behavior management strategies for foster parents' care, and it is useful for the settings of traditional families also [6]. Apart from that, the relationship between parents and teens needs to be maintained and built. In several ways, parents can connect with their children, such as by watching TV shows together, sharing daily experiences with each other, and many more [7]. These interactions can create opportunities and safe spaces for adolescents that help to communicate about situations

and difficult emotions. The parents should involve themselves in taking and dealing with all the difficulties in the children's thoughts and feelings.

Parents need to make them understand that their thoughts and feelings can hamper their behavior. Caring parents should help their teens to manage their negative emotions and make them strong in any condition. Adolescents need to be cooperative with their parents also, which can create a strong relationship between them. On the other hand, parents should appreciate the teen in their progress and recovery from the poor mental health condition. At the same time, parents should focus on the boundaries that are required for the teens. They should understand the necessity of boundaries and that there is something that they cannot cross. Parents should connect the frustration and the disappointments of the adolescents and make them realize the practical life and the surrounding things [8]. These precautions help the children in their future decisions and increase their sense of different matters. The important thing for parents is to avoid the power struggles with their children by making respectful communication without managing the reaction and perspectives of teenagers.

Parents can support their teens in the maintenance of relationships and make them understand the importance of relationships and families in life. The problems of mental issues are not calculated as it has several different symptoms gradually. The symptoms are changing and make the condition poor for their health and effective for their families. Sometimes teens can experience unexpected forms due to mental health problems, and that can be from anxiety or depression.

Traumatic conditions such as dating violence, bullying and sexual harassment can hamper mental stability and make them in depression and mental disbalance. Families should consult with doctors or psychiatrists and take suggestions from them. Depression involves the loss of interest in daily activities and creates a distance from all normal activities [9]. It can also involve the wrong decisions and make their minds stop thinking positive sides of any normal incidents. People take wrong decisions, such as suicide or make them isolate themselves from society and families. The culture and the structure of the families have children with mental problems need to take some necessary steps. Proper treatment and cooperation with the teens can give a good result.

Importance of relationship between Teens and family

Patients deserve extra care in any place no matter whether it is in a hospital or their own home. Collaboration and effective communication with the patients and also with the family members matters in the patient's care and safety, and it will make changes in the climate of the patients. The patients should be involved in their families and surrounded by the care of families that will recover them from their condition. The importance of families is for all time it doesn't depend on the time of sickness. Teenagers with mental issues need to be protected by their families and all the persons who surround them [10]. Families should cooperate with their children and have a better appreciation of the psychological and social web processes that surround the association between health outcomes and family structure.

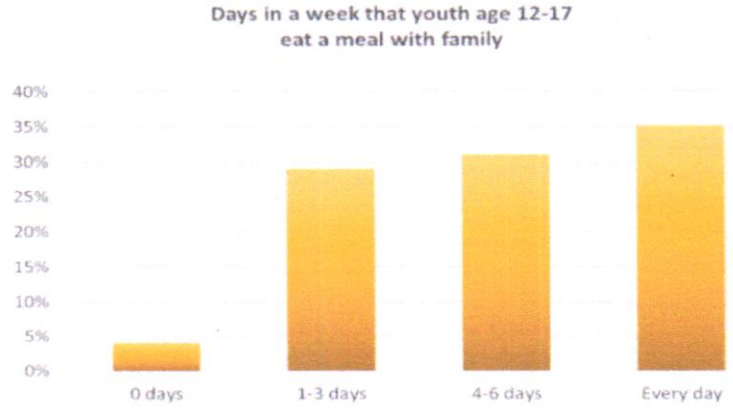

Figure 2: Importance of relationship between adolescents and families [11]

There is a necessity for family hospitalization that is and has an impact on teenage people. There are several courses that have been made for the parents of adolescents with mental issues [11]. Family can change the condition of teens, and it is much more effective for their children. A strong relationship is necessary and valuable in this condition as a gap in relation has made the poor condition. Teenage people are not mature at this age, and being trapped in this mental condition makes them more nervous in several areas. They are not in their control, and that is making wrong decisions and feels them alone among all. Family and close people need to be supportive in all the things that make them feel safe and cooperative. Parents need to give time to their teens as they are at a growing age, and they will interact with many new things [12]. At this time, parents should make their teens understand many things and protect them from all the abusive conditions and mental pressure. These are the necessary care that is the responsibility of the parents, and they can handle the mindset of their teens. It is a significant role of the parents to protect and guide their teens from all the effective things and make a healthy physic and mental condition.

Methodology

The methodology is an important chapter in the article that indicates the source of the collected information and also the method of doing the project. This chapter has introduced the readers to the original method of creating the entire article. The project has been done in the secondary qualitative data collection method, and the method makes the project authentic and informative [13]. The necessary and required information has been collected from various sources. Several online sources have been included in the making of the project, and that has given perfect and authentic information. All the gathered data has been used to make the information that is collected from many journals, articles, reports, newspapers and many more. The sources are important depending on how the project has been done, and it is important to choose the authentic sources for the project.

The article is based on the relationship between families and teens that are suffered from mental health problems. The importance of families and the necessary steps that families should take for their teens have been described in the project. Apart from that, there are some precautions the families that are important for their teens' mental health. Importance of cooperation and supportive behavior can change the condition of their mental health and improve their condition. Parents play a significant role in the condition of their teens and help them to recover from their poor condition [14]. The indicating families are also facing several difficulties for their teens, and it is dangerous sometimes to handle these conditions of violence. The relationships between the affected teens and their families need to be strong and pure, which will be helpful for the teens to get over mental issues.

Findings and Discussion

In this project, the mental health of teens and families' cooperation and relation has been described in a proper way. Teens are living in their own and creating world in which they are making their own way to live in their life. At this time, families are automatically making distance from teens, and that is creating issues as teens are facing many new things in their life. Many positive and negative things are happening in life at this point in time, and adolescents are trying to handle things by themselves, and they fail. Things are causing issues and confusion in their lives that will be affecting them. Behavioral disorders are common in teens more than in older people [15]. The distance did not teach them to participate in society and also made them uncomfortable in society.

Apart from that, teens are making distance themselves from their parents and avoid sharing their personal issues and problems with their parents. In this age, people are thinking that they can handle and manage every problem in their life and that creates the main problems. In many conditions, teens feel lonely and unstable, and that makes them confuse in their life and make them busy handling their problems. It has been found that teens are failed to take the correct decisions in their life, and that is quite natural. The condition of mental disorders happens for many reasons, which can be from family or that can be from other sides also [16]. The condition of the family or the parents is a factor in their teens. In many families, the relationship between husband and wife is not healthy and respected. The effects of the relations got effective on the teens as, at this age, they can understand the equation of relationships. That affects badly on teenagers, and they get separated mentally from their parents.

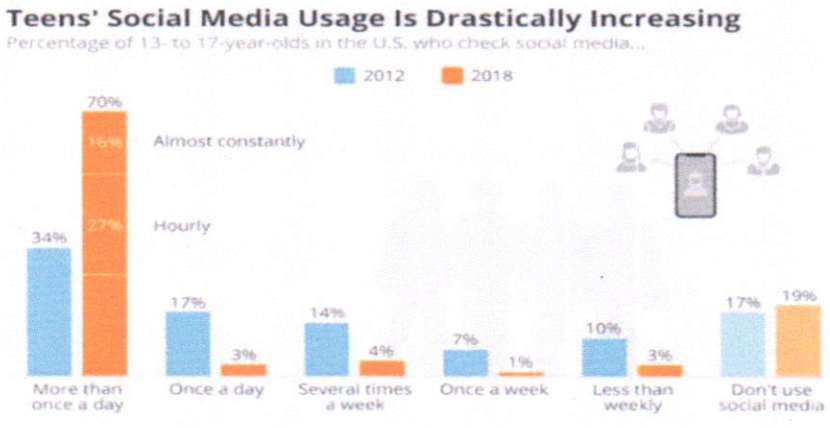

Figure 3: Uses of Social Media [17]

On the other hand, at this time, people are busy with their personal and professional life, and time is the most precious thing in this condition of life. Social media plays a crucial role in creating a solid distance between parents and adolescents [17]. People don't realize that they are wasting time on useless things and losing the quality time of their life. Moreover, problems have been made in this digital world as everything is open to all and easy to grab. People can do many things from their homes, and that is breaking the boundaries of the teens.

The discussed article has mentioned several things that have been founded in the research. Mental health is a critical portion of health that can be affected by many things, and tough to solve or remove the effects from the human mind. The described things that are making a clear vision for the families to work on the relationships among the family members. The relationship between teen and parents are not only the focus point, all the relations are important. The equation of each relationship should be in a good and healthy condition. Every existing relationship is important and related to other relations. Parents s should focus on their relationship and make the teens realize how a relationship should be made in families [18]. Family members are important and valuable to each other, and they are responsible for each other. Parents need to understand the good and bad effects of things in their teen's life.

Boundaries are necessary, such as undeserving boundaries are making issues and increasing the problems in teens' and also parent's life. Parents need to be friends with their teens as they are at a growing age, and parents should help to grow in their life. There are several types of training and motivational classes that have been made for adolescents to understand things clearly and make the vision clear for their future. The necessary things are helping and cooperating with teenage people to be on the straight and productive path in their life. Teens think following their own path will give them more benefits, yet they don't understand that benefits are temporary and they need to follow the path that will give fruits in their life.

Conclusion

Mental health care has the potential to be the new paradigm, and the development is much greater faith in mental health care. Youth mental health care is recognized as a critical mental health condition as they think critically of normal things. The condition of the teens' mental health is embedding and changing the focus with the transitional development stage of their life. The age of 12 to 25 years people are involved in the condition and make their life stressful with several problems and depression. The connection between their families is not strong and they would not share any personal things or problems with their parents.

The effects of the distances block the chance of judging the problem in the right way. Parents are making boundaries for their teens that they want to overcome and that is the fight in their life such as they do not understand that some boundaries are necessary for their safety. Parents sometimes became overprotective and block their teens from everything and make them uncomfortable in many conditions. These unexpected behaviors are making the teens against their parents and making the distance themselves from them. Social media is working on this ground and achieving success by making the distance between teens and families. Many regular activities

and quality time with families have been lost to the incredible growth of using social media. Apart from that, parent's divorce, misunderstandings between families, unwanted bias situations and many personal reasons are making the disorder in mental health. Teens are affected mostly for these reasons and it is increasing gradually. Everyone needs to be more serious to keep healthy relations with each other and that will protect teens from mental issues and make them involve to grow positively in their minds and health.[20]

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Role of Violent Video Games in Aggression and Violent Behaviour of Young Adults: Psychological Perspective

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Abstract

Violent video games have been found to be promoting aggression, reduction of empathy, and increased chances of self-injury and isolation. There are various pieces of evidence that support the claim that violent games are responsible for the aggression and violent behaviour of young adults. This particular article has been developed around that particular claim while providing evidence to support the claim. Peer-reviewed journals and online articles have been used to collect the required evidence and support the claim. The secondary method of data collection has been used in the study to provide a psychological perspective on the entire topic. The rising popularity of violent video games makes it quite important to explore the subject matter. This article thus provides fresh insights into the frequently talked-about topic of the adverse effects of violent games on the behaviour of young adults.

Keywords: Violent Video Game, Addiction, Adults, Aggression

1. Introduction

The creation Violent video games are increasing in recent days, which are found to be more dangerous to the lifestyles of youth adults. These types of video games create a huge amount of addiction and this influences the behaviour within the main lifestyle of those young adults. From the viewpoint of Giustiniani *et al.* (2022), violent video games are a forum for practicing and learning aggressive solutions and situations of conflict. These games have depicted most of the aggression in which adults also appeared with aggressiveness with priming the negative thoughts. In this digital edge, many gaming software also has been modernized, in which many attractive games with 3D appearances have created much attraction for all young adults.

"Clash of Clan (COC)", "PUBG," and "E-football" are the most well-known gaming software, which is popular with all modern young adults. The rapid technolgical expansion has led to growing many new gaming systems through innovative technological development. As mentioned by Amato (2021), high technological upgradation and stiff competition have been depicted within realistic and interactive games. However, the games for addicted youth has affected much of their mind and this frequently creates less effective concentration on study and development of career. The violent video games exposure (VVGE) had the trait behaviour and the differentiated behaviour showed high aggression among adults. As mentioned by Yao, Zhou, Li, &GAO (2019), the main results of VVGE are positively associated with the four aggressive traits, which are verbal aggression, physical aggression, hostility, and anger. Moral disengagement is positively related to the violent video games, which are associated with the negative approach of adults.

The unknown Battleground PUBG is the most common game in recent times, which is played by millions of players known for "chicken dinner." This is the most well known and most addictive video game for all adults and has been introduced from January to June 2018. These violent video games are the most attractive among all the youths who have common interests with it having no concentration on the major study. This has determined all the new generations and created the breakdown of developing a new society. All violent video games hinder the path of ethical development within society.

2. Aim Of the Study

Based on the above introduction into the subject matter, the main aim of this study are:

- To evaluate the concept of violent video games that attracts the minds of young people.
- To investigate the impact of violent video games on young adults.
- To interpret the strategies that may support managing adult youths from usages of violent video games.

3. Materials And methods

Evaluating violent video games in the recent period and the aggressive behaviour of adult youths has been proceeded with the help of qualitative methods. As mentioned by Hayashi Jr Abib & Hoppen (2019), the qualitative method study is the most common for all the studies, which can help in the perfect investigation and systematic conduction of the study. In this study, the researcher may create a proper investigation based on the increasing rate of violent video games and aggressive behaviour of young adults in the recent period. This description is based on the perspective of psychology. In this concern, an inductive approach has been chosen due to in-depth investigation and gathering of relevant information. The research design of this study is chosen with the help of the main method of this study, which should be cross-sectional. This type of research design helps to justify the entire statement with the role of violent video games in the aggression and violent behaviour of young adults. In addition, the gathering of secondary data or information should be chosen from authentic peer-reviewed journals.

The secondary data helps in the conduction of descriptive evaluation and all information are perfectly justified and approves major ethics. The application of reliable design approaches and data collection and analysis methods can form better effects on the entire study conduction. The qualitative method of analysis can be done with the help of the development of a theme based on the major statement. The perspective of psychological description can be highlighted with aligning adult effect after the usage of violent video games. The researcher has choosen effective and authentic peer-reviewed journals, which are published after 2019, and more secondary information can be chosen from authentic websites for statistical data.

4. Results

4.1 The concept of violent video games attracts the minds of young people.

Violent video games are meant to be video games that consist of digital violence with depiction or simulation of the major players. They involve causing high physical harm to other humans and this is caused huge social aggression. As mentioned by Kelly (2020), the video game is impacting in a range of ways on the minds of youth for killing, depiction, dismembering, and assaulting games and images of violence of human beings. These violent games may activate children's aggressive minds within the cognitive network and repeat the knowledge structure of aggression, which is the aggressive nature of those people. This is not fruitful for the growth and development of society.

Aggressive nature and bad behaviour have been depicted among adults in recent periods and it has been stated that high-tech devices and a huge concentration of smart phones are the major destructive objectives. From the viewpoint of Putri *et al.* (2022), technology and media are the major worries in this society. Research video games' effects on video gaming purposes and this has created an impact on video gaming sites and the usages of

programming help to create betterment in gaming sites and software. Video games are quite common among many people. The computer games and huge graphical presence make adults' minds towards those without having any concentration on their studies. Many parents are claiming amity in these video games, which reveal aggressive behaviour of those children of adults. Many violent video games may affect the minds of children below 18, which have created high destruction within their character development. In addition, video games are more attractive than watching television.

The addiction to games created a high perception in adolescents to load or download brutal computer games, which at night have poor judgment and created a bad effect on the mind of those adolescents. In some cases, parents are the major supporters from childhood having a huge attraction to games that have created a huge chase on abduction towards those video games. This has negative effects on children's minds. According to Huang *et al.* (2020), the brutal computer games are amazing for all 13 to 18-year-old adults, which results in a less effective future, and they may not be successful in achieving major goals. It has been studied that all video games are attracted to most of those children along with adults and this results in 1 hour of playing games is not enough, which should be covered for 3 hours.

4.2 The impact of violent video games on young adults

Violent video games lead to negative behaviour such as lack of impulsive behaviour, manipulative behaviour, and pathological lying are the immediate rewards for development that can form better behaviour of aggression. As mentioned by Fairchild *et al.* (2019),lack of impulsive control can form antisocial and aggressive behaviour that form obstacles under the path of societal development. Violent video games may create adolescents who are more hostile which may obstruct their career development. Moreover, many adult children may face mental disorder after brutal playing of video games not many of them are committed suicide after being influenced by some violent video games.

Playing video games causes more bullying, fighting, and aggression frombrutal usages of those violent games. As mentioned by Khan et *al.* (2023), shooting guns andhand-to-hand combat in video games can cause violence in real life events. Many perceptions of mass shootings played a vital role in the minds of people. This activity has been accelerated with the indulgence ofmany parents. The parental activity on showing the video games let those children with violent video games is related to high negative effect on the mind of people. This may create a negative impact on society and give rise to a social and political conflict. The simulation violence a can causes shooting games with 3D effects can cause negative action on creating bad effects on minds. Mass shootings in any game may affect the immature mind of a child, which creates some risk factors in the life of those children.

There are some common negative effects of video games such as; deposition, poor sleep hygiene, dehydration, aggression, obesity along with heart problems. The bad effects of video games may affect physical and mental health, which is essential for understanding each person by experiencing excessive brutal effects of the game. Most excessive usage of video games is often creating adverse effects on the health of adolescence. As mentioned by Beruin (2022), inadequate sleep is the most common phenomena for gamers that may result in distracting the mind within the major productivity. Less sleep may cause a huge negative result on the personal life, in which people cannot focus on the major goal. These especiallyaccelerate societal discrimination and this inevitability creates an impact on major areas of life.

The application of excessive game alignment with high-class priority may affect the performance of adults in academic places. According to Pallavicini, Pepe &Mantovani (2022), adverse effects on physical health may cause high amounts of gaming usage and excessive loading of games on social media sites. This creates a brutal addiction to those unethical sites, which may cause fraudulent actions. Any adult downloading the game from unethical sites may cause some cybercrime and many cyber-attacks are grabbing all the information from game users. In this concern,blackmailing can cause people to provide money online and immature adults may fall under that trap which causes high rates of cybercrime and social discrimination.

Dehydration and poor diet mainly because huge health hazards that form the highest rate of discrimination and less effective growth of the mind. As mentioned by Guptaa (2021), excessively attractive game introductions may cause huge satisfaction among the youth in recent times. These excessive meanings of gaming use along with graphical usage may result in not having an adequate amount of food. Fewer intakes of food and drinking can cause less effective health effects. In addition, less effective intake of drink and proper food may cause dehydration among those adults who face a high amount of health hazards. Playing games all the time may cause an irritable bowel system, poor diet, and loss of muscle, and a poorer diet can have a long-term effect on the players.

Gaming demand can cause a huge breakdown in career development. On the other hand,playing violent games cannot give space for thinking about personal development. Moreover, all the people are getting under the covers of major development. The symptoms of gaming disorders are known as "pre-occupational"means for findings within the thinking about games at the time of playing and experiencing difficulty focusing on another task.

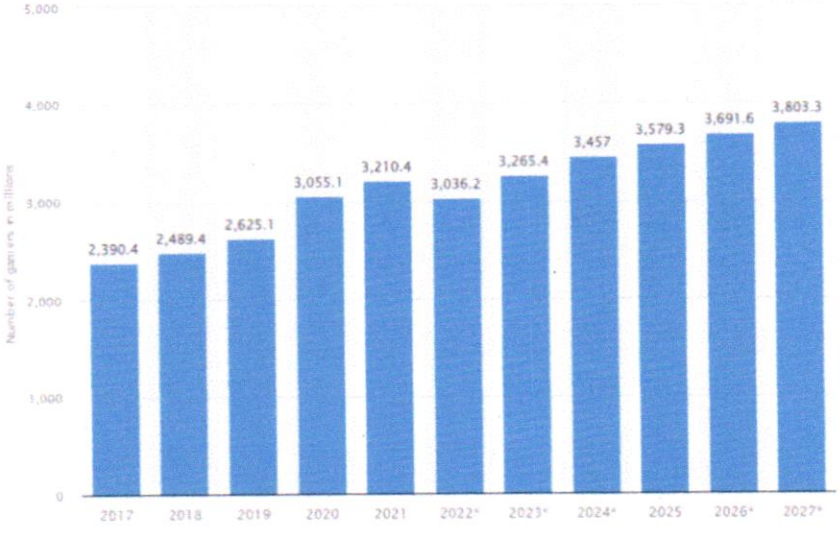

Figure 4.2: Number of video game users throughout the world from 2017 to 2027
(Source: Influenced by Clement, 2022)

The video game mass in 2017 has been depicted as the lowest rate of less effective technological development and there is a high chance of the prediction of raising this level. The number of gamers in 2019 has been highlighted as 12625.1 million, which is a lower number of people rather than the rate of the previous year (Clement, 2022). Technological innovation has led to a better effect on the reinforcement of the high growth of many users. Among these users, all are adults and many children below 18 years old. On the other hand, the rate of video game users has hiked in the year 2021 by 3210.4 million (Clement, 2022). This is because many people are enjoying lockdown recreation activities and there is huge relaxation from schooling and colleges, which makes a chance of using these types of gaming sites that exclusively raise the level of video game users. However, these video game users have highlighted a lower rate in 2022 due to quiet presentation on the academic level.

The usage of video gaming by adult people has predicted that the rate may be raised with the increasing level of technology. In the viewpoint of Rahmatullah *et al.* (2022), technical development has high tech importance in this society; besides that, this has an adverse effect on adults' creativity of many violent video games. The rate of gaming users in 2026 has been decided as 3,691.6 million, which has not been raised due to the concentration of many attractive gaming sites and gaming software (Clement, 2022). The application of advanced technology and the effective creativity of modern developers and engineering works can approve a huge number of users for

video gaming. In this concern, the report has predicted that the number of video game users may increase to 3,803.3 million in 2027.

4.3 Strategies that may support managing adult youths from the usage of violent video games

Gaming addiction is the most described among the major new generation people in society. On the other hand, gaming addiction has fallen under the category of addiction process, which is alsodepicted as a behavioural addiction. Psychological counselling and some settings of psychological treatment may reduce addiction to gaming. As mentioned by Pincus*et al.* (2020), psychological treatment plays a great role in the reduction of any type of addiction and assists in returning to a healthy society. In this concern, "cognitive behavioural therapy (CBT) is the most vital, this may be the best effect on the mind for adults, and this is the ideal treatment for video and game addiction. This type of therapy allows all addicted adults to shift from their major thinking and replace compulsive gaming with a healthier pattern for a specific thought.

CBT can encourage the adjustment to aggressive nature replaced with healthier mental conditions and well behaviour within a few settings. This treatment is highly recommended for removing all the negative symptoms, which may help in the usage of video games. Video game rehabilitation and psychological process is a technique that consoles and improves the mental health of the main victim. In the viewpoint of Ferrari *et al.* (2022), rehabilitation from video games is referred to as the improvement of mental health conditions and acceleration of the growth of mental health processes. This is an integral part of occupational therapy and this is practiced in acute and community settings. This therapy highly treats the addicted people, which form huge development under the circumstances of the establishment of a new society.

5. Discussion

Violent video games are the most popular in the recent period as this is the passing of high-techinnovation along with graphical applications. All violent games are the most effective in treating the attraction of adults to these high-tech games. PUBG has created betterment among the market throughout the world and this has led to a huge amount of addiction among youth in recent times. The destruction has been caused due to the negative imagery and violent storyline in these games. Moreover, shooter games are the most effective in developing perfection among human beings. This has resulted in aggressive minds and repetitive knowledge among devices that created aggressiveness within the people of adults. Playing games at the highest rate can create huge effects on the adults' minds in which impulsive behaviour can appear with aggressiveness. This may break the relationship with parents and these results in social determination. These addictions can be reduced with the help of usages of "cognitive behavioural therapy (CBT)" and Video game rehabilitation, which are the most vital aspects of the mind refreshment of adolescents.

6. Conclusion

Overall study has been justified by clarifying the entire statement by displaying the main scenario of adult people in the recent period and strategies are reducing aggression among those adults. Video games usually increase due to high-tech software development in many sectors, which creates a special attraction for young students and many adults. These games consist of car thefts along with graphics acts. Some of the games are concentrated violent images and others kill people and animals along with sexual amputation. These images and graphical representation has destroyed the mind of young adults, which is reserved for an aggressive nature among those youths.

This study can be recommended for more effectiveness in the reduction of aggressive behaviour and effective psychological development. Three strategies are offered for reducing aggression among adults: control, cohabitation, and catharsis. The control strategy is the most effective with the development of popular political conservation as this is detected as punishment. Control is always not fruitful as the punishment creates physical and mental pressure on the victim. In addition, the catharsis strategy involves emotional effects and this is identified as the effective chance for one's own expressive behaviour. Moreover, this strategy is not permanent, though the cohabitation strategy can create a position among the aggression, and this may create an effect on the

mind of the addicted person. Aggression management can be done with the counselling of psychologists, another be some sessions to reduce the huge amount of angry nature. The advancement in CBT among psychologists can form a high priority of better value management over aggression. The reduction of aggression can meet better action among youth, which may maintain a better behavioural appearance; this prioritizes well development of society. Government can take a great role in banning all violent video gaming websites and software.

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A Psychological Study into Therapy Practices That Can Help in Treating Addictions

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Abstract

A large number of people are suffering from addiction in today's society and a proper understanding of the cause of these conditions put a psychologist in a better position to provide the treatment and support needed. It is necessary for the psychologists to adopt the right therapy practices for the treatment of addiction. Hence, the purpose of this study is to explore the therapy practices that can be of great help when it comes to treating addictions. Effective therapy practices have been developed by researchers across the globe to help with the treatment of addictions. The review of past studies and articles can help provide the necessary knowledge and thus this study has made use of secondary data to discuss the entire subject. The secondary information provides an opportunity to explore a wide of range of practices for better understanding. The article has thus been able to explore a range of therapy practices that can help with the treatment of addictions.

Keywords: Additions, CBT, DBT, Psychological Treatment

1. Introduction

Psychological study plays an essential role to treat addictions successfully. Mental and emotional health factors are managed with help of this psychological treatment. These factors are essential for a person in recovery purposes. Various kinds of therapies are available, that help to treat addictions. "Talk therapy", "motivational interviews", "Cognitive Behavioural Therapy (CBT)", "Dialectical Behavioural Therapy (DBT)", "yoga" and "meditation" therapy are included in several types of therapies. These therapies are essential to provide proper treatments among addicted people in the market. Various kinds of modern technology and machines are used in therapy practices to maintain a proper treatment process. Addicted people can easily get relief from their addiction with help of these psychological practices (De Leon &Unterrainer, 2020). Health and mental condition of addicted people are managed by this particular therapy framework. In case psychological practices help an individual to get free from addiction, everyone can easily be attracted by these psychological practices.

Addiction is a complex disease that affects many areas of a person's life. More than 20 million people need proper treatments in treating addictions significantly. Mental and physical health of addicted people is maintained properly with help of these psychological treatments (Thomas *et al.* 2020). Different types of risk factors are contributed to the development of a substance use disorder. Different types of therapies, counselling, and rehab treatments are engaged to provide proper treatments to addicted people successfully. Addiction creates a negative impact on health condition of a person in the global market. Sometimes, addicted people do not want to maintain a suitable treatment process. Psychological treatment is beneficial to provide better treatments for addicted people in the global market (Torous*et al.* 2021). Alcoholic and drug-addicted people can

easily be recovered with help of this particular treatment method. Addicted people are not capable enough to understand their treatment process, for this reason, these individuals easily recovered from their addiction.

2. Aim of the Article

The essential aim of this particular study are

- To understand proper psychological treatment for addictions.
- To identify the best psychological treatment that helps to treat addicted people successfully.
- To evaluate the importance of psychological treatment for recovering drug and alcoholic-addicted people in the market.
- To impact advantages and disadvantages of psychological therapies that help to provide better treatments.

3. 3. Material and Methods

Research method helps to gather different types of information and knowledge related to a proposed research paper. Different methods are engaged to finish a research paper within a given deadline. Research design, research approach, research philosophy and data collection processes are included in this methods of a particular research work. Research design helps a researcher to maintain a smooth way of a work process (Rashid *et al.* 2019). This is beneficial for a research work to finish within a particular time. Qualitative and quantitative research designs are available in the market. For this reason, a researcher can easily gather a better understanding about this proposed research work (Malmqvist*et al.* 2019). In this study, a researcher will use a qualitative research design to maintain a suitable work process for this particular study. Inductive research approach is used by a researcher to maintain a logical and coherent way of a work process. This particular approach is beneficial for a researcher to develop a theory related to this proposed study.

Research philosophy helps a researcher to analyse and use gathered data significantly for this particular study. Different types of research philosophies are available such as: Interpretivism and positivism research philosophy. Researcher uses an Interpretivism research philosophy for this particular study. Subjective, multiple and socially constructed assumptions are gathered by a researcher with help of this Interpretivism research philosophy (Al-Ababneh, 2020). Different theories are used to gather various ideas and thoughts related to this particular study. This particular philosophy is beneficial for a researcher to perform a specific role in observing the social world significantly in the global market. Every research work needs data to interpret a study successfully. Various kinds of data collection processes are available such as: primary and secondary (Nayak& Narayan, 2019). Researcher uses a secondary data collection process for this proposed paper.

Secondary data are available from different online sites, journals, books and other sources. Researcher gets an opportunity to gather accurate and relevant data from existing sources. For this reason, an individual can save time and money related to collect different types of data for this particular study (Linneberg&Korsgaard, 2019). Secondary data are easily available on different websites and journals. As a result, a researcher can easily collect different types of data from different sources successfully. This study is beneficial to understand proper processes and strategies for providing better treatments in the global market. Different types of theories are also used in this particular study to complete this study successfully.

4. Results

4.1. A brief idea about psychological treatment for addictions

Psychological treatments play an essential role to provide better treatments for addictions. Substance-related problems are measured with help of this psychological treatment (Carr*et al.* 2020). Psychological interventions are used in different stages of this treatment journey to identify a problem, treat this particular problem and assist with social reintegration to provide better quality treatments for an addicted person in the market. Mental and health conditions of addicted people are hampered due to drug and alcoholic addiction. Sometimes these psychological treatments are beneficial for a person to maintain a healthy lifestyle on a daily basis. Sometimes addicted people are dangerous for their addiction in the market. These individuals need proper treatment to

recover from this particular disease. Two types of interventions are available such as: social and dynamic. Dynamic interventions are used as alone or a combination at different points in an individual's drug treatment journey (Odusanya*et al.* 2020). This process is used in the first contact with health services in the global market.

A dynamic intervention process is helpful for a person to clarify and recognise the nature of drug problem successfully. Behaviour of addicted people is changed with help of this particular intervention in the health sector of a person (Alegria*et al.* 2021). Proper treatment process is managed by an individual with help of this dynamic intervention process. Pharmacological treatment is used to provide better quality treatments for addicted people in the market. Better quality treatment process is measured by this particular treatment process (Heinonen&Nissen-Lie, 2020). Addicted people do not want to take treatment from the health sector. For this reason, these individuals face several types of mental and health issues to maintain a healthy lifestyle on a daily basis.

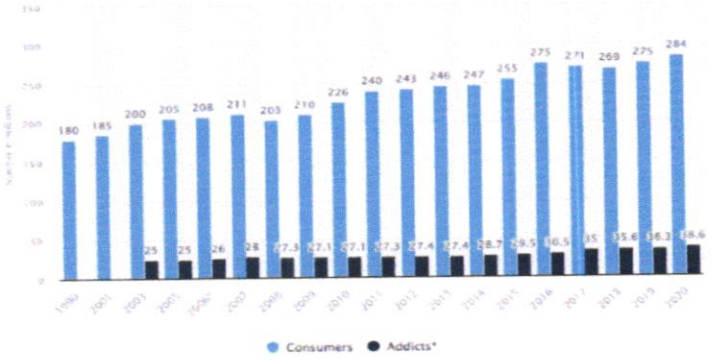

Figure 1: Addiction to illegal drugs among consumers
(Source: Influenced by Elflein, 2022)

In recent days, consumers are addicted to illegal drugs throughout the world. For this reason, the health condition of these individuals is hampered due to addiction to drugs. The number of consumers was estimated at 275 million in the year of 2019. Hence this figure is increased to 284 million in the year of 2020 (Elflein, 2022). For this reason, psychological treatment is needed for providing better treatment to addicted consumers in the global market. Several types of treatment facilities are available in different marketplaces. More than 16,000 treatment facilities are available for providing better treatment to addicted people (Michas, 2022). This creates a positive impact on health sector of the U.S. market effectively. Problematic alcohol and drug users face various types of problems related to psychological, health and social. Psychological treatment plays an essential role to maintain any comprehensive substance use disorder treatment program significantly.

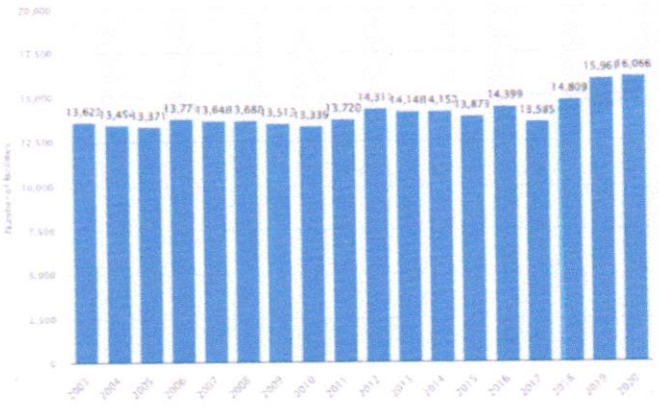

Figure 2: Number of treatment facilities
(Source: Influenced by Michas, 2022)

The development and standardization of psychological treatments for substance use disorders are managed with help of this healthcare sector in different marketplaces. Behaviour and attitudes of addicted people are maintained by this psychological treatment in the global market (Delfabbro*et al.* 2021). These addicted people are not capable enough to understand this modern treatment process effectively. Sometimes long-term psychological treatment is maintained to recover an addicted people from this particular drug and alcoholic addiction (Martinelli*et al.* 2020). Psychological therapy helps to reduce anxiety, build self-esteem and improve the community and social functioning respectively in the market. Addicted people can easily deal with a normal lifestyle on a daily basis with help of psychological treatments.

4.2: Most common type of psychological treatment that helps in treating addictions

Different types of therapies and treatments are available in the global market to recover addicted people from drug and alcohol addiction. Most essential psychological treatment is "***Cognitive Behavioural Therapy (CBT)***". This particular therapy helps a person to provide a new life in a different way. For this reason, the CBT process is maintained by psychological treatment process. CBT involves in different processes to improve self-control throughout the learning processes of different new skills and developing coping strategies successfully (Zeidi*et al.* 2020). Unhealthy behaviors and thoughts are recognised by a person with help of this CBT process that helps to reduce addiction significantly. Unhealthy attitudes and behaviours create a negative impact on the personality of a person (Cao *et al.* 2021). For this reason, an addicted person is always separated from others due to bad behaviour and attitudes. CBT helps a person to replace and correct unhealthy behaviours and thoughts through the learning of modern skills and knowledge.

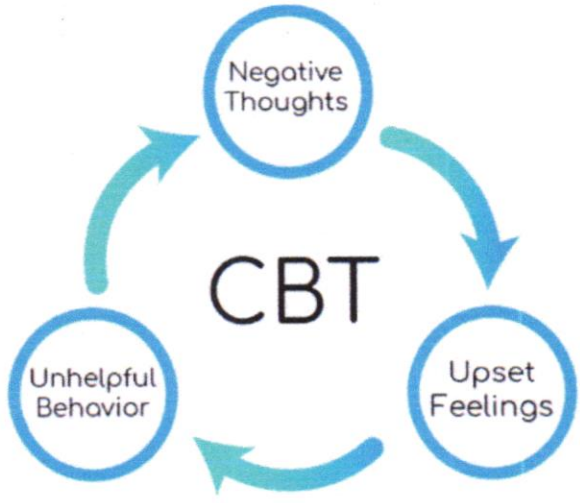

Figure 3: Cognitive Behavioural Therapy
(Source: Influenced by Luo *et al.* 2020)

In case an addicted person follows this particular process in daily life, this individual can gain proper fame and prosperity respectively. This process is also beneficial for an individual to identify relevant and accurate skills for each and every one. In case this process is not maintained properly, addicted people are not capable enough to get recover from their addiction (Pickard, 2020). CBT helps a person to think in another way, by which an individual can easily recover from any disease. The core focus of this therapy is to change the negative thinking process significantly (Goldstein *et al.* 2020). This particular therapy is beneficial to understand thinking process of an addicted person in the market. Psycho-social intervention is known as Cognitive Behavioural Therapy (CBT). This particular intervention helps to reduce symptoms of various mental health conditions, anxiety disorders and depression successfully (Agyapong *et al.* 2021). CBT can change thinking patterns, behaviours, and attitudes of addicted people. One of the leading methods of psychotherapy is cognitive behavioural therapy (CBT). This particular therapy is mainly used by Western counsellors to provide better treatments. This particular therapy mainly focuses on individual perception. A highly goal-oriented type of psychotherapy is

CBT in the market (Sundah, 2022). Different sessions are maintained by this CBT process to help individuals reconceptualise experiences and concepts.

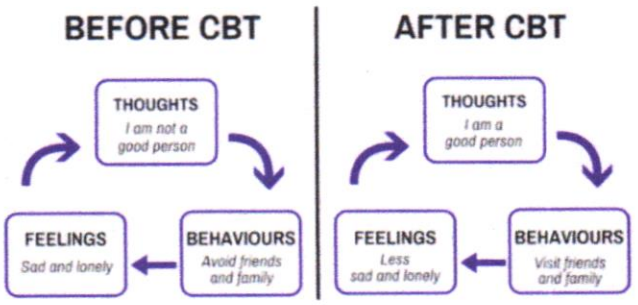

Figure 4: Importance of CBT
(Source: Influenced by Reid *et al.* 2021)

Cognitive Behavioural Therapy is utilized for support in a wide variety of situations. Every person is benefited with help of this CBT process. Three stages are engaged in this particular process such as: thoughts, behaviours, and feelings (Geschwind*et al.* 2019). Before CBT attitudes and behaviours of a person is not good overall. Every people always feel lonely and sad on a daily basis. These individuals always try to avoid all family members, friends, and others. Hence after the CBT process, an individual can easily communicate with friends and family members successfully. Attitudes and behaviours of a person are better than before. For this reason, this CBT framework is beneficial for every addicted person.

4.3: A brief idea about Dialectical Behavioural Therapy (DBT*)*

A type of talk therapy is known as Dialectical Behavioural Therapy (DBT). DBT always tries to focus on helping people accept the reality of their lives significantly. This particular therapy is beneficial for those people who try to maintain their emotions in a different way (Mehlum*et al.* 2019). A wide range of mental health conditions is managed and treated with help of this particular process. Self-harm, suicidal behaviour, anxiety, depression, substance use disorder, post-traumatic stress disorder (PTSD), and Borderline personality disorder (BPD) are included in these mental health conditions (Kothgassner*et al.* 2021). DBT process is effectively important to provide better treatment for addicted people in the global market. The problematic and unhealthy efforts of an addicted person are managed by this particular process. DBT helps a person to control negative emotions and bad thinking on a daily basis (Zalewski*et al.* 2021). For this reason, this process plays an essential role to recover addicted people from addiction successfully.

Figure 5: Different Components of Dialectical Behavioural Therapy
(Source: Influenced by Kothgassner*et al.* 2021)

The main goal of this particular process is to maintain a strike balance between validation, challenges and benefits of challenges. DBT helps a person to learn new skills, by which an individual can easily improve

emotion regulation (Huang *et al.* 2020). Different sessions are engaged for this particular therapy. Four essential sessions of Dialectical Behavioural Therapy are "skills training in groups", "telephone crisis coaching", "and DBT pre-assessment"and"individual therapy". These sessions play an essential role to provide better treatments for addicted people in the global market. Every person has a responsibility to maintain emotions in an organised manner. This particular process helps an individual to think in a different way. DBT mainly focuses on skills training. Emotion regulation, interpersonal effectiveness and distress tolerance are included in these skills training programs in the market (Bohus*et al.* 2020). These four components are essential for an individual to implement this modality day to day life.

5. Discussion

Psychological treatment is beneficial for an individual to maintain a healthy lifestyle on a daily basis. Mental and health factors are managed with help of this particular process. Social and dynamic two types of interventions are available in the global market to provide better treatments for addicted people. Every addicted person does not want to communicate with family members, friends and others successfully. For this reason, an individual is totally separated from family and friends groups. Psychological treatment is beneficial for these individuals, by which they can communicate with each other positively. The drug treatment journey is managed by psychological treatment in the global market. Psychological treatments are beneficial for addicted people to maintain a healthy and smooth lifestyle. Comprehensive substance use disorder treatment is managed with help of psychological treatments. Different types of treatment facilities are available in the market to recover addicted people from addiction. Anxiety and depression of a person are managed with help of these psychological treatments.

Cognitive Behavioural Therapy (CBT)is the most common type of treatment for addicted people. Before this process, people are totally separated from others and after this process; these individuals can easily maintain a strong relationships with friends and family successfully. CBT helps a person to maintain negative thoughts, unhelpful behaviour, and upset feelings. Attitudes and behaviours of addicted people are effectively bad. For this reason, this particular treatment process is helpful for each and every addicted person. The professional and personal life of a person is hampered due to addiction in the global market. Sometimes, an addicted person wants to maintain a healthy lifestyle, and for that individual CBT, process is effectively essential. CBT helps a person to correct and replace unhealthy behaviours and attitudes of addicted people. Different sessions are engaged for this particular process to provide better treatments for addicted people.

Dialectical Behavioural Therapy (DBT) is an important type of talk therapy in the global market. It is a common therapy for Borderline personality disorder (BPD). Sometimes a person wants to reduce stress, anxiety, and higher tension from daily life. This particular psychological treatment is suitable for those people. Different sessions are engaged for this particular process in the global market, those sessions are effectively essential for an individual to maintain a healthy and safe lifestyle. This particular process helps to enhance capabilities among addicted people in the market. The DBT process is beneficial for an individual to improve the motivation process successfully.

6. Conclusion

Psychological treatment is helpful for everyone in the market to maintain a smooth work process on a daily basis. Different types of treatments are available to provide a better quality of treatments for addicted people. Among all therapies, talk therapy is effectively important. CBT and DBT treatment processes are also helpful for an addicted individual. Sometimes a people want some treatment sessions to maintain a healthy lifestyle on a daily basis. Different types of sessions are engaged in this particular treatment process. These sessions are helpful to maintain unhealthy behaviours and attitudes of addicted people. Addicted people behave immensely badly with family members and friends on daily basis.

Addiction creates a negative impact on the personal and professional life of a person. For this reason, these individuals are totally separated from friends and family members respectively. The DBT process helps a person to maintain emotional regulations significantly in the market. For this reason, this particular process can easily maintain mental and health conditions. High stress and anxiety of a normal and addicted person are easily

recovered with help of this DBT treatment process. Sometimes a person is not capable enough to select a suitable way of the working process. DBT and CBT treatment processes are beneficial for those people to maintain a healthy and safe lifestyle on a daily basis.

Psychological treatment should use by each and every addicted person in the market to maintain their attitudes and behaviours successfully. CBT and DBT process is beneficial for every person on a daily basis. Modern machines should be used for this particular treatment process in the global market. For this reason, addicted people can easily be recovered from their diseases. An addicted person should maintain psychological treatments successfully in their daily life. Metal and health factors of a person should be maintained with help of this particular psychological treatment in the market. In case an addicted person is totally separated from their family life due to this addiction, CBT and DBT processes should be helpful for everyone to provide better treatments. Every addicted person should maintain all sessions of CBT and DBT processes successfully in their daily life. Experienced nurses and therapist should be needed for maintaining CBT and DBT process respectively.

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A Study on Assessment of Perception of Nursing Students towards Utilization of Community Health Nursing Bag in selected Nursing colleges, Nellore

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Abstract

The present study has defined the Community Health Nursing Bag as a vehicle for maintaining the materials and tools required during home visits to observe family members, school and health care. The study examined 100 nursing students from ***Narayan College of Nursing and Sree Narayana Nursing College, Nellore***. The study has found many demographic variables with regard to these 100 nursing students, and it has been done with the conduction of SPSS. Among 100 nursing students, there are approximately 23% of students belong to Hindus, 65% of students belong to Christianity, and 11% of students belong to Muslim and 1% from other religions. The tool significantly provides demographic variables that properly operate with the variables of socio-demographic and structured questionnaires, and it used Non-Probability Sampling Technique. It has been aimed that the application of proper tools helps nursing students to determine the proper implementation for health outcomes with the use of these types of nursing bags.

Keywords: Planned Behavior Theory, Socio-Demographic Variables, Community Health Nursing Bags

1. Introduction

The utilization of the essential technology of community health nursing bags is to prevent contamination and remove cross-infection. The nursing bag plays a significant tool that consists of an apron, nail brush, Hb scale, filter paper, specimen bottles and hypodermic needles. Basically, the bag assists individuals with various problems of health.

2. Literature Review

The main purpose towards the application of community health nursing bag

The utilization of community health nursing bags is able to prevent the stretch of infection from people to families. This is an essential practice in nursing that can interpret many clinical situations and demonstrate the nursing approaches. Therefore, it has been understood that approximately 77.6% of nurses believed that their profession and responsibility have developed with the application of this nursing bag (Ncbi.nil.nih.gov, 2023). Furthermore, the

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nursing bag helps in providing the receptacle for instruments and supplies for the indispensable equipment.

Application of Planned Behavior Theory

The application of this theory has defined the correct manner, subjective standards and sensed ***"Behavioral Control Predict Intention"***. Besides, the utilization of the ***"Planned Behavior Theory"*** enables nurses to understand the proper interventions with the use of the nursing bag regarding community health (Lee and Kang, 2020). Hence, it has been identified that the usage of this theory helps nurses to identify the correct scenarios, positions and settings of individuals. Besides, the exertion of this useful theory enables nurses to provide protection for the purpose of various nursing instruments. Similarly, the theory also assists in recognizing the psychosocial determinants in addition to physical activity.

3. Methodology

Research Design

A "**Descriptive research design**" has been taken for the conduction of this present study. This research design gives a comprehensive vision and manners that help the study obtain a deep understanding (Siedlecki, 2020).

Tools used.

The tool that has been applied in this study was generated with the support of different textbooks, articles, websites and recommendations from experts. The tool mainly contains demographic variables that thoroughly operate with the variables of socio-demographic and structured questionnaires. Besides, the tool provides age, religion and studying year, family category and income. The applications of the "Non-Probability Sampling Technique" help the study to determine a subjective method with regard to the population (Lehdonvirta *et al.* 2021). Similarly, structured questionnaires enable assessing the penetration of nursing students in the application of the ***"community health nursing bag"***. Besides, a pilot study was performed among the nursing institutions in the Nellore district for the initial week. There are 5 nursing students have been chosen from ***"Narayan College of Nursing"*** and another 5 have been chosen from ***"Sree Narayana nursing college"*** with the help of ***"Non-probability sampling technique"***.

Data collection procedure

A vast data have been collected from the ***"Institutional Ethic Committee"*** and the approval has been accumulated from the rules of ***"Narayan College of Nursing and Sree Narayana Nursing College, Nellore"***. The study utilized the sampling technique of ***"Non-probability convenient"*** and the size of the sample with regard to the study was 100. Furthermore, the data that has been found is tabulated, examined and interpreted with the application of a ***"descriptive and inferential statistical process"***.

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4. Data analysis

Data of nurses and nursing students have described in these mentioned tables

Table 1: Frequency and distribution of the percentage of nursing students on the basis of age (Source: SPSS)

Age in years	Frequency (f)	Percentage (%)
a)18-19 years	9	9
b) 20-21 years	47	47
c) 21-22 years	44	44
Total	100	100

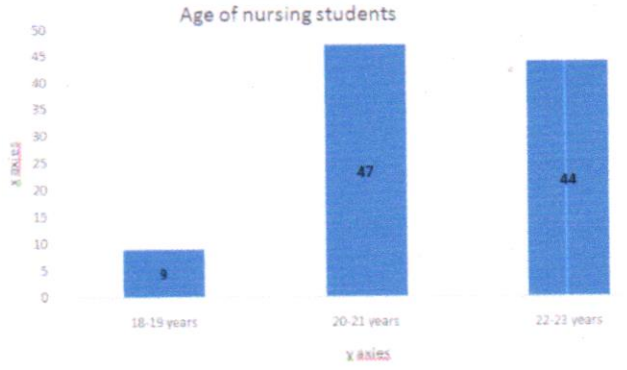

Figure 1: Distribution of percentage of nursing students regarding age

Based on the above table, it has been demonstrated that the distribution of 100 nurses defined the ages between the range of 18-19 yr, 20-21 yr and 21-22 yrs. There are approximately 9 %, 47% and 42 % of nurses have respectively belonged to this age group.

Table 2: Frequency and distribution of the percentage of nursing students on the basis of the year of studying (Source: SPSS)

Year of studying	Frequency(f)	Percentage(%)
a)IV years	50	50
b)II years	50	50
Total	100	100

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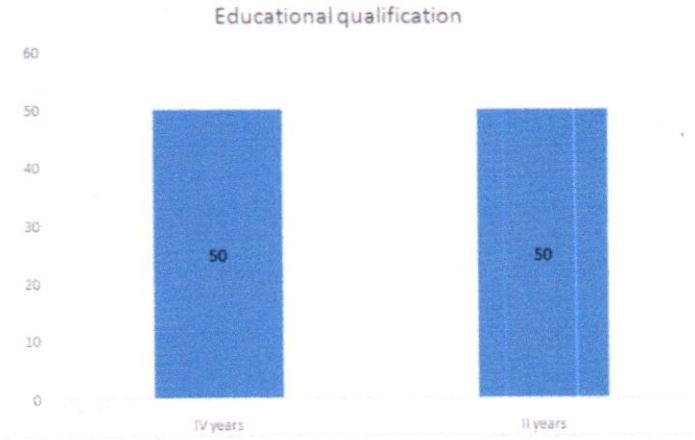

Figure 2: Distribution of percentage of nursing students regarding the year of studying

The above table has stated that approximately 50% of students have studied for four years and another 50% of students have studied for two years of total 100 students.

Table 3: Frequency and distribution of the percentage of nursing students on the basis of religion (Source: SPSS)

Religion	Frequency(f)	Percentage(%)
a) Hindus	23	23
b) Christian	65	65
C) Muslim	11	11
c) others	1	1
Total	100	100

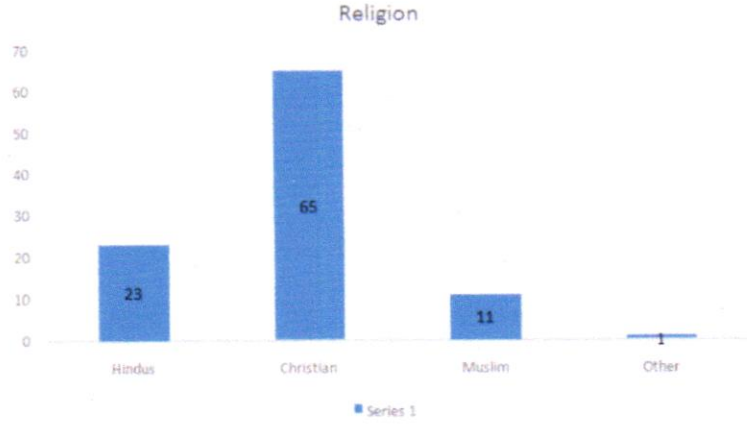

Figure 3: Distribution of percentage of nursing students regarding the religion

Based on the above table, it has been shown that there are a total of 100 students have taken from different religions. There are approximately 23% of students belong to Hindus, 65% of students belong to Christianity, 11% of students belong to Muslim and 1% from other religions.

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Table 4: Frequency and distribution of the percentage of nursing students on the basis of family type (Source: SPSS)

Type of family	Frequency(f)	Percentage(%)
a) nuclear	71	71
b) joint	25	25
c) extended	4	4
Total	100	100

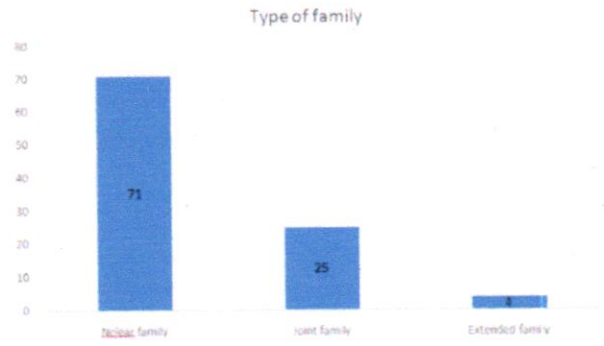

Figure 4: Distribution of percentage of nursing students regarding the family type

The above table has shown that there are 100 nursing students belonging to various types of families and they generally use nursing bags. There are approximately 71% of students belong to Nuclear families, 25% to Joint families and 4% from Elongated families.

Table 5: Frequency and distribution of the percentage of nursing students on the basis of *"family income per month"* (Source: SPSS)

Family income	Frequency(f)	Percentage(%)
a) 10000-15000/-	34	34
b) 15000-20000/-	31	31
c) 21000-25000/-	30	30
d) Above 25000/-	5	5
Total	100	100

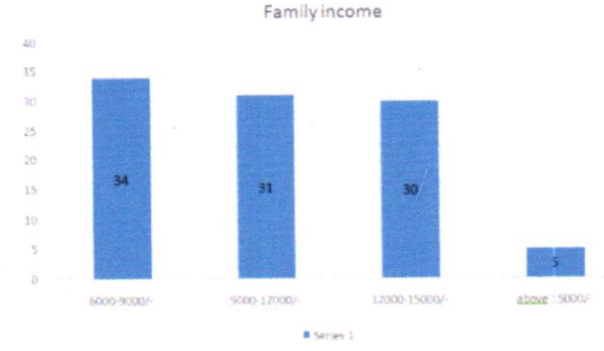

Figure 5: Distribution of percentage of nursing students regarding the *"family income per month"*

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The above table has displayed there are 100 nursing students in utilization of this nursing bag consisting of various family incomes. The family income is 10K-15K for approximately 34% of nurses, 15K-20K for 31%, 21K- 25K for 30% and above 25K for 5% of families.

Table 6: Frequency and distribution of percentage regarding structured questionnaires in the application of *"community health nursing bags"* among students (Source: SPSS)

Perception of utilization of community health bag	Nursing students	
	Frequency(F)	Percentage(%)
Excellent	13	13
Good	31	31
Average	22	22
Fair	26	26
Poor	8	8
Total	**100**	**100**

The above table has demonstrated that approximately 13% recognized as Excellent, 31% as Good, 22% as Average, 26% as Fair and the rest 8% as Poor out of 100 nursing students.

Table 7: Mean and standard deviation in the application of *"community health nursing bags"* among students (Source: SPSS)

Criteria	Part II	
	Mean	STANDARED DEVIATION
Perception of utilization of community health nursing bag	18.62	5.585

The above table have shown that the mean score was 18.62 and S.D was 5.585 (***"Significant at p=<0.05, df (n-1) 100-1=99"***).

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5. Findings and Discussion

Findings

"Demographic variables"

- Based on age, 9% of 18-19 yrs, 47% of 20-21yrs and 44% from 21-22 yrs among 100 nursing students
- Based on family type, among 100 nursing students, 71% are from nuclear families, 25% are from joint families and 4% are from elongated families

"Objectives"

- **To address the standard of perception among nursing students in the application of community nursing bag**

Among 100 nursing students, 13% were excellent, 31% Good, 22% Average, 26% Fair and 8% Poor. Furthermore, the mean score among nursing students by around 18.62 and SD was 5.585.

- **To determine the connection between the penetration of nursing students in the application of community health nursing bags with regard to their variables of socio-demographic**

The present study has applied a descriptive research design with a mean value of 4.99 and 163/253 participants or 64.43%. They have ranked ***"very good"*** on a sequence of ***"denatured alcohol"*** in the back side of the bag of ***"96 or 37.94% of 253 participants"***.

Discussion

It has been discussed that this present study has used different tables and graphs that thoroughly demonstrates frequencies and distribution of percentage in demographic factors among 100 nursing students. Besides, the study has properly discussed the mean and standard deviation of these students and their perception in the application of community health bags. Moreover, the application of community health nursing bags generally provides immediate access in addition to the supplies of infection control (Hwang *et al*. 2020). Thus, it has been identified that nursing bag helps in eradicating the unnecessary instruments and estimate a clean workplace. The study has thoroughly discussed the frequency and distribution of nursing students on the basis of age, family type and family income, year of studying, structured questionnaire and religion. The study has portrayed the mean and standard deviation in the perception of the utilization of community health bags as 18.62 and 5.585 respectively. It has been stated that the family income of 34% of nurses are 10K-15K and above 25K for 5% for nurses.

6. Conclusion

Based on the major findings, it can be concluded that there was a requirement for generating awareness on the application of community health nursing bags. The study has stated

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different tables that include the frequency and distribution of a percentage of 100 nursing students in the matter of different perspectives.

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2021-2022

ORIGINAL ARTICLE

Quality of Life Among Type Two Diabetes Mellitus Clients in an Urban Area of Tirupati

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ABSTRACT

Introduction: Quality of Life (QoL) is defined as "the state of being alive as a result of the interaction between factors that influence health, happiness (including physical comfort and a rewarding occupation), education, social and intellectual attainments, freedom of action, justice, and expression. **Methods:** The study was conducted in Sri Padmavathi Medical College for Women, Tirupati, Chittoor District, Andhra Pradesh, India, A community-based cross-sectional study was done. The WHO-QoL BREF questionnaire was used to measure the quality of life of 120 Type 2 diabetes mellitus (T2DM) patients. **Results:** Of the 120 T2DM patients, the demography revealed that age group was within 60-69 years (65.8%) of the clients included in this study, males (51.7%), nuclear families (78.3%), Hindus (67.5%), and literates (78.3%). Majority of families belonged to upper lower socio-economic group (45%). Most of them were backward classes (30%). The mean total transformed QoL score was high among ≥80 years, males, illiterates and upper class. All these differences were statistically non-significant. However, the mean total transformed QoL score showed significant relation with socio-economic class. **Conclusion:** Most of the study population were leading moderate quality of life followed by good quality of life. Based on total domain QoL scores, it was concluded from this study that overall QoL was good among T2DM clients were ≥80 years, males, illiterates and the population in upper socioeconomic class. The mean total transformed QoL score showed significant relation with socio-economic class.

Keywords: Quality of life, Socio-demographic factors, Type2 Diabetes Mellitus Clients, WHO QoL BREF

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INTRODUCTION

Diabetes is a constant medical issue that influences transformation of food within the body to release energy, then the body either doesn't make sufficient insulin or is unable to utilize the insulin optimally: when there isn't sufficient insulin, an excessive amount of glucose remain in the circulatory system (1). The number of people with diabetes is increasing due to population growth, aging, urbanization, and increasing prevalence of obesity and physical inactivity. Measuring the prevalence of diabetes and the number of people affected by diabetes, now and in the forthcoming period, is vital for rational planning and allocation of resources (2).

Diabetes mellitus impacts 387 million people worldwide,

with the number predicted to rise by 205 million by 2035, with around 75 million diabetics living in the Southeast Asian area (3). The condition of life resulting from the collective effects of variety of factors such as those determining health, happiness (including comfort in the physical environment and a satisfying occupation), education, social and intellectual attainments, freedom of action, justice, and freedom of expression (4).

Since 1995, the WHO-QoL Group has established a comprehensive set of more than 100 indicators known as the WHO-QoL (World Health Organization–Quality of Life). Quality of life is described by the World Health Organization as an individual's appraisal of their place in life in relation to goals, expectations, norms, and concerns in the context of the culture and value systems in which they live (5).

In diabetes, quality of life is essential because low quality of life leads to decreased self-care, which refers to poorer glycaemic control, higher risk of complications, and aggravation of diabetes, which may be stressful in both the short and long term. As a result, it is clear that quality of life concerns is critical in predicting the efficiency of a person to be able to manage his condition and preserve his long-term health and well-being. It is also crucial for determining a patient's perceived burden of his chronic disease, observing health trends over time, and measuring the efficacy of treatment (6,7).

Patients with diabetes are likely to develop sightlessness, advance renal disease, lower-limb amputations, and death due to heart artery disease, cerebro-vascular illness, or peripheral vascular disease. Acute and chronic micro and macrovascular disorders that can arise in Individual with type 2 diabetes mellitus include retinopathy, nephropathy, neuropathy, peripheral vascular disease, coronary heart disease, and stroke. According to the CURES (Chennai Urban Rural Epidemical Study), 17.6% of patients had diabetic retinopathy, 26.9% had microalbuminuria, and 26.1% had peripheral neuropathy (8-10) According to the Chennai Urban Population Study (CUPS), 21.4% of diabetic patients had coronary artery disease and 6.35 had peripheral vascular disease (11,12). The United Kingdom Prospective Diabetes Study (UKPDS) has shown that good quality glycemic control can minimise diabetes difficulties considerably, paving the way for early analysis and treatment (13).

The study's goals are to establish the relationship between socio-demographic characteristics and QoL in Type 2 DM patients and to assess their quality of life.

MATERIALS AND METHODS

A cross-sectional study was organised among Type2 DM Clients belong to different socio-economic and varying demographic groups of urban field custom area of Sri Padmavathi medicinal College for Women (SVIMS) which comes under Urban Health Training Centre, Gandhi Road, Tirupati, Chittoor District, Andhra Pradesh, India.

Study setting

Urban field practice area of SVIMS, Sri Padmavathi Medicinal College for Women came under Urban Health Training Centre, Gandhi Road, Tirupati, Chittoor District, Andhra Pradesh, India. It includes 5 wards covering population of 42,438 (10,425 families) out of which Type2 Diabetic Mellitus Clients constitute 3,603 (1,843 males and 1,760 females).

Sampling

Sample size calculation:
Assuming the prevalence of morbidity among Type2 Diabetic Mellitus Clients to be 50%, we calculated the sample size for our study using the formula

$N = Z^2pq/L^2$:

p= 50

q= 50 (100-p)

L=10% of p

i.e.,

3.84x50x50/10x10 = 96

Based on the above, mock-up size was determined to be 96, considering a non-response rate of 20%, the total sample size was found to be116, round off to 120.

Inclusion criteria: All Type2 Diabetic Mellitus Clients aged 60 years and above, healthy and willing to participate in the study were selected.

Exclusion criteria: Those who were bedridden and under treatment for chronic diseases and have known terminal or mental illness. Those who were not willing to participate in the study were excluded.

The sample of the study subjects to be drawn from each ward in urban field practice area has been calculated by the method of probability proportional to population size. The proportional sample for individual wards in urban area was obtained by multiplying this fraction to the Type 2 Diabetic Mellitus Clients of the selected wards. In the final stage, Type2 Diabetic Mellitus Clients aged 60 years and above in the selected households were included in the study.

All the households in urban field practice area, in each ward were selected by systematic random sampling method. Sampling started from 1st right side house in a selected street. After that every 30th house was selected. If the members of the household were not eligible for the study, then the immediate next house was visited till the sample size was achieved. Thus, the final sample of 120 study subjects included in the study were collected

from the 5 wards in urban field practice area by using Stratified random sampling method with proportional allocation.

Data collection

The study tool consisted of two parts –

1. Socio-demographic details. In this the socio-economic status of the families were classified based on modified Kuppuswamy scale (14) and
2. WHO-QOL BREF (15) instrument questionnaire. After obtaining informed consent from the study subjects, they were interviewed and the data was collected on socio-demographic factors that include age, sex, type of family, religion, caste, education and socio-economic status using a structured questionnaire along with application of the instrument WHO-QoL scale.

WHO Quality of Life-BREF Scale: The WHO quality of life BREF field version is a 26-item self-administered questionnaire that focuses on Type 2 Diabetes Mellitus patients. Data regarding subjective reactions rather than objective life conditions were collected, with assessments performed over the previous two weeks. Physical health, psychological well-being, social relationships, and the environment are all factors on this scale. Except for 3,4, and 26, which were assessed in reverse order, each item is rated from 1 to 5. According to WHO recommendations, 25 raw scores for each domain were obtained by aggregating the values of single items and then translated into a score ranging from 0 to 100, with 100 being the highest value and 0 representing the lowest. Each domain's mean score, total score, and average score were determined. The major goal is to determine an individual's overall opinion of health and quality of life. The higher the score, the better life quality.

The level of quality-of-life scores were categorized into 5 grades. Scoring 0-26 is considered as very poor, 27-52 is considered as poor, 53-78 as moderate, 79-104 as good and 105-130 rated as very good level of quality of life.

Data Analysis:

The Statistical Package for Social Sciences (SPSS) 26 version software was used for data entry and analysis. Descriptive statistics were calculated for background variables including socio-demographic characteristics. The findings for each domain was expressed in terms of mean and SD. The significant difference between two mean scores was tested by independent sample t-test and significant difference between more than 2 means were tested by One ANOVA test. The P value less than 0.05 was considered as significant.

Ethical Clearance:

The study protocol was approved by the Institutional Ethical committee, in Human subjects, Narayana College of Nursing, Nellore, India vide File.No:02/PhD(N)/LU/2018 dated 6th June 2018.

RESULTS

From the present study it was evident that most of the study population were in the age group of 60-69 years (65.8%) followed by 70-79 years (25.8%) and ≥80 years (8.3%). Most of them were males (51.7%). Most of the study population belong to nuclear families (78.3%) followed by joint families (25%) and extended families (0.8%) respectively. About 67.5% of the families belong to Hindu religion followed by Muslims (22.5%) and Christians (10%) respectively. About 30% of the families belong to backward caste followed by schedule caste (25%), others (24%) and schedule tribe (20.8%) respectively. Most of them were literates (78.3%). Majority of families (45%) belongs to upper lower-class group followed by lower middle class (39.2%), upper middle class (12.5%), lower class (2.5%) and upper class (0.8%) respectively.

Most of the study population (60%) were leading moderate quality of life followed by good quality of life and only 0.8% of study population were leading poor quality of life given in

Table I: Distribution of study Type2 Diabetic Mellitus Clients according to Quality of life (n=120).

Quality of Life	Number	Percent
Very Poor	0	0
Poor	1	0.8
Moderate	72	60
Good	47	39.2
Very Good	0	0
Total	**120**	**100**

Table II shows mean of total transformed scores (QoL). Mean total transformed score was high among ≥80 years followed by 60-69 years and 70-79 years respectively, Males were showing high mean total transformed score compared to females, illiterates, showing high mean total transformed scores compared to literates. All these differences were statistically non-significant. Upper socioeconomic class were showing high score followed by lower, upper middle, lower middle and upper lower classes respectively and it was statistically significant.

The mean physical domain transformed QoL score was high among 70-79 years, female population, literates and lower socioeconomic class. All these differences were statistically non-significant.

The mean psychological domain transformed QoL score was high among ≥80 years, male population, literates and upper class. All these differences were statistically

non-significant as shown in Table II.

The mean social relationship transformed QoL score domain was high among 60-69 years, male population and illiterates. These differences were statistically non-significant. Mean social relationship transformed QoL score was high among upper class. This difference was statistically significant as given in Table II.

however it was higher (2.9%) in studies done by Raghavendra et al., (2017) (17) and 28% as shown by Alshayban (2020) (19).

The mean physical domain score was higher in female population, while in the studies conducted by Raghavendra et al., (2017) (17) and Jain et al., (2014) (20) male population had higher mean physical domain

Table II: Distribution according to Total Transformed Scores, physical, psychological, social and environmental domains:

Variable	Mean ± SD (total transformed score)	Mean ± SD (physical domain transformed score)	Mean ± SD (psychological domain transformed score)	Mean ± SD (social domain transformed score)	Mean ± SD (environmental domain transformed score)
Age (in years)					
60-69	186.75± 39.51	45.78±16.69	45.70 ± 12.51	47.92 ±14.90	47.34 ± 9.31
70-79	185.50± 41.05	46.67± 15.58	45.83 ± 12.43	45.38 ±13.50	47.90 ± 9.78
≥80	191.60± 30.66	45.90± 15.68	49.90 ± 8.25	44.30 ±14.15	51.50 ± 8.35
P value	0.920	0.967	0.589	0.593	0.419
Sex					
Male	187.64 ± 41.93	45.62 ±15.84	46.58 ± 12.41	48.32 ±15.57	47.11 ± 9.63
Female	186.13 ± 35.96	46.44 ±16.72	45.56 ± 11.98	45.51 ±13.10	48.60 ± 9.07
P value	0.834	0.783	0.651	0.290	0.386
Education					
Illiterates	187.34 ± 38.82	45.80 ± 19.93	43.76 ± 11.33	49.07 ±12.95	48.69 ± 9.31
Literates	186.79 ± 39.26	46.08 ± 15.14	46.73 ± 12.37	46.38 ±14.84	47.59 ± 9.40
P value	0.950	0.939	0.273	0.402	0.599
Socioeconomic Class					
Upper	225	56	56	69	44
Upper Middle	208.33 ± 50.10	47.66 ± 19.79	51.73 ± 16.52	58.33 ±12.51	50.60 ± 9.96
Lower Middle	184.12 ± 29.99	46.29 ± 15.01	44.95 ± 10.92	45.27 ±12.74	47.59 ± 8.12
Upper Lower	180.66 ± 41.10	44.22 ± 16.22	44.87 ± 11.66	44.24 ±14.80	47.33 ± 10.48
Lower	223.33 ± 9.29	62.66 ± 12.50	54.33 ± 9.60	58.33 ± 9.71	48 ± 3.46
P value	0.043	0.361	0.183	0.002	0.803

The mean environmental domain transformed QoL score was high among ≥80 years, female population, illiterates and upper middle class. All these differences were statistically non-significant shown in Table II.

DISCUSSION

In this study most of the study population were in the age group of 60-69 years (65%). Similar distribution was observed by Kavi et al., (2016) (16). While in other study conducted by Raghavendra et al., (2017) (17) showed only 20.5% of study population were in the age group of 61-70years and Zare et al., (2020) (18) 33.89 % of study population were in the age group of >60Years.

In this Study 39.2% of Type2 DM clients had good QoL, however which was higher (55%) in another findings reported by Raghavendra et al., (2017) (17) and lower (21%) as reported in the study done by Dhfer Alshayban (2020) (19).

In this current study 60% of Type2 DM clients had moderate QoL, however which was lower findings observed in these studies done by (28.6%) Raghavendra N et.al (2017) (17) and (51%) Alshayban (2020) (19).
In this study 0.8 of Type 2 DM clients had poor QoL,

scores.

The mean psychological and social relationship domains score was higher in male population, similar findings was observed in the studies done by Raghavendra et al., (2017) (17) and Jain et al., (2014) (20).

The mean Environmental domain score was higher in female population, while Raghavendra et al., (2017) (17) study male population had higher mean and Jain et al., (2014) (20) female population had higher mean physical domain scores.

Males were showed high mean Total Transformer scores compared to females, were as it was opposite in the study done by Raghavendra et al., (2017) (17).

About 60% of the study population were leading Moderate Quality of Life, 39.2% were in Good Quality of life and only 0.8% of study population were leading Poor Quality of Life. In another study by Aschalew et al., (2020) (21), Neutral Quality of life is 33.58%, Poor Quality of life is 21.81% and Good Quality of life is 41.91%. The good quality of life is similar in both the studies, but poor quality of life is less in present study.

CONCLUSION

The main purpose and significance of the study was to assess the quality of life in Type 2 diabetes mellitus patient. It was found that most of the study population were leading moderate quality of life followed by good quality of life. From the present study it was evident that total domain QoL scores, overall QoL was good among T2DM clients were ≥80 years, males, illiterates and the population in upper socioeconomic class. The mean total transformed QoL score showed significant relation with socio-economic class among upper middle-class population. The study shows that significant mean difference in between socio-economic status of total transformed mean scores, social domain transformed scores. The study will help in guiding the development of effective intervention programs to improve T2DM related QoL. More such programs must be developed to target especially to female gender, older age, from low socio-economic status with multiple complications related to diabetes.

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Depression And Quality of Life Among Type-2 Diabetes Mellitus Patients: A Case Control Study

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ABSTRACT

Background: Diabetes is accompanied by a distinct decreased in subject's quality of life (QOL) and it shows to elevated disability-adjusted life years than most diseases. Depression shows the degrade QOL and is associated with wretched treatment outcomes and lesser the glycaemic control in diabetes. Objective of this study is to study the association between Quality of Life (QoL) and depression among type2 diabetes mellitus in Andhra Pradesh.

Methodology: This was a case control study. There were 300 participants including 150 type2 diabetes mellitus patients, &150 healthy individuals (age and gender matched) were also selected as a control to meet the purpose of the study. Subjects age range was set between 35-65 years. Beck depression inventory (BDI-II) and WHO quality of life scale (QOL BREF) were used for data collection, SPSS-26(v).

Results: The study findings showed that significant but negative relation between depression scores and quality of life.65% have Poor Quality of life & 57% have high depression in Diabetes Patients. 54% have good Quality of life & 78% have Mild Depression in Healthy Individuals.

Conclusion: It is concluded that association between depression and sub-scales of quality of life indicating that high depression scores may lead to lower physical and psychological health impacting social relationship and environmental health.

Key words: Quality of life, Depression, Diabetes Mellitus, Tertiary care hospital

INTRODUCTION

Diabetes Mellitus (DM) is a chronic disease of metabolic disorder characterized by hyperglycaemic condition resulting from defects in insulin secretion, insulin action or both[1].Type 2 DM is a common non-communicable disease. Prevalence increases with obesity. It is the predominant form of diabetes worldwide[2]. Globally 382 million people had DM in 2013. This number is expected to raise to 592 million by 2035.Most of the people with DM live in low- and middle-income countries[3]. WHO reported prevalence of DM among adults over 18 years of age has risen from 4.7 percent in 1980 to 8.5 percent in 2014. In 2012, an estimated 1.5 million deaths were directly caused by DM and another 2.2 million deaths are attributable to high blood glucose[4]. In North India, prevalence of type 2 DM in urban area was 18.7 per cent[5]and in rural area was 9.1 percent[6]. A study done in South India reported prevalence of DM was 12.11 percent[2].

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In various demographic regions of Andhra Pradesh, prevalence of type 2 DM was found (7.8%) in tribal's, (12.8%) in semi urban and (15%) in urban areas[7]. The following are the prevalence of type 2 DM in the districts Vishakhapatnam district (5%)[8], a study done in Nellore (Nellore district) (15%)[9] and Tirupati (Chittoor district) reported (12.4%)[10]. DM has caused approximately 4.6 million deaths in all age groups. 20-79 years accounting for approximately 8.2 percent of mortality. 80 percent of diabetic deaths occur in low- and middle-income countries[11].In adult's 90 percent have type II diabetes mellites, only 10 percent have type I diabetes mellitus reported[12].

Depression is commonly found as a comorbid condition in DM particular[13]. Globally, an estimated 280 million people of all ages suffer from depression. At its worst, depression can lead to suicide. Over 7,00,000 people die due to suicide every year[14]. In a review of 48 published articles representing 15 countries estimates the comorbid depression among people with DM was lowest (2%) in Brazil, highest (84%) in India[15]. In Northern India depression among patients with DM was found 41 per cent. A study in Southern India showed the prevalence of depression in patients with DM was 49 per cent[16]. The co-occurrence of the two dreaded diseases, namely depression and diabetes, as the two are frequently encountered together in routine clinical practice. Since two illnesses may affect each other[17]. Anyone can encounter depression at some time in life, that evidence claims that diabetic clients have more chances to experience depression[18].

The quality of life (QoL) in diabetic patients is defined as their subjective perception about life in terms of cultural characteristics, social beliefs and values, personal goals and expectations, patterns and concerns. It is well known that Quality of Life is multidimensional. Increasingly QoL assessment has been employed to evaluate outcome among patients with chronic medical conditions, and such chronic illnesses typically are associated with decreased QoL[19].

Measuring the impact of chronic disease on QoL of the patient is important because physiological measurements and laboratory parameters do not provide sufficient insight into the patient's psychological status and satisfaction, which in the perception of the patient may be more important than objective indicators[20].

Objective of this study is to study the association between Quality of Life (QoL) and depression among type2 diabetes mellitus in Andhra Pradesh.

MATERIALS AND METHODS

The present study is a case control study conducted at Outpatient department of endocrinology department in Narayana Medical College hospital, Nellore from December 2018 to May 2019 (6 months).

Selection of Sample: The 300 subjects were selected by using purposive sampling technique and divided into two groups i.e., case group (150 subjects) & Control group (150 subjects).

Cases are defined as those who are known and diagnosed diabetics and age in between 35-65 years, consuming Oral hypoglycaemic Agents (OHA)/ insulin and attended for endocrinology OP consider as cases (Type2 Diabetes Mellitus).

Controls are defined as those attended to endocrinology OPD during study period for other endocrine problems and with blood sugar levels within normal limits, not consuming Oral hypoglycaemic Agents (OHA)/insulin, which were age and gender matched with cases.

Inclusion criteria: All type2 Diabetic Mellitus patients and non-diabetic aged 35-65 years, and willing to participate in the study were selected.

Exclusion criteria: Those who were under treatment for chronic diseases and have known terminal or mental illness. Those who were not willing to participate in the study were excluded.

The subjects were approached individually after ethical permission obtained from the institution of Narayana College of Nursing, Nellore. Hospital authority's permission were taken for data collection from the patients attended to endocrinology OPD for comparison age and gender matched healthy individuals as a control included in the study. Informed consent was taken from the sample to collect the data and confidentiality of the subjects was maintained. The respondent was obtained. Guidelines of scale items were explained to participants. While queries were encouraged regarding unclear items.

Data collection: Socio demographic details demographics include age, gender, religion, marital status, educational status, occupational status, family type, living status, residence, monthly income, anthropometry (BMI), duration of the diabetes, type of diet, hospitalization and type of treatment were collected through a separate data sheet.

Depression: Beck depression inventory II (BDI- II) scale was developed by Aron T beck in 1996. BDI- II is used for measuring depression. It is comprised on 21 items with scoring on Likert scale ranging from 0-3. It is used as self-report measuring of depression. The range of score 1-16 has low depression, range from 17-30 has moderate depression, 31-40 has severe depression and > 40 has extreme depression.

Quality of Life Scale: Quality of life of the subjects was evaluated through WHO QOL BREF. The WHO QOL scale contains 26 items. Items 3,4,10,15,16,17 and 25 represent physical health, items 5,6,7,11,18 and 26 are representative of psychological health, items 19,20,21 are indicative social health, items 8,9,12, 13,14,22,23 and 24 + 1 and 2 reflect the environmental health of the subjects.

Ethical Clearance:

The study protocol was approved by the Institutional Ethical committee, in Human subjects, Narayana College of Nursing, Nellore was obtained (File.No:02/PhD (N)/LU/2018 dated 6th June 2018).

Data analysis:

The collected data was entered into Microsoft excel. Number and percentages were calculated for qualitative data. Mean and standard deviations was calculated for quantitative data. Chi-square test was used to test significance for qualitative data. *Shapiro–Wilk test* was used to test the normality. If the data is normally distributed Student t test was used to test significance difference between 2 means. If the data is not normally distributed Mann Whitney's U test was used. Pearson correlation was used to test the correlation between 2 quantitative variables. SPSS version 26 was used to calculate statistics. P value <0.05 will be considered as significant.

RESULTS

The study was conducted among 300 individuals of which 150 type 2 diabetic patients and for the comparative control group of 150 healthy individuals (age and gender matched) were selected. The results demonstrate the negative co-relation between QOL and BDI-II and significant difference among type-II diabetic patients and healthy individuals.

From table 1, it is observed that majority of the patients had poor quality of life (65.3%) while among controls, (4.70%) had poor quality of life. Similarly, majority of the patient group (57.3%) had high levels of depression while only (6.0%) among controls showed such significant level of depression.

From table 2, it is observed that most of the patients had poor scores in physical domain (61.3%), psychological domain (60.0%) and in social domain (73.3%). In environmental domain majority of the patients (53.3%) were had moderate scores. Where as in controls majority were had good scores in physical domain (52.0%), psychological domain (57.3%), and social domain (56.6%) and in environmental domain (55.3%).

Table 3 shows that significant negative correlation was found between overall QoL and depression among type 2 DM patients as well as controls. A very significant inverse correlation has been observed linking depression and subscales of QoL indicating that high depression scores may lead to lower physical and psychological health impacting social relationship and environmental health. Results are statistically significant.

Table 4 shows that the mean quality of life score was found to be significantly lower in-patient group (57.2%) compared to that in control group (90.9%) (p<0.01; S).

Table 1: Distribution of overall QoL and Depression among type2DM patients and controls

Variables	Patients (n=150)	Controls (n=150)
Overall QOL		
Poor	98 (65.3)	7 (4.7)
Moderate	34 (22.7)	28 (18.6)
Good	18 (12)	81 (54)
Very Good	0 (0)	34 (22.7)
Depression		
Mild	41 (27.3)	112 (74.7)
Moderate	23 (15.3)	29 (19.3)
High	86 (57.3)	9 (6)

Figures in parenthesis indicate percentages.

Table 2: Distribution of QoL domain scores among type 2 DM patients and healthy controls

Variables	Patients (n=150)	Controls (n=150)
Physical domain		
Poor	92 (61.3)	11 (7.3)
Moderate	42 (28)	28 (18.7)
Good	16 (10.7)	78 (52)
Very good	0 (0)	33 (22)
Psychological domain		
Poor	90 (60)	6 (4)
Moderate	44 (29.3)	33 (22)
Good	16 (10.7)	86 (57.3)
Very good	0 (0)	25 (16.7)
Social domain		
Poor	110 (73.3)	16 (10.7)
Moderate	30 (20)	33 (22)
Good	6 (4)	85 (56.6)
Very Good	4 (2.7)	16 (10.7)
Environmental domain		
Poor	54 (36)	12 (8)
Moderate	80 (53.3)	24 (16)
Good	15 (10)	83 (55.3)
Very good	1 (0.7)	31 (20.7)

Figures in parenthesis indicate percentages.

Table 3: Correlation between domains of QoL and depression among type 2 DM cases and controls

Scales	Depression score			
	Cases (n=150)		Controls (n=150)	
	Y	P	Y	P
Overall QoL	-.617**	0.00	-.604**	0.00
Physical health	-.587**	0.00	-.547**	0.00
Psychological health	-.567**	0.00	-.558**	0.00
Social health	-.448**	0.00	-.587**	0.00
Environmental health	-.548**	0.00	-.605**	0.00

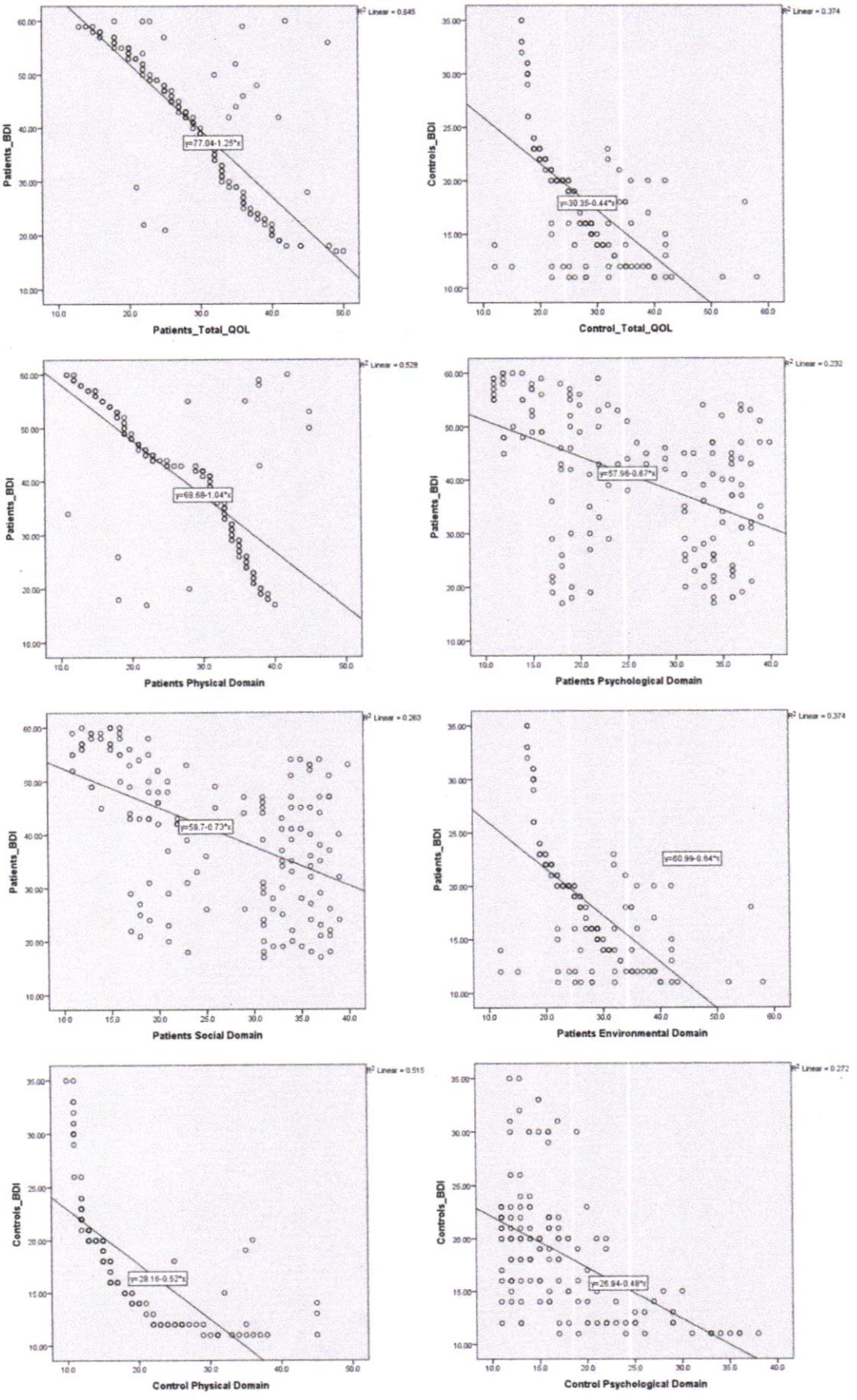
**correlation is significant at the 0.01 level (2 tailed)
*Correlation is significant at the 0.05 level (2 tailed)

Table 4: Overall QoL, its domains and depression in type2 DM patients and healthy controls

Variables	Patients (n=150) Mean±SD	Controls (n=150) Mean±SD	P value
Overall QoL	57.27±12.91	90.92±17.80	0.000
Physical health	14.97±4.21	23.92±5.47	0.000
Psychological health	13.63±3.53	21.23±4.35	0.000
Social health	6.24±2.22	9.97±2.44	0.000
Environmental health	18.38±4.33	28.07±5.99	0.000
Depression	31.73±13.21	13.33±7.61	0.000

't' test applied for calculation of statistical significance.

Figure 1: Scatter plots between patients and controls depression scores and quality of life doamins



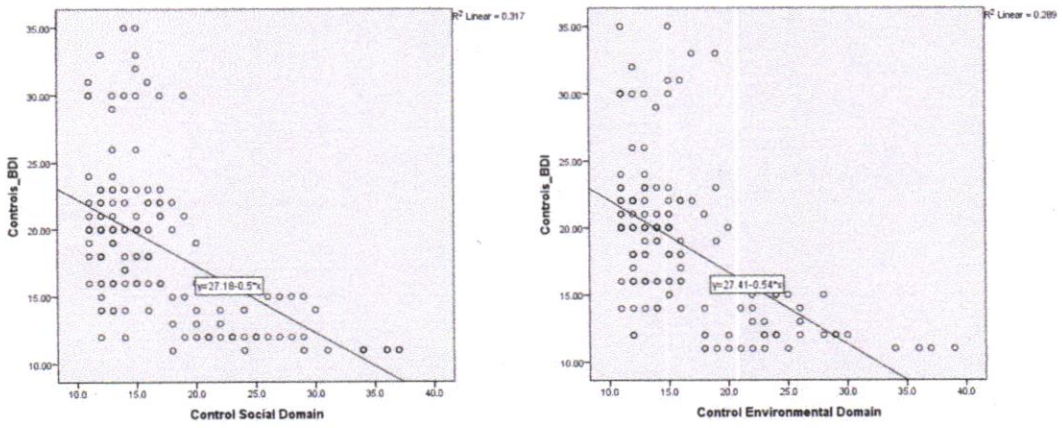


Table 5: Association between QoL with socio-demographic variables of type 2 DM patients

Variables	Quality of Life			χ2	P value
	Poor N (%)	Moderate N (%)	Good N (%)		
Gender					
Male	43 (62.3)	22 (31.9)	4 (5.8)	9.064	0.011
Female	55 (67.9)	12 (14.9)	14 (17.2)		
Educational status					
Illiterate	19 (95)	0 (0)	1 (5)	39.696	0.000
Upto10th	55 (77.5)	10 (14)	6 (8.5)		
Inter	5 (38.5)	5 (38.5)	3 (23)		
Degree	13 (32.5)	19 (47.5)	8 (20)		
Professionals	6 (100)	0 (0)	0 (0)		
Occupation					
Govt. employee	6 (16.7)	19 (52.7)	11 (30.6)	53.206	0.000
Private Employee	12 (75)	2 (12.5)	2 (12.5)		
Daily wage	19 (90.5)	2 (9.5)	0 (0)		
Self-employee	8 (100)	0 (0)	0 (0)		
Housemaker	53 (76.8)	11 (16)	5 (7.2)		
Residence					
Urban	72 (63.1)	24 (21.1)	18 (15.8)	6.574	0.037
Rural	26 (72.2)	10 (27.8)	0 (0)		
Monthly income					
Below10000	60 (84.5)	5 (7)	6 (8.5)	46.625	0.000
10000-20000	16 (59.2)	4 (14.8)	7 (26)		
20000-30000	8 (50)	6 (37.5)	2 (12.5)		
30000-40000	6 (46.1)	4 (30.8)	3 (23.1)		
Above40000	8 (36.3)	15 (68.1)	0 (0)		

All the sub-domains of quality of life like physical health, psychological health, social health and environmental health were found to be significantly lower in patients group compared to control group ($p<0.01$; S). The mean depression score was found to be significantly higher in-patient group (31.7%) compared to that in control group (13.3%) ($p<0.01$; S).

Form table 5 it is observed that there was a statistically significant association of gender and residence with respect to QoL at $p< 0.05$ level, educational status, occupational status and monthly income at $p<0.01$ level

Table6 shows that significant difference among living status, residence, PPBS values, marital status, educational status, occupational status, income status, BMI and HbA_1C with respect to mean scores of depressions.

DISCUSSION

The present study is a case control study to study the association between depression and Quality of Life among type 2 Diabetes Mellitus patients. In this study among type 2 diabetes mellitus patients 27.3% had mild depression and 15.3% had moderate depression. Similar distribution was observed by Bayani M A (2022).[21]when comparing both studies in our study type2 diabetes clients unaware of depression, due to low socio-economic status and more number of house makers in the study population. Depression among diabetes is common when compared to non-diabetic, because of life long treatment and self-care practices need to be practised. This may alter their daily routine and reduce their quality of life compared to non-diabetic population. While in other study conducted by K Mosaku et.al[22] (2008) only 20% of study population were having the depression.

Table 6: Comparison of means of depression among Socio-demographic variables

Demographic variables	N	Mean±SD	p-value
Living status			
With family	142	30.92±13.08	0.00#
Alone	8	46.13±4.48	
Residence			
Urban	114	30.19±13.26	0.01#
Rural	36	36.58±11.98	
PPBS Values			
Normal	29	26.21±14.06	0.00#
Above normal	121	33.05±12.71	
Marital status			
Married	138	31.02±13.07	0.01*
Single	2	34.5±26.16	
Divorced	1	13	
Widow	9	44±4.27	
Total	150	31.73±13.21	
Educational status			
Illiterate	20	37.55±13.83	
Up to 10th	71	34.66±11.97	0.00*
Inter	13	25.85±13.32	
Degree	40	26.33±13.3	
Professionals	6	26.33±6.77	
Total	150	3.73±13.21	
Occupational status			
Govt. employee	36	18.92±7.77	0.00*
Private employee	16	32.38±11.18	
Daily wage	21	40.29±8.66	
Self-employee	8	40±8.6	
House maker	69	34.7±12.95	
Total	150	31.73±13.21	
Income			
Below 10,000	71	33.51±13.68	0.01*
10,000-20,000	27	33.33±13.44	
20,000-30,000	16	35.75±10.18	
30,000-40,000	13	22.08±12.43	
Above 40,000	23	27±10.7	
Total	150	31.73±1.21	
BMI			
Normal	38	27.71±15.26	0.04*
Above normal	60	31.62±12.33	
Obese	52	34.79±11.98	
Total	150	31.73±13.21	
HBA_1C			
Normal	10	14.7±5.83	0.00*
Increased	15	31.07±15.01	
Higher	125	33.17±12.5	
Total	150	31.73±13.21	

#t-test applied; *ANOVA

This may be due they are aware of depression and it can help to decline the stress and anxiety related to disease.

A systematic review which was conducted to study the association of depression and type 2 diabetes observed that depression is associated with a 60% increase in the risk of developing type 2 diabetes.[23]In another systematic review to assess the prevalence of clinical depression in type 2 diabetes, it was found that the prevalence was significantly higher among patients with type 2 diabetes (17.6%) compared to those without diabetes (9.8%). [24]Similarly, a study among Greek adult population observed that elevated depressive symptoms in 33.4% of the type 2 diabetes population.[25] Similar findings were observed in studies done in South East Asia as well. In Bangladesh, a population-based study showed depressive symptoms among 29% of men and 30.5% of women who were newly diagnosed with type 2 diabetes.[26] In a similar study in Pakistan in a rural area reported depression prevalence of 14.7% in type 2 diabetic people.[27] In India, hospital studies have documented that the prevalence of depression among type 2 diabetic patients ranges from 8.5% to 32.5% with various scales.[28] These findings were similar to this study. Hospital-based studies in Nepal reported that high prevalence of depression among type 2 diabetic patients of 40.3%, 44.1% and 54.1%.[28-30]These findings were high compared to this study may be due to using different scales to assess the depression and different age groups of study population. These findings are may be due to rural back ground of the diabetic population, population living alone leads to lack of support from the family members to take care themselves and low income among daily wage labourers.

About 12% of Type2 DM clients had good QoL, however which was higher findings in these studies (55%) done by Raghavendra N et.al (2017)[31], (39.2%) done by Mahammad S.S[32](2022) and (21%) done by Alshayban D (2020).[33]Type2 DM Patients had 22.7% of moderate QoL, however which was higher findings observed in this study (28.6%) Raghavendra N et.al (2017)[31], (60%) done by Mahammad S.S(2022)[32], and (51%) done by Alshayban D (2020).[33]Majority of the Type2 Diabetes Mellitus had 65.3% poor Quality of Life, however which was lower in these studies done by (0.8%) done by Mahammad S.S[24] (2.9%) Raghavendra N et.al (2017)[23] and (28%) Alshayban D (2020).[33]It is well-known that diabetes is a metabolic disorder this will have debilitation of quality of life same manner in our study also happened due lack support of family members and poor education status and low socio economic status also are also reasons in the society.

The lowest Mean & SD score in Physical domain 14.97±4.21, Psychological domain 13.63±3.53, Social domain 6.24±2.22, Environmental domain 18.38±4.33 & Overall QoL 57.27±12.91. However, which was higher findings observed in this study done by Enang et.al (2021).[34]

Over all high Mean & SD score in depression was 37.13±13.21. However, which was lower findings observed in this study 12.82±9.46 Altınok, et al (2016)[35]The survey shows that male population have 46% and in educational status secondary education have 47.3%. While showing similar distribution in 52.7% of male population and 80% of educational status study done by Enang et.al (2021).[34]In this study 46% of House makers, 92% of married & 76% & of urban residence population. While in this study conducted by Sharma et.al (2019) higher findings 67% of unskilled employment & lower findings in married 58.5%, rural residence 75.4%.36

In this study it showed that there was negative corelation (ϒ) between quality of life and depression in all domains, -0.587 of Physical Domain, -0.567 of Psychological Domain, -0.448 of Social Domain, -0.548 of Environmental Domain. Similar findings were observed in all domains, -0.77 of Physical Domain, -0.61 of Psychological Domain, -0.76 of Social Domain, -0.67 of Environmental Domain study done by Cakmak et al (2020).[37]

In this study and other studies, it is observed that, there is high level of depression among type2 diabetes mellitus subjects, and it has serious effect on diabetes results and quality of life also. Most of the urban population due to busiest life they are unable to look about their health. It is suggested that regular physician appointment in terms of physical problems, mental problems and quality of life also should also be more contemplate. Daily psychiatrist visits for examining psychological disorders will make early diagnosis to give treatment for that.

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CONCLUSIONS

It is concluded from this study that association of depression and sub-scales of quality of life indicating that high depression scores may lead to lower physical and psychological health impacting social relationship and environmental health.

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ORIGINAL ARTICLE

Study of Expectant Fathers' Prejudices and Practices vs. Pregnant Women's Pleasure related to Antenatal Care at OPD, NMCH, Nellore, A.P., India

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ABSTRACT

Introduction: The engagement of the expectant father in the pregnancy and birth of the child has an impact on the pregnancy result. It lowers the risk of preterm birth, low birth weight, foetal growth restriction, and infant death by reducing unfavourable maternal health behaviours. The role of the expectant father is critical in identifying difficulties throughout pregnancy. With this backdrop in mind, the goal of the study is to analyse the attitudes and practises of expectant dads on pregnant women when it comes to antenatal care. **Methods:** A cross-sectional study was done among 100 pregnant fathers attending an antenatal clinic. Using a structured questionnaire and observational check list, prejudices and practice of these individuals was analyzed. **Results:** In the majority of families (58 %), husbands made the decisions. Moreover half (58.2%) of the 100 expectant fathers polled, reported that health care facility was visited only if there was a difficulty. Only 20% of men preferred to accompany their women to prenatal appointments. The majority of them believed that their primary responsibility was to provide financial assistance. **Conclusion:** Most of the prospective fathers have a good understanding of antenatal care, although its relevance is not fully appreciated. Expectant fathers accompanying their wives to antenatal appointments will aid not only in the utilization of antenatal services, but also in the early detection and treatment of difficulties.

Keywords: Prejudices, Practices, Antenatal Care, Expectant Fathers Pregnant Women

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INTRODUCTION

Pregnancy, labour, and childbirth are all crucial events in a couple's life. It is likely to be the most emotional and dramatic experience of a woman's life, as well as the lives of her family members. If pregnancy and birth are simple, they can be a lovely experience. Nevertheless, if they are complicated, the woman's life may be jeopardised. Pregnancy is a physiological event that can cause stress and anxiety in the mother due to neurohormonal, physiological, mental, and social changes in the mother. At this time, mothers should acclimatise to their new role.

The phrase "maternal fatality" refers to deaths that occur during pregnancy or delivery as a result of complications. According to UN inter-agency estimates, the global maternal mortality rate fell by 38% between 2000 and 2017, from 342 to 211 deaths per 100,000 live births. The engagement of the expectant father in the pregnancy and childbirth has an impact on the pregnancy result. It lowers the risk of preterm birth, low birth weight, foetal growth restriction, and infant death by reducing unfavourable maternal health behaviours. Male involvement reduces maternal stress (by providing emotional, logistical, and financial support), increases prenatal care, leads to the cessation of risk behaviours, and ensures men's involvement in their future parental roles from an early age, according to epidemiological and physiological evidence.

According to UN inter-agency estimates, the worldwide maternal mortality ratio dropped by 38% from 2000 to 2017 – from 342 to 211 deaths per 100,000 live birth (1). It is critical to invest in paternal inclusion from the beginning of the pregnancy so that the father understands that he is an integral part of the process and that a father is the most important person and must be present beside the pregnant mother (2). Men's involvement in maternal health decision-making, male attendance during antenatal care, male attitudes toward maternal healthcare, and male participation in health extension worker home visits, are all aspects

of male involvement. Early involvement of men in healthcare is seen as an opportunity to educate men on the importance of perinatal care and to their effective assistance in supporting their partners during pregnancy, birth preparation, and the postnatal period (3). The goal of this study is to analyse expectant fathers' attitudes toward maternity care and practises.

In India, men are seen to be the guardians of families, therefore involving them in maternal health care will promote health service usage, reduce maternal health complications, improve maternal self-esteem, and reduce the risk of pregnancy complications (4).

Prenatal care aids in the early detection, treatment, and prevention of illnesses connected to maternal morbidity and death. Many women in underdeveloped nations do not have access to this level of treatment. Understanding and enhancing community knowledge and behaviours about prenatal and postnatal care is critical to programme success. Expectant fathers must be active in obtaining timely prenatal care.Studies have shown that when fathers accompany the pregnant wife to appointments, women are considerably more likely to use maternity care. In the United States, partner involvement in pregnancy has increased antenatal care by 1.5 times.

In India, improving the awareness regarding maternal care and promoting their attendance during prenatal care may ensure better maternal health outcomes. If the SDGs for maternal care are to be met, it is critical to increase husband-involvement agenda be enhanced in India (4). India's maternity and paternity leave policies are as follows: Regular male employees with anew born child or who lawfully adopt a child under the age of one year are eligible for paternity leave at Adobe. There is no minimum service requirement. Candidates are eligible for 2 weeks of paid paternity leave, i.e. 10 days of 100% paid paternity leave.

The goals are to examine antenatal care prejudices and practises among pregnant women, as well as to link antenatal care prejudices and practises among anticipating fathers of pregnant women to demographic characteristics.

MATERIALS AND METHODS

In 2019, a cross-sectional study was carried out at Narayana Medical College and Hospital in Nellore, Andhra Pradesh, India. The goal of this study was to examine the biases and practises of husbands of primigravida women who were attending antenatal OPD with their wives in Narayana Medical College and Hospital 2019 and who were willing to participate in this survey.

Before the data was collected, each participant signed a written informed consent form. All eligible participants were interviewed using a standardised questionnaire that comprised of a socio-demographic profile as well as questions about their knowledge and preconceptions about ANC, along with their practise. A total of 100 husbands were enrolled in the trial, with expectant fathers who were mentally ill or had a drug addiction were excluded. As a result, 100 primigravida expecting fathers who attended a prenatal clinic were interviewed. Prejudices about various aspects of Antenatal care were the focus of 20 questions, while other questions focused on Antenatal care practises.

A grade was assigned to each assertion. If a total score of 100 is obtained, strongly agree 4 (81-100), agree 3 (61-80), neutral 2 (41-60), disagree 1 (21-40), strongly disagree considered 0(1-20) is the Checklist for assessing the level of practise. Early registration, visits, antenatal care, vitamin, iron, and folic acid supplementation, prompt hygiene, and awareness of risk indications are all part of the check list. It is made up of nine different items. The level of practise was determined. Those who answered yes received a score of 1, while those who said no received a score of 0. Frequency, mean, standard deviation, and percentage were done in the analysis.

The study protocol was approved by the ethics committee under institutional ethics committee, Narayana college of nursing,Nellore, India. File no:03/phD(N)/LU/2018 dated 06thJune 2018.

RESULTS

A total of 100 expectant fathers agreed to participate in the study. About 75% of all expectant fathers were between the ages of 21 and 30 years, while 25% were above the age of 31 years. The majority of the moms, (83%), were between the ages of 21 and 30 years, with the remaining 17% being between the ages of 31 and 35 years.

The educational condition of the fathers revealed that 18% were illiterate, 38% had completed secondary school, and 44% had completed high school. In terms of the mothers' educational standing, 30% were illiterate, 56% had completed secondary school, and 14% had received a diploma. When it came to the occupations of expectant fathers, 51% worked in clerical jobs and ran their own businesses, 12% worked as skilled employees, and the remaining 37% worked as semi-skilled workers. The majority of pregnant women (81%) were housewives, while the remaining 19% ran their own business with their husband. Around two-thirds of those polled, or 76%, identified as Hindu.The monthly income of respondents ranged from Rs. 1500 to Rs. 15,000.

Husbands were the primary decision-makers in their families' health care (58%), followed by other family

members (30 %). Only 12% of cases involved shared decision-making with a spouse. In terms of family structure, 76% of respondents belonged to a nuclear family, while 24% lived in a mixed family.

According to the frequency and percentage distribution of prejudice categories, 32% strongly agree, 22% agree, 26% are neutral, 12% disagree, and 8% strongly disagree (Table I). The majority of prospective fathers (90%) believed that antenatal care was a need in everyday life, but they were not sure regarding the gestation period for registration, 20.8% properly stated first trimester, while 21% correctly responded third trimester. More than half (58.2%) believed that going to a health care facility should only be done if there was a complication.

Table I: Prejudices regarding antenatal care among expectant fathers on pregnant women.

CATEGORIES OF PREJUDICES	FREQUENCY (F)	PERCENATGE (%)
Strongly Agree	**32**	**32**
Agree	22	22
Neutral	26	26
Disagree	12	12
Strongly Disagree	8	8
TOTAL	100	100

A substantial percentage of expectant fathers (82%) thought regular antenatal visits and ultrasound measurement during antenatal care were necessary, and over 80% of wives were aware of the necessity for vitamin, iron, and folic acid supplements antenatally. While half of the women knew that blood pressure and weight were taken at every antenatal visit, the other half didn't. 85% of spouses believe that with strong family support, a woman can deliver in an institutional setting (Table II). A total of 48% of expectant fatherseffectively practised antenatal care, 30%were irregular, and 22% were ineffective in practised (Table III). The mean of antenatal care prejudices among expectant fathers is 26.6, with a standard deviation of 6.679. The mean level of prenatal care practise among expectant fathers is 24.3, with a standard deviation of 7.4 (Table IV). Work schedules (48%), family pressure (23%), culture (12%), peer pressure (11%), and societal issues were all cited as reasons for men not attending their spouses to the hospital (6%) (Table V).

Table II: Level of Practices regarding antenatal care among expectant fathers

ITEM	LEVEL OF SCORE ON PRACTICE	
	YES	NO
Regular antenatal visits and investigations	82(82%)	18(18%)
It is necessary to go for ANC even if there is no complication	73(73%)	27(27%)
Full course of TT	79(69%)	21(31%)
Vitamin, Iron and folic acid supplementation	80(80%)	20(42%)
Attending antenatal classes	40(40%)	60(60%)
Maintain prompt hygienic practices	67(45%)	33(20%)
Aware of danger signs of pregnancy	55(55%)	45(45%)
Institutional delivery	85(85%)	15(15%)
Paternity leave	78(78%)	22(22%)

Table III: Level of Practices regarding antenatal care among expectant fathers

LEVEL OF SCORE ON PRACTICE	FREQUENCY(F)	PERCENTAGE (%)
a) Effective	48	48
b)moderate	30	30
c) Ineffective	22	22
Total	100	100

Table IV: Mean and standard deviation of categories of prejudices and level of practice

CATEGORIES	MEAN	STANDARD DEVIATION (S.D)
Categories of prejudices	26.6	6.679
Level of practices	24.3	7.4

Table V: Reasons for not accompanying wife in antenatal care according to expectant fathers.

Criteria	No of participants
Reasons for not accompanying wife in antenatal care	
Job	48
Family	23
Culture	12
Peer pressure	11
Other social factors	6
Total	100

DISCUSSION

In this study, we discovered that educated prospective fathers were more knowledgeable about the health care of pregnant women. It is expected that educated males will be more conscious of their own and the health status of their family and seek out more information on health care. Those who lived in nuclear homes had slightly better antenatal care knowledge. In a study conducted in West Bengal, it was discovered that in a nuclear family, antenatal care was much better (5).

In this study, we discovered that the majority of pregnant dads enthusiastically agreed to participate in antenatal care despite their lack of understanding. But awareness of pregnancy danger indications was very poor. Husbands' education and career were the factors that influenced their attitudes about prenatal care. Similarly, Mullany (6) discovered that the most significant obstacle

to male involvement in maternal health was occupation. In our survey, 82% of expectant men believed that their primary responsibility was to offer financial assistance to their families rather than to participate in birthing preparation. Wai et al. (7) came up with a similar finding. They conducted a cross-sectional study on husbands and discovered that while the majority of husbands financially supported their wives' maternal care services, they were less involved in birth preparation and postnatal care. Knowledge of maternal health and exposure to maternal health education was necessary. Expectant fathers who did not attend regular antenatal sessions cited a lack of necessity (30.8%), transportation issues (26.3%), and family resistance as excuses (2.9%). In a research conducted in Jaipur, the reasons for not attending antenatal care on a regular basis were dependency on family members (26.5%), transportation issues (20.6%), and the exhausting nature of the process (20.6%). The majority of the women (79%) had received two TT doses during their pregnancy (8). It was found that presence of men during ANC visits were challenged by structural and local cultural norms (9,10). Another research also found that counselling reduced state anxiety in expectant fathers (11).

Prejudices toward antenatal care of pregnant women were shown to be significantly low among prospective fathers in our study. The number of women who received good prenatal care was rather low. Only 20% of men wanted to accompany their women to maternity care, but 94% believed that other family members may accompany them to periodic check-ups. Work schedules (48%), family pressure (23%), culture (12%), peer pressure (11%), and societal issues were all cited as reasons for men not attending their spouses to the hospital (6%). This discovery is in.line with Sanjel et al., (2011) findings in Nepal found that the most common reason for not attending ANC was financial difficulties (12).

CONCLUSION

In our study, prospective dads' attitudes of antenatal care were shown to be favourable. They must, however, be inspired to put that knowledge into practise. More instructional and motivating surveys should be conducted in outlying health-care institutions, and such surveys should include views of the wives. In our country, many ANC programmes are being held, but much more is needed to be done.As expectant fathers are the ones who influence health-care decisions in their families, a shift in their mindset can make a big difference, resulting in early registration, early detection of problems, and timely management. Paternity leave information, education, and communication efforts should be improved on Antenatal care through community campaigns and mass media such as local television channels, radio, and local newspapers to raise community, spousal, and family knowledge.

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Strategies for Improving Oral Health Conditions in Senior Patients

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Abstract

Oral health refers to the condition of gums, teeth and the entire "oral-facial system" which need proper care. Several oral health problems are identified in senior patients who are discussed in this study. It is identified that xerostomia, periodontal disease, cancerous conditions, tooth loss, oral precancerous and dental caries are some of the common oral health problems among senior patients. Identifying potential strategies to reduce these issues and improve oral health of senior patients is the main purpose of this study. Several articles are observed for gaining more and more information about the oral health conditions of senior patients. The articles and journals have provided information about the most common oral health diseases in seniors and particular causes of having these problems. Considering this, reviewing articles and journals refers to the use of secondary methods which led to the collection of some subjective data. As a result it is identified that fluoride is very good for oral health, therefore senior patients need to use fluoride toothpaste as well as they need to brush twice daily. Furthermore, proper care from dentists and floss between the teeth is another strategy for improving oral health of the senior patients.

Keywords: oral health, senior patients, dental issues, fluoride toothpaste.

1. Introduction

1.1 Background of the Study

Oral health is an indicator of the entire health condition, quality of life, and well-being. In the oral health system, people have faced some common diseases such as cavities, oral cancer, and gum. In 2015, the World Health Organization (WHO) noticed that oral health is one of the most crucial neglected areas of older people that reduce life expectancy rate. Global survey has indicated that 5-30% older people faced deep periodontal pockets issue [1]. Based on that, proper care of the oral health system has provided better life to the senior people. According to that, this study evaluates effective strategies for improving oral health conditions in senior patients.

1.2 Aim and Objectives

The aim of this research article has helped to Moreover, the aim of the research has helped to complete the study with proper information. According to that, the main aim of this research article is to identify appropriate strategies for improving oral health conditions in senior patients.

- To discuss common oral health disease of senior patients that create health difficulties
- To analyze importance of oral health prevention of senior patients
- To evaluate suitable strategies for improvement of oral health in senior patients

Oral Health Issues in Senior Patients

Oral and dental health is one of the most essential parts in the overall health of older patients. Most of the senior patients have suffered from different oral issues such as gum, cavities, and oral cancer due to poor oral hygiene. One of the most common oral issues of senior patients is gum disease. Globally, a high percentage of senior patients have suffered from gum disease. In the US, about 68% of adults

most common oral health disease is tooth loss. As per the global survey, 1 in 5 older adults have lost all of their teeth under the age of 65 or above. Complete teeth loss or wearing dentures has affected on the nutrition of senior patients as dentures only prefer easily and soft chewed foods instead of hard foods. Based on that, older people face difficulties eating fresh vegetables and fruits that reduce helath efficiency.

Oral cancer is another issue of older people that reduces the life expectancy rate of senior patients. "American Cancer Society" reported that more than half of oral cancer patients are less than 65 years old and older. Untreated tooth decay is an oral health issue of senior patients. In US, nearly, 96% adults of fewer than 65 aged and older have issues of cavity and 1 in 5 of older have untreated tooth decay issue [3]. Moreover, there are some other oral diseases that are faced by the senior patients such as periodontal disease, dental caries, xerostomia, and others. Xerostomia indicated issues of dry mouth of older people. This issue refers to the condition of salivary glands that fails to make enough saliva in the mouths of older people. Additionally, oral sensitivity is another common oral issue of older aged people.

Causes of Oral Health Issues in Senior Patients

Oral health issues are a common health disease of senior patients that lead to life risks. Oral health problem of senior patients mainly raised by several causes such as plaque and food left in teeth, poor diet, uses of tobacco, and others. Oral cavity is one of the most effective issues of senior patients that collects sorts of viruses, bacteria, and fungi. Moreover, some of the viruses belong in the mouth and make up normal flora [4]. These floras are generally harmless, but a diet of high sugar creates the conditions of "acid-producing bacteria". This bacterium dissolves the tooth enamel and leads to dental cavities. On the other hand, bacteria near the gum line thrive called a plaque. In the oral health system, plaque accumulates, migrates, and hardens down the length of the tooth [5]. This oral issue inflames the gums and leads to the condition of gingivitis. Increased inflammation in the oral system of senior patients causes gums and begins the pockets in the teeth's. On the other hand, common causes of oral issues of older people are smoking and consumption of alcohol has reduced strength of the teeth. Based on that, consumption of alcohol and smoking has increased teeth loss of the senior patients.

Another common cause of oral issues in senior patients is poor brushing habits. Most of the senior people faced oral issues due to maintaining poor hygiene and brushing of the teeth. Chronic disease is another cause of oral issues in senior patients. Diabetes, arthritis, "Chronic Obstructive Pulmonary Disease (COPD)", has developed gum disease among the older people. Medication is another America most of the older people prescribed medication that leads to dry mouth that reduces flow of saliva in mouth that increases risk of cavities. There are other several reasons that lead to oral issues of senior patients such as frequent snacking drinks, and foods, hormonal change of women, frequent vomiting, and others. Additionally, family history or genetic issues is another common cause of oral issues of senior people.

2. Methods and Materials

In the research study, methodological discussion has helped to identify appropriate techniques and tools for analysis of the data and information. In the methodological part, research philosophy and design plays the most crucial role to identify appropriate research frameworks [7]. Research philosophy and research design mainly depends on the research topic of the article. In research methodology, research philosophy has helped to choose proper data collection tools that helped to gather data about the research study. In this regard, based on the research topic this research article has selected "positivism research philosophy" to identify data gathering processes [8]. Moreover, this research study has chosen "descriptive research design" to evaluate the data of the study [21].

In methodology, data collection has helped to gather information about the research. In research study, two types of data gathering techniques have been used: one is primary, and another is secondary [9]. As per the research topic, this study has selected "secondary qualitative data collection" techniques to gather information. In data collection, this study has included information from "research articles, books, journals, and authentic websites" that were published 5 years ago. In methodology, data analysis is another crucial part of research that helps to represent findings. Based on the "data collection techniques" this research study has selected "secondary qualitative data analysis techniques". In this regard, this study includes "thematic analysis" to evaluate the result of the research.

3. Results

Thematic analysis

Theme 1: Effect of oral health disease in senior patients

Oral health disease is a detrimental factor of nutrition that declines the overall status of the health of senior patients. Aging and oral health issues are correlated with each other significantly, indicating different dental issues. Moreover, aging is associated with some common dental issues such as dry mouth, periodontitis, increased sensitivity, and tooth loss as well. In developing countries, oral disease is a life-threatening issue that reduces the quality of life of the people [10]. Oral disease is a detrimental factor of nutritional status and health of the senior people.

habits of senior patients. One of the most common oral issues of senior patients are teeth loss that create problems for the older patients to consume hard foods. On the other hand, disorders of oral issues such as cavities indicated poor eating habits of older people [11]. The older patients mainly faced issues of "loose painful teeth or ill-fitting dentures' ' that decline the ability of eating of the senior people. Moreover, oral issues of senior patients have reduced basal metabolic rate and "lower exercise levels and lean muscle mass". According to that, oral issues of senior patients have declined the overall physical strength of the older people.

Theme 2: Significance of oral health prevention for senior patients

Oral health in an important part of general health but maintaining oral health is difficult for the older age people. Aging has changed oral mucous membranes that indicate health issues of the older people. The performance of oral mucosa is one of the most protective functions that impact the general health and well-being of the older people [12]. In this regard, decline protective barriers function of oral mucosa expose the oral cavity through daily activities. Based on that, oral care and prevention is one of the most significant parts of health improvement for senior patients. Moreover, oral issues affect negatively on the daily performance of older people due to reduced capacity of chewing. In this regard, oral health prevention has helped to improve the daily eating habits of the senior patients. Oral issues of older people indicated some other difficulties such as limited food choices, poor communication, weight loss, low self-esteem, and others [13]. According to that, proper care and maintaining hygiene of the oral systems of older people has helped to improve communication capability and health well-being as well.

Theme 3: Evaluation of existing initiatives and their issues

Oral health issues are common among older people, and they suffer from various types of oral health problems such as periodontal diseases or dentures as well as mouth cancers and other gum diseases. In this context, governments and healthcare sectors have adopted various types of initiatives in order to prevent these issues and improve the oral health of older patients. "The Gerontological Society of America" has recently arranged an efficient program involving proper maintenance of oral health issues among older people [14]. It has been observed that older people are the most vulnerable group to oral health issues by 2060, the number of older people will reach 98 million in the United States.

The program has been aimed to improve the oral healthcare practices of older people by integrating practitioner's researchers and policymakers. The World Health Organisation has taken several types of initiatives for preventing oral health problems, [illegible]

healthcare sector [15]. In addition, this international organisation has also recommended that governments have to ensure the adoption and maintenance of potential strategies to prevent the oral health problems of older people. These initiatives are efficient, however, lack proper maintenance and management along with lacking potential infrastructure. On the other hand, older people lack proper knowledge and awareness of the importance of oral health which is also a barrier to implementing these initiatives effectively.

Theme 4: Potential strategies to prevent oral health issues among senior patients.

It is identified that oral health issues are common among older people who enhances their health complexity. Different strategies to prevent oral health issues among senior patients are discussed in this section of the study. Primary prevention of oral issues refers to home-care initiatives such as using toothpaste that includes chlorhexidine and fluoride as these aspects are effective in improving oral health [16]. Apart from that, technology-based tooth brushing programmes can also be used as primary prevention strategies. Senior patients need to visit the dentist at least once a year for early detection and prevention of oral diseases. Along with that, the oral health of senior patients requires extra care for preventing common issues regarding oral health. Senior patients should be recommended to drink fluoridated water as fluoride is immensely important for good oral health among older people.

4. Discussion

In the following study, a secondary qualitative data collection approach has been used and the outcomes of the data collection procedure reveal that the condition of oral health is consequently worse among older people. Older aged patients suffer various types of oral health issues including mouth cancer, periodontitis, sensitivity and dry mouth. On the other hand, tooth loss is among the most common oral health issues for older people. It has been identified that older health issues are common for patients aged 65 or older than that [17]. Additionally, maintaining oral hygiene properly can prevent these issues and risks by improving the condition of oral health among older adults. However, having severe oral health problems can affect the health and nutritional aspects of these people as it poses a direct impact on their eating habits.

These oral issues have a major impact on the health and nutrition of older adults as tooth loss has the potential to change eating habits and preferences. Along with that, these issues also impact daily eating and nutrition performance by decreasing chewing capability. The percentage of older people is increasing rapidly throughout the world as well as the rate of increasing healthcare issues, including oral health problems. In addition, it has been observed

have been focused on retaining teeth which has the potential to affect their "daily oral hygiene" [18]. Several important factors have been identified impacting oral healthcare habits of older people, including "social context", motivation, "oral functions" and "cognitive factors". Having severe oral health issues can affect cause difficulty in eating, quality and status of nutritional status and quality of daily life.

Oral healthcare issues, being common among older adults, several efficient initiatives and actions have been taken by the healthcare sector, governments and international humanitarian organisations. The main purpose behind these initiatives is to create awareness of the significance of oral healthcare, improve the oral healthcare habits of older people and prevent common issues and diseases. It has been observed that increasing oral healthcare issues among senior citizens can lead to "non-communicable diseases" and an inability to self-care [19]. Regarding this, it can be stated that preventing these issues by creating awareness of potential oral care habits and improving oral healthcare conditions among older adults is vital. Considering the increasing rate of ageing people in the USA, "The Gerontological Society of America" has taken an effective initiative and launched a program recently. The main purpose behind the implementation of this program is to create awareness and increase the integration of potential infrastructure and suitably skilled and experienced persons.

The World Health Organisation has been focused on developing collaboration and integration between governments and other organisations for developing and implementing suitable strategies and initiatives. However, several loopholes in these initiatives have been observed including lacking proper maintenance and infrastructure along with lacking proper awareness among older people. It has been identified that the oral healthcare sector has been unable to prevent these issues thoroughly which has influenced a dramatic growth of dental problems [20]. In this context, creating awareness among older people for improving their oral healthcare habits can be an effective solution. Therefore, older people can use toothpaste consisting of fluoride and chlorhexidine along with using technological programming for tooth bruising can be another efficient solution. In addition, regular visiting the dentist and taking proper care will help to reduce these issues. Adopting these practices and creating awareness through efficient government initiatives can improve3 the context of oral healthcare among older people.

Conclusion and Recommendation

This study has been focused on assessing the oral health problems of older patients and recommending suitable strategies for preventing the issues. Older patients have been identified to be the most impacted group for suffering oral health most common issues for older people, while periodontitis, mouth cancer and increased sensitivity are other significant oral health issues of these people. It has been identified that suffering from oral health issues impacts the eating habits of these people and poses a vital impact on their nutritional and health status. Ageing changes several types of demographic and health factors that directly influence complex health problems including oral health issues.

Effective recommendations have been proposed including using toothpaste containing chlorhexidine and fluoride as well as brushing twice every day. Thus, this study has provided efficient insights into the current state of oral health conditions of older people and the required strategies to prevent these issues. A secondary qualitative data collection method has been followed and existing data from journals, newspaper articles and other reliable websites have been collected. Using a primary data collection method by conducting a survey or interviews directly with the patients and healthcare personnel can provide more effective insights associated with the required improvements of the existing initiatives and strategies.

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Assessment of Cognitive Behaviour Therapy utility on emotional and social well beingness among women with surgical menopause

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ABSTRACT

Background: Surgical menopause is the emergency procedure to be carried out in a woman when it is essential due to reproductive pathology. The post-surgical consequences should be monitored and controlled effectively with various intervention protocols. Cognitive-behavioral therapy is one of the commendable protocols to improve the emotional and social profile in women with surgical menopause.

Objective: To find the effectiveness of Cognitive Behavioural Therapy on emotional and social wellbeing among women with surgical menopause.

Material & methods: It is a randomized controlled trial carried out in 230 women who have undergone surgical menopause. The participants were randomly allocated into the intervention and control groups. After obtaining demographics, CBT intervention was introduced - Cognitive Behaviour Therapy program-, which lasted seven months and included all six sessions. The pre and post-test questionnaires were obtained using the Emotional well-being scale and social concern scale respectively from both groups.

Results: The scores were significantly improved after intervention, in the experiment group, in pretest, the mean score was 9.45 and the post-test mean score was 14.18, the mean difference is 4.73 whereas, in the control group, the mean score of 9.06 and the post-test mean score was 9.41, the mean difference is 0.35 for social wellness. Posttest emotional wellness level was increased to 23.65%. Whereas in the control group, the posttest increased to 2.25%.

Conclusion: The CBT is an effective therapeutic intervention to improve social and emotional wellbeing among women with surgical menopause.

1. Background

Menopause is the natural consequence in a female associated with physiological changes that occur in bodily systems that significantly influence the eminence of women's life. Surgical menopause is an invasive emergency procedure in which the female gonads are removed (Oophorectomy).[1] The Australian Menopause Society (AMS) suggested the bilateral oophorectomy before attaining natural menopause-like ovarian cysts, benign ovarian tumors, and ovarian torsions.[2,3] The adversative effects of prophylactic oophorectomy are hormone deficiency-related symptoms, increased risk of attaining certain diseases, and amplified morbidity and mortality.[4,5] There is a large scale of post-menopausal consequences which would transform the women's lifestyle. These include physical, emotional, and systemic changes that compromise the homeostatic mechanisms in day-to-day life activities.[6] Unfortunately, emotional alterations accompanying the longstanding

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lack of ovarian hormones may destabilize women with unstable psychiatric axes and emotional disturbances that significantly impacted their quality of life.[7,8] Depression seems to be increased due to the decline in estrogen levels and its impact on other neurotransmitters. 2.52 lakhs of women with untreated hot flashes were associated with non-symptomatic women.[9] The women with hot flashes displayed work-loss over one year period and 1.1 million accessory medical advice, and a health insurance huge cost.[10] Hormone replacement therapy (HRT) has been administered and considered a gold standard regimen to reduce the post-menopausal consequences.[11] The supplementation of Estrogen and Progesterone would be beneficial, but progressively Estrogen binding protein (EBP) increases during the initial days.[12] This would decrease the bioavailability of active hormones and immensely affects the physiological actions of Estrogen.[13] Various intervention protocols have been proposed to control the post-surgical menopause consequences other than HRT. Cognitive Behavioural Therapy (CBT) is one of the effective non-invasive intervention protocols to improve the quality and to reduce the symptoms of surgical menopause especially the psychological concerns of the women.[14] There are lacunae in the literature using CBT for effective control of post-menopausal symptoms. Therefore, the current study was intended to find out the effectiveness of CBT to ameliorate emotional and social wellbeing among women with surgical menopause .

2. Materials & methods

2.1. Study population

The researchers conducted a randomized controlled trial with 230 women aged 25 to 55 who had a surgical hysterectomy. The host institute's Institutional Ethics Committee examined and approved the complete procedure. The participants underwent complete general medical examinations and had their medical histories taken. Participants were ruled out if they had a well-known psychiatric problem, a history of hysterectomy with malignancy, or were on HRT. Subjects who met the inclusion criteria were explained the study's nature and purpose, and informed consent was obtained under the Helsinki Declaration of 1975 and its amendments. Demographic variables of the study are age, level of education, occupation, residence, marital status, duration of the marriage, level of husband's education, parity, any co-morbid illness, past menstrual problem, family history of surgical menopause, and reason for surgical menopause.

2.2. Allocation of participants

Simple randomization was used to assign participants to the intervention and control groups in a 1:1 ratio. The study included 230 women who met the requirements out of 320 who were screened. After that, participants were randomly assigned to one of two groups: the CBT intervention group (n = 115) or the control group (n = 115).

2.3. Intervention protocol

CBT (Cognitive-behavioral therapy) is a psychological process that aims to condense distress and dysfunction by exploring the user's integration of thoughts, feelings, and behavior with more positive and acceptable outcomes, which leads to the alleviation of psychiatric problems in a variety of conditions (Trower et al., 1988; Vonk and Early, 2009).[15,16] The total data collection period was for nine months. As a part of the preliminary assessment, a pretest was done for both the experimental and control group. During the intervention, Psychoeducation, Formulation, Behaviour-Emotional-Cognitive Connection, Behaviour Therapy, Cognitive restructuring, and Relapse prevention were all part of the Cognitive Behaviour Therapy program, which lasted seven months and included all six sessions. Each session was taught to them daily for six days, and it was mixed with the group and individual sessions depending on the nature and demand of the technique. Each group of participants was given two months to practice the sessions. During this time, the participants were directly and telephonically monitored. In addition to CBT sessions for each group, a posttest was administered to those who had completed two months of practice. In the ninth month, the control group underwent a post-test using the same tool.

2.4. Outcome measurement

All the demographic variables were obtained from each participant before the CBT intervention protocol. The emotional wellness and social changes scores were collected using the Emotional wellness scale, Post-surgical social concern scale, respectively, before and after the intervention. These scales include the Likert summated scale with multiple options. Based on the scores, the participants can be categorized into various groups. The trained faculty did the data collection from the psychiatry department of the host institute.

2.4.1. Emotional wellness scale

This scale is a self-report measure of the emotional dimension of wellness. The total number of items in the questionnaire is 10. A three-point Likert scale is used. The scoring for 10 questions is 0,1, 2 respectively. The highest possible total score for the whole test would be twenty. This would mean the participant circled number two on all ten questions. Since the lowest possible score for each question is zero, the lowest possible score for the test would be zero. The total score reflects the level of emotional wellness dimensions among surgical menopause women. The scores were categorized as 15 to 20 Points - Excellent strength in this dimension, to 14 Points - There is room for improvement and 0 to 8 Points - This dimension needs a lot of work.[17]

2.4.2. Post-surgical social concern scale

It is the scale developed to measure social anxiety-related cognition. Psychometric properties were obtained in all participants to evaluate the social anxiety concerns of the patient.[18] The scores help to categorize as 1–7: Considered Normal, 8–15: Mild problems, 16–23: Moderate problems, and 24–30: Severe problems.

3. Statistical analysis

The data sets were expressed in a descriptive and inferential manner. All the data sets were analyzed using SPSS (Ver. 16). The normality of data was tested using the Smirnov Kolmogorov test. As the data sets were skewed, non-parametric tests were applied to determine the differences between pre-post-intervention.

4. Results

Table 1 shows the demographic information of the participants. The individuals in both groups were between the ages range between 25 and 55. In the experimental group, 53.91% of women experiencing surgical menopause were between the ages of 37 and 42. Around 62.6% of postmenopausal women in the control group were between the ages of 37 and 42. In the experimental group, 61.74% of women who had surgical menopause only had a high school education. In the control group, almost 61.74% of postmenopausal women had only an elementary education. In the experimental group, 65.21% of women with surgical menopause were housewives, whereas, in the control group, 72.17% of postmenopausal women were housewives. In the experimental group, 90.43% of women with surgical menopause were married, whereas, in the control group, 95.65% of postmenopausal women were married. In the experimental and control groups, respectively, 79.13% and 86.96% of women undergoing surgical menopause had 1-3 children. Heavy monthly bleeding was a rationale for surgical menopause in 47.83% of women with surgical menopause and 60.87% of women with surgical

Table:1
Demographic variables among women in both groups.

	Experimental group		Control group	
	No. of. women with surgical menopause (115)	Percentage (%)	No. of. women with surgical menopause (115)	Percentage (%)
Age				
25 -30	6	5.22	3	2.61
31 -36	30	26.09	27	23.48
37 -42	62	53.91	72	62.60
43 -48	12	10.43	10	8.70
49 -55	5	4.35	3	2.61
Level of Education				
No education	12	10.43	9	7.83
Primary education	71	61.74	71	61.74
Secondary education	21	18.26	24	20.86
Graduate	6	5.22	8	6.96
Postgraduate	5	4.35	3	2.61
Occupational status				
Coolie	25	21.74	25	21.74
Housewife	75	65.21	83	72.17
Government employee	5	4.35	3	2.61
Private employee	10	8.70	4	3.48
Marital status				
Married	104	90.43	110	95.65
Single	0	0.00	0	0.00
Divorced	2	1.74	2	1.74
Widow	9	7.83	3	2.61
Parity				
Nullipara	7	6.09	3	2.61
1-3 children	91	79.13	100	86.96
More than 3 children	17	14.78	12	10.43
Reason for surgical menopause				
Heavy bleeding	55	47.83	70	60.87
Fibroid	29	25.22	23	20.00
Family history of ovarian cancer	8	6.96	5	4.35
Pelvic inflammatory disease	3	2.61	3	2.61
Endometriosis	4	3.48	7	6.09
Uterine prolapse	16	13.91	7	6.09

menopause in the control group.

The difference in the experimental and control groups' emotional wellbeing scores at the beginning of the study. In the experimental group, 44.35% of them have a score of Needs a lot of work, 55.65% have a score of Room for Improvement, and none have a score of Excellent. In the control group, 49.57% had a score of Needs a lot of work, 50.43% had a score of Room for Improvement, and none had an Excellent score. "There is no substantial difference between the experimental and control groups,". As a result, the two groups are discovered to be homogeneous as shown in fig. 1. The difference in emotional wellbeing score between the experimental and control groups at the posttest. The experimental group contained no participants who scored Needs a lot of work, 41.74% who scored Room for Improvement, and 58.26% who scored Excellently. In the control group, 43.48% had a Needs a lot of work level of the score, 56.52% had Room for Improvement level of the score, and none had an Excellent level of score. "There is a considerable difference between the experimental and control groups," according to statistics as shown in table no:2(Fig. 5).

The social concern scale of both groups and pretest shows "There is no substantial difference between the experimental and control groups,". As a result, the two groups are discovered to be homogeneous as shown in table no:3. The difference in the experimental and control groups' post-test levels of the post-surgery social changes scale score. In the experimental group, 59.13% of the participants have a normal level of the score, 40.87% have a mildly affected level of the score, none have a substantially affected level of the score, and none have a severely affected level of score. Hence, the two groups are found to be homogenous as shown in fig. 2 The difference in the experimental and control groups' post-test levels of the post-surgery social changes scale score. In the experimental group, 59.13% of the participants have a normal level of the score, 40.87% have a mildly affected level of the score, none have a substantially affected level of the score, and none have a severely affected level of score (Fig. 3). None of the participants in the control group have a normal level of the score, with 50.43% having a mildly affected level of the score, 49.57% having a moderately affected level of the score, and none having a severely affected level of score (Fig. 4). "There is a considerable difference between the experimental and control groups," as shown in tables no: 4 &5(Fig. 6).

5. Discussion

The goal of this study was to see how Cognitive Behavioural Therapy (CBT) impacted the emotional and social wellbeing of women with surgical menopause. After CBT therapy, emotion levels and social wellbeing levels were found to be significantly improved.

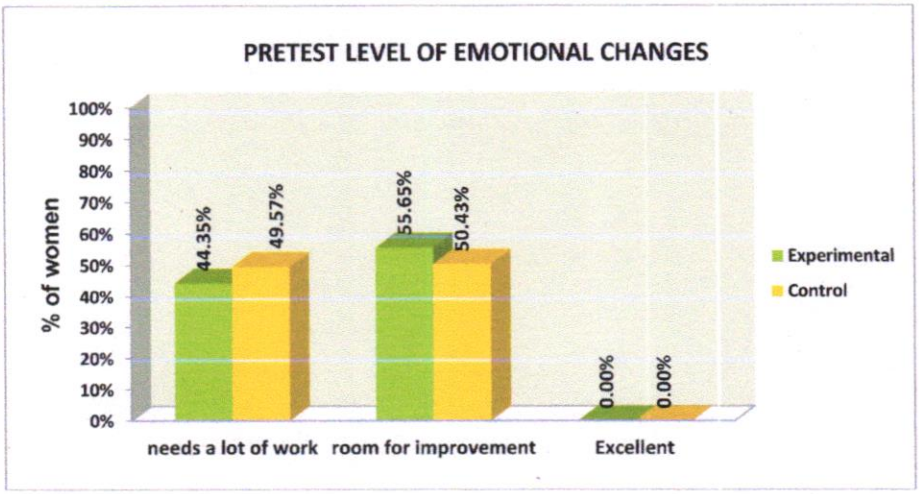

Fig. 1. Distribution of pretest level of emotional changes among women with surgical menopause.

Table 2
Distribution of pretest and posttest level of social changes among women with surgical menopause (n = 230).

Level of post-surgical social changes	Experimental				Control				Chi-square test
	Pretest		Posttest		Pretest		Posttest		
	n	%	n	%	n	%	n	%	Pretest
Normal	0	0.00	68	59.13	0	0.00	0	0.00	$\chi2 = 1.82$
Mild affect	43	37.39	47	40.87	52	45.22	58	50.43	P = 0.40
									DF = 3(NS)
Moderate affect	70	60.87	0	0.00	60	52.17	57	49.57	**Posttest**
Severe affect	2	1.74	0	0.00	3	2.61	0	0.00	**$\chi2 = 126.15$**
Total	**115**	**100**	**115**	**100**	**115**	**100**	**115**	**100**	**P = 0.001*** **
									DF = 3(S***)

NS = not significant DF = Degrees of Freedom P > 0.05 not significant, ***p ≤ 0.001very high significant.

Table 3
Distribution of pretest and posttest level of emotional changes among women with surgical menopause (n = 230).

Level of emotional wellness	Experimental				Control				Chi-square test
	Pretest		Posttest		Pretest		Posttest		
	n	%	n	%	n	%	n	%	Pretest
Needs a lot of work	51	44.35	0	0.00	57	49.57	50	43.48	$\chi2 = 0.63$
									P = 0.43
									DF = 2(NS)
Room for improvement	64	55.65	48	41.74	58	50.43	65	56.52	**Posttest**
Excellent	0	0.00	67	58.26	0	0.00	0	0.00	$\chi2 = 119.55$
Total	**115**	**100**	**115**	**100**	**115**	**100**	**115**	**100**	P = 0.001***
									DF = 2 (S***)

NS = not significant DF = Degrees of Freedom P > 0.05 not significant, ***p ≤ 0.001very high significant.

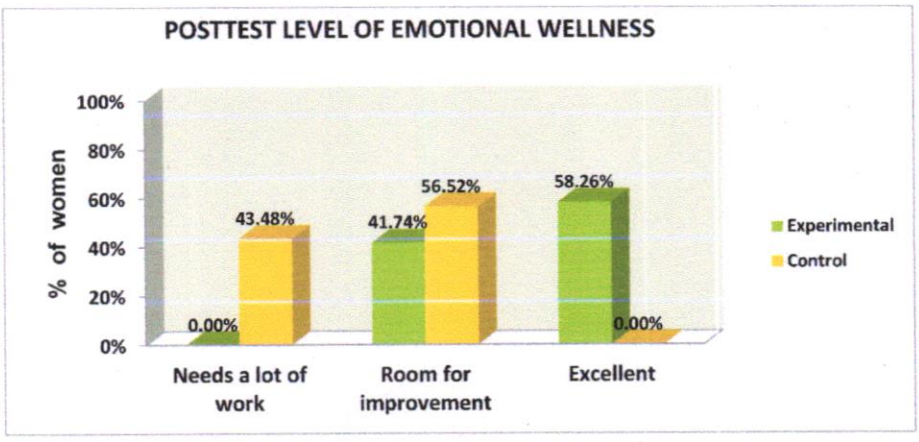

Fig. 2. Distribution of posttest level of emotional changes among women with surgical menopause.

The pathophysiology that happens as a result of menopausal symptoms can increase the risk of disease in the future.[19] Hot flashes were linked to a higher incidence of insulin resistance and glucose levels, according to the Study of Women's Health Across the Nation (SWAN). Severe heat flashes were "robustly" associated with increased intima media-thickness (IMT), a key indicator for subclinical cardiovascular disease, according to the SWAN scientists. More frequent and severe symptoms were linked to an increased risk of hypertension, cardiovascular disease, and stroke in the Women's Health Initiative Study (WHI). Following the onset of surgical menopause symptoms, 85% of the women received estrogen medication. Among these women, those who began treatment within five years of surgery and continued for more than ten years had the lowest risk of Alzheimer's disease.[20]

Cognitive-behavioral therapy (CBT) is a comprehensive, sophisticated, and emerging treatment approach that has been developed for and applies to a wide range of mental health and physical issues and diseases. CBT has evolved into one of the most well-known forms of psychotherapy since its inception in the 1970s, and it is widely distributed and used all over the world. The American Psychiatric Association, the Australian Psychological Association, the British National Institute for Clinical Excellence, and many others in different areas of the world have all recognized CBT as an evidence-based treatment for a wide range of problems.[21] CBT aims to control the thoughts, feelings, and behaviors of the individual which is essential to improve in women with surgical menopause.[22] The CBT intervention has proved that the emotional wellbeing score in the Experiment group, on average, in posttest after having an intervention, emotional wellness level is increased to the mean % of 23.65% % than pretest score. Whereas in the control group, on average, in posttest with routine, women emotional wellness level is increased to the mean % 2.25% than pretest score. This difference shows the effectiveness of Cognitive Behaviour Therapy on emotional wellness, differences, and generalization of reduction between pretest and posttest scores. Similar results were also observed for social well-being in the Experiment group, on average, in the posttest after having an

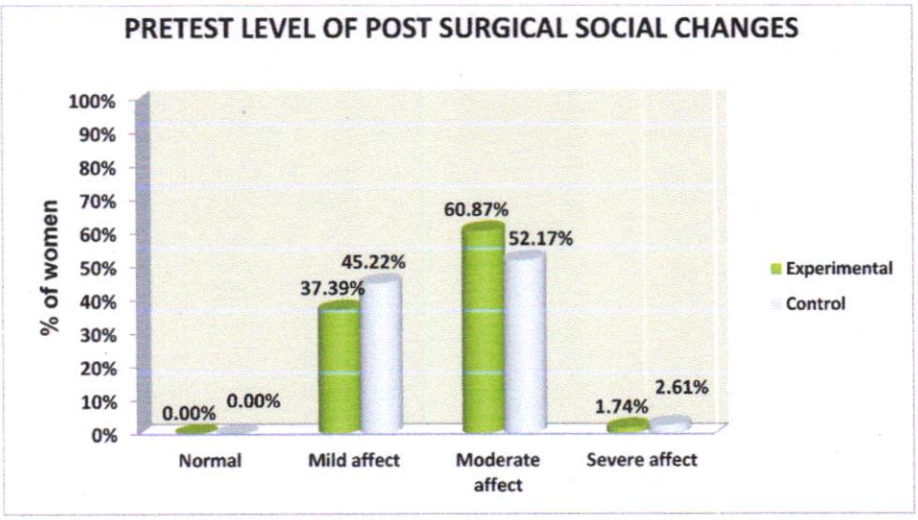

Fig. 3. Distribution of pretest level of social changes among women with surgical menopause.

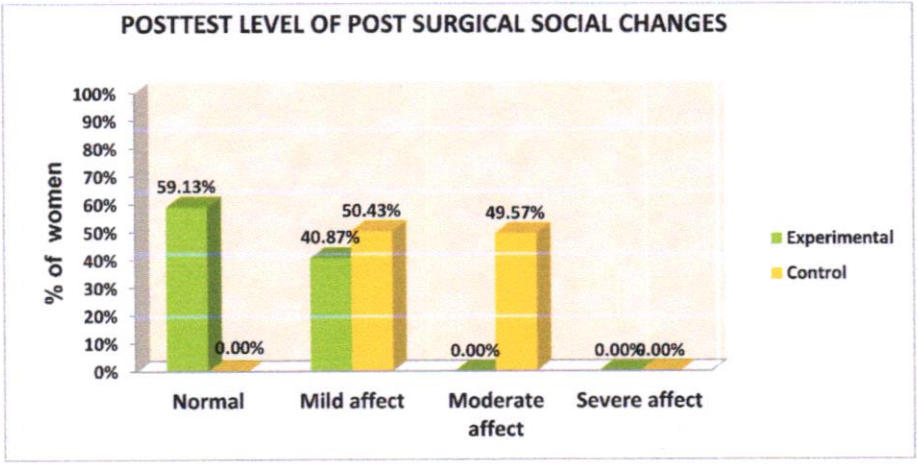

Fig. 4. Distribution of posttest level of social changes among women with surgical menopause.

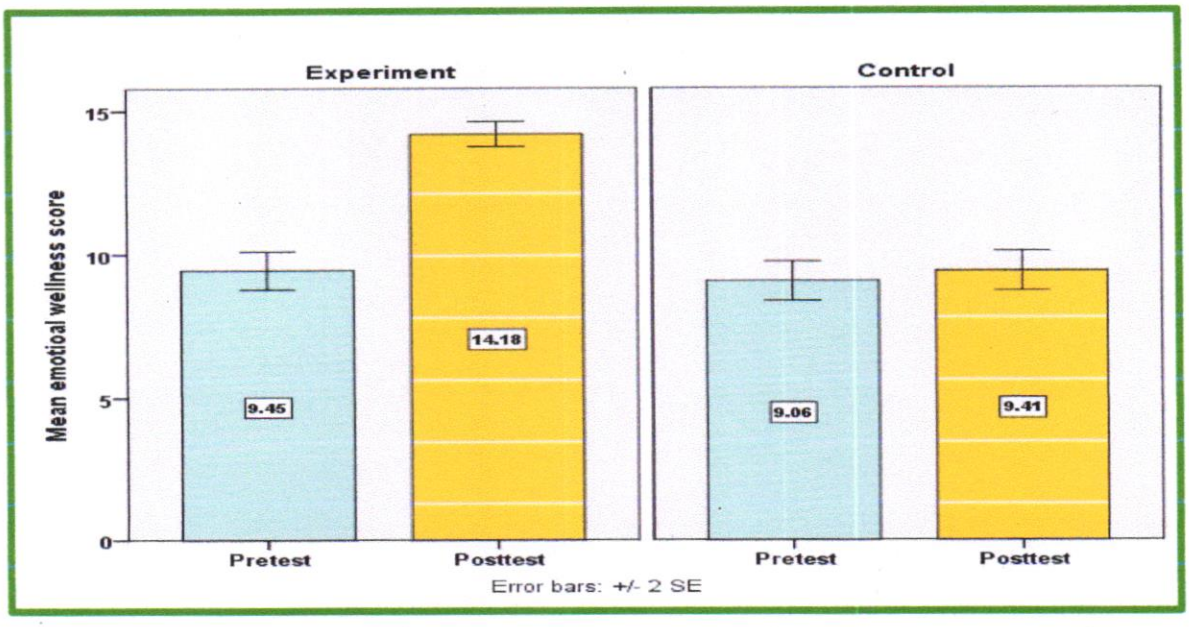

Fig. 5. Effectiveness of cognitive behavior therapy on emotional changes among women with surgical menopause.

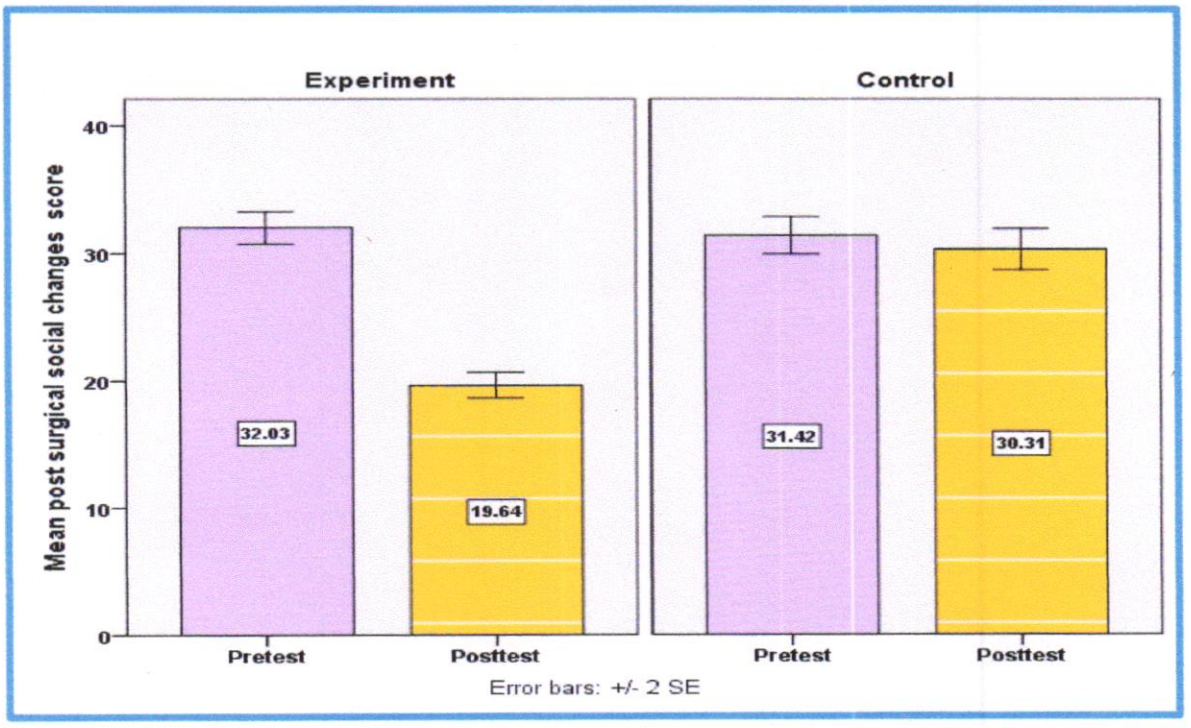

Fig. 6. Effectiveness of cognitive behavior therapy on post-surgical social changes among women with surgical menopause.

Table 4
Effectiveness of cognitive behavior therapy on post-surgical emotional changes among women with surgical menopause (n = 230).

Group	Test	Max score	Mean score	%Mean score	Mean emotional Wellness gain score with 95% Confidence interval	Percentage of emotional Wellness gain score with 95% Confidence interval
Experiment	Pretest	20	9.45	47.25%	4.73	23.65% (20.95%–26.35%)
	Posttest	20	14.18	70.90%	(4.19–5.27)	
Control	Pretest	20	9.06	45.30%	0.45	2.25%
	Posttest	20	9.41	47.05%	(-0.01 – 0.71)	(-0.05%–3.55%)

Table 5
Effectiveness of cognitive behavior therapy on post-surgical social changes among women with surgical menopause (n = 230).

Group	Test	Max score	Mean score	%Mean score	Mean post-surgical social changes reduction score with 95% Confidence interval	Percentage of post-surgical social changes reduction score with 95% Confidence interval
Experiment	Pretest	60	32.03	53.38%	12.39	20.65% (17.95%–23.36%)
	Posttest	60	19.64	32.73%	(10.77–14.02)	
Control	Pretest	60	31.42	52.37%	1.11	1.85%
	Posttest	60	30.31	50.51%	(-0.06 – 2.27)	(-0.10%–3.78%)

intervention, the level of the social change is reduced to the mean score of 20.65% than the pretest score. Whereas in the control group, on average, in posttest with routine, women with post-surgical social changes are reduced to the mean score of 1.85% than pretest score. This difference shows the effectiveness of Cognitive Behaviour Therapy on post-surgical social changes differences and generalization of reduction between pretest and posttest scores. The CBT has given enough strong evidence as treatment therapy along with HRT could be more beneficial to reduce the postmenopausal consequences.[23,24] It is a non-invasive, user-friendly protocol than any other behavioral therapy. However, further studies are warranted to increase the strength of results and to produce enough power for CBT intervention.

Conclusion

The current study reveals that cognitive-behavioral therapy is a useful intervention tool to improve the quality of emotional and social concerns level in women with surgical menopause. It is a simple, non-invasive, and effective intervention to reduce further consequences in women with surgical menopause. The study findings have to be confirmed with more sample size to rule out further about the implementation and accessibility of CBT.

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Declaration of competing interest

None declared.

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Sleep As Preamble of Optimal Health Among Elderly Hypertensive Adults

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ABSTRACT

Introduction: Healthy Aging is for everyone, not just those who are currently disease-free. Many factors influence the health of the elderly, including underlying physiological and psychological changes, health-related behaviour, disease status and also environments in which people are living strongly influence their health.

Methodology: The 240 elderlies between the age group of 60-75 years from Primary Health Centre, Muthukur, Nellore, Andhra Pradesh, India was selected as study participants by simple random sampling technique and excluded those who were mentally and physically sick at the time of data collection. The Pittsburgh Sleep Quality Index (PSQI) scale was used to collect and Sleep promoting measures were taught and followed to experimental group for the period of six months.

Results: In this study, the posttest mean PSQI sleep score among experimental group was 6.16 and control group was 7.95, with the mean difference was 1.79, as it was large and it was statistically significant difference at the value of t=3.34 at p≤ 0.001 level which indicate sleep promoting measures was effective to enhance sleep quality and to maintain normal blood pressure.

Conclusion: Compared to the control group, the experimental group's elderly had better sleep quality; hence healthy sleep promoting measures are effective to manage and to maintain normal blood pressure.

Keywords: Sleep, Optimal Health, Elderly, Adults

INTRODUCTION

Globally, populations are ageing faster than ever. Healthy Aging is for everyone, not just those who are currently disease-free. Many factors influence the health of the elderly, including underlying physiological and psychological changes, health-related behaviour, disease status and also the environments in which people live strongly influence their health.[1] The older population of India (aged 60 years and older) is envisaged in contact with 194 million in 2031 from 138 million in 2021. An increase of 41%, for more than a decade {National statistical office (NSO) in the report in India 2021}.[2] According to New World Syndrome (NWS) 2018 reports 75 of the world population are affected with lifestyle diseases. Diabetes mellitus (DM) and hypertension (HTN) have emerged as major medical and public health issues worldwide.[3]

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Effect of VAT on Figure of Eight Walking among the Adults with Hypertension

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Abstract:

Background: Physical indolence is a leading cause of morbidity and mortality and is a foremost public well-being problem. Insufficient movement is responsible for a large proportion of non-communicable illnesses such as hypertension. Regular physical activity is associated with lower blood pressure, reduced cardiovascular risk, and cardiac remodeling. This study assessed the effect of VAT on figure of eight walking among the adults with hypertension.

Objectives:

1. To assess the pre-test and post-test level of the physical activity and figure of eight walking assessment among adults with hypertension in the experimental group and control group.
2. To evaluate the effectiveness of VAT on figure of eight walking assessment among adults with hypertension in the experimental group compare to control group.
3. To associate the post-test scores of effectiveness of VAT on figure of eight walking assessment among adults with hypertension with their selected socio demographic variables.

Methods: The adults with hypertension in this cross-sectional study are from rural areas of Nellore district. A total of 300 adults with hypertension were randomly selected. Trained investigators administered a figure of eight walking assessment tool to each participant during a face to face interview and carried out data collection procedure in pretest after that video assisted teaching on figure of eight walking was shown to the experimental group and then post-test was conducted for both experimental and control group adults with hypertension like Assessment I On 30 days, Assessment II On 60 days and Assessment III On 90 days.

Results: The results shown that the comparison of pre-test, post-test 1, post-test2, and post-test 3 level of physical activity among adults between the experimental and control group. In experimental group for physical activity pre-test mean value is 1.20, SD value is 0.63. In control group pre-test mean value is 1.07, SD value is 0.54 and mean difference value is 0.13. The student independent "t" test value is 1.855, P value is 0.065 and it is not significant. In experimental group post-test 1 mean value is 1.35, SD value is 0.48. In control group post-test 1 mean value is 1.03, SD value is 0.48 and mean difference value is 0.32. The student independent "t" test value is 5.647, P value is 0.0001 and it is significant. In experimental group post-test 2 mean value is 1.61, SD value is 0.49. In control group post-test 2 mean value is 0.99, SD value is 0.54 and mean difference value is 0.62. The student independent "t" test value is 10.457, P value is 0.0001 and it is significant. In experimental post-test 3 mean value is 1.90, SD value is 0.30. In control group post-test 3 mean value is 1.00, SD value is 0.57 and mean difference value is 0.90. The student independent "t" test value is 17.157, P value is 0.0001. Hence it is significant.

Conclusions: Figure of eight walking is a compelling and simple strategy to hypertension. From the aftereffect of the investigation, it was inferred that figure of eight walking assists with diminishing the pulse among hypertensive patients. From the after effects of the examination, it was inferred that video assisted teaching (VAT) on figure of eight had significant results and it is a simple and agreeable strategy, which can be polished for quite a while to diminish hypertension. Hence nursing educators can conduct mindfulness programs regarding Figure of eight walking among adults with hypertension.

Keywords: physical activity, figure of eight walking, hypertension, Adults.

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INTRODUCTION

Physical indolence is a leading cause of death and, hence, a major public health problem [1]. There is compelling proof that physical inactivity is responsible for a large proportion of coronary heart disease as well as hypertension[2]. Physical inactivity directed to 9% of premature deaths (5·3 million deaths) in 2008[3,4]. Furthermore, there are socioeconomic differences observed in physical inactivity[5]. The newly published WHO recommendations on physical activity directs that all adults (18- 64 years) should involve in 150–300 min of moderate-intensity, or 75–150 min of vigorous-intensity physical activity, or an same combination of moderate- as well as vigorous-intensity activity all the way through the week[6,7]. There is epidemiological data that proposes a dose-dependent relationship concerning physical activity and hypertension[8].

For example, the lifetime risk of developing hypertension in Americans aged 55–65 years has been estimated as 90%.[9] Control of hypertension in the United States is inadequate. Nearly half of individuals with hypertension are not diagnosed or, if identified, not treated, and among treated hypertensives, only about half achieve the currently recommended goal of systolic blood pressure (SBP) <140 mm Hg and diastolic blood pressure (DBP) <90 mm Hg.[10]

Predictors of poor control include older age, male sex, and not having visited a doctor in the past 12 months.[11] In addition, despite published guidelines, even those who do visit a doctor are often not satisfactorily treated on behalf of elevated blood pressure (BP). In a survey accompanied at five Veterans Administration hospitals, antihypertensive therapy was intensified in only 6.7% of office visits although the fact that BP stayed elevated in 40% of those patients.[12]

The majority of primary care physicians report that they do not intensify treatment once SBP is 140–160 mm Hg or DBP is 90–95 mm Hg unless the patient is younger than age 60 years.[13] A large proportion of these physicians are unskilled with current national guidelines for hypertension control.[10,13] Clearly, national efforts to improve control of high BP will involve convincing clinicians to turn into more aggressive about its pharmacologic treatment. A complimentary approach for BP control is the increased use of effective nonpharmacologic interventions.

Figure of eight walking: Walking is possibly the best exercise and definitely result in great wellbeing.[14] We must walk by means of a free brain with no interruption[15]In this advanced world morning walk is turning out to be style and a significant number of individuals walk talking with companion's face to face or through versatile. [16] Amongst the walking exercise is "8 shape walk strategy". This is probably the best techniques which give extraordinary advantages as proposed by the yogis and siddhars. It should be drilled day by day for 15-30 minutes.

In the event that one should stroll in the eight-shape line that keeps up great wellbeing. This technique for eight walk s, how it ought to be done appropriately, and what all the advantages are. Amongst the strolling works out, the best exercise is "8 shape walk strategy". This is perhaps the best strategy which gives marvellous advantages. It should be planned out day by day for 15-30 minutes. [17]

The aim of the current study is to assess the effect of VAT on figure of eight walking among the adults with hypertension.

Detailed Research Plan:

This study was carried out in rural areas of Nellore district, the target population of this study consisted of all adults with hypertension who met the inclusion criteria like who are between 20-60 years, who are available during the data collection time.

The target population of this study consisted of 300 adults with hypertension. Sample size was

calculated to estimate the effect of VAT on figure of eight walking among the adults with hypertension, Nellore, considering a confidence level of 95%, sampling error of 3 percentage points, percentage of losses estimated at 10%. Based on these parameters, we obtained a sample size of 300 adults with hypertension. For association tests, considering an estimated prevalence of the outcome of 50%, 80% power and 95% confidence level, this sample size would allow detecting as statistically significant VAT on figure of eight walking ratio of up to 1.4 as a risk factor and up to 0.6 as protective factor for both genders.

TOOLS FOR DATA COLLECTION:

The tool was divided in to 2 parts.

Section-1: It deals with demographic variables Age, Gender, Educational status, Profession, Family Revenue, Marital position, Type of family, Dietary pattern, Use of anti-hypertensive medication.

Section-2: It deals with the influence of VAT on figure of eight walking amongst the adults with hypertension.

DATA COLLECTION PROCEDURE:

This study was conducted in rural areas of Nellore district during 2016. This study comprises of both male and female adults between 20-60 years, adults who are not willing to participate and to give informed consent were excluded from the study. VAT on figure of eight walking score was adopted to assess the physical activity among the adults with hypertension.

After obtaining permission from Institutional ethics committee formal permission was obtained from the Principal, and Medical officer, Mutukuru. The Study was conducted among rural adults of Mutukuru villages like Krishna Patnam, Malluru, Valluru and Bramhadevivillages, Nellore district, Andhra Pradesh State to conduct main study. Informed consent was obtained from hypertensive adults. The main study was conducted among 300 adults with hypertension. The samples were selected by using simple random sampling technique by computer generated random number method. 150samples were assigned to experimental group and 150samples to control group. Pretest was done by using socio-demographic variables and Physical Activity by figure of eight walking assessment, was checked for both experimental and control groups. The intervention video assisted teaching on figure of eight walking was shown. Was used research assistants for the reinforcement of the activities among adults with hypertension for 3 months. Posttest was conducted like Assessment I On 30 days, Assessment II On 60 days and Assessment III On 90 days. Data was tabulated, analyzed and interpreted according to the objectives and hypothesis of the study by using descriptive and inferential statistical methods like Frequency and percentage distribution Mean, Median, Mode and Standard Deviation, paired t test, student t test, ANOVA and chi square.

RESULTS AND DISCUSSION:

A total of 300 adults with hypertension were participated in the study.

The socio demographic variables shown thatin relation to age 74 (49.3%) were between (40-45 years), 76 (50.7%) were between (45-50 year), in experimental group. In control group in relation to age 84(56.0%) were between (40-45 years), 66(44.0%) were between (45-50 years) and in relation to dietary habits in experimental group 69(46.0%) were vegetarian and 81(54.0%) were non-vegetarian. In control group 84(56.0%) were vegetarian and 66(44.0%) were non- vegetarian.

Table 1: Comparison of pretest and post-tests level of Physical Activity among the samples by Repeated Measures ANOVA in the experimental group.
N = 300(150+150)

Group	Physical Activity	Mean	S.D	Repeated Measures ANOVA
Experimental Group	Pretest	1.20	0.63	F = 114.07 P = 0.0001 S***
	Post Test 1	1.35	0.48	
	Post Test 2	1.61	0.49	
	Post Test 3	1.90	0.30	
Control Group	Pretest	1.07	0.54	F = 1.439 P = 0.240 N.S
	Post Test 1	1.03	0.48	
	Post Test 2	0.99	0.54	
	Post Test 3	1.00	0.57	

***p<0.001, S – Significant, N.S – Not Significant

Table 1: Denotes that comparison of pre-test and post-test level of physical activity among the samples by Repeated Measure ANOVA in the experimental group. In experimental group for physical activity pre-test mean value is 1.20, SD value is 0.63, post-test 1 mean value is 1.35, SD value is 0.48, Post-test 2 mean value is 1.61, SD value is 0.49 and post-test 3 mean value is 1.90, SD value is 0.30. The repeated measure ANOVA "F" value is 114.07, P value is 0.0001. Hence it is significant. In control group for physical activity pre-test mean value is 1.07, SD value is 0.54, post-test 1 mean value is 1.03, SD value is 0.48,

post-test 2 mean value is 0.99, SD value is 0.54 and post-test 3 mean value is 1.00, SD value is 0.57. The repeated measure ANOVA "F" value is 1.439, P value is 0.240. Hence it is not significant.

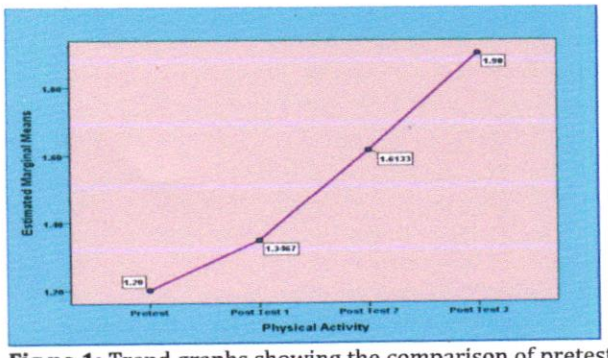

Fig.no.1: Trend graphs showing the comparison of pretest and post-tests level of Physical Activity among the samples by Repeated Measures ANOVA in the experimental group

Table 2: Comparison of pretest, post-test 1, post-test 2 and post-test 3 level of Physical Activity among adults in the experimental group.

n = 150

Physical Activity	Mean	S.D	Mean Difference	Paired 't' Test Value
Pretest	1.20	0.63	0.15	t = 5.061 p=0.0001, S***
Post Test 1	1.35	0.48		
Post Test 1	1.35	0.48	0.26	t = 7.361 p=0.0001, S***
Post Test 2	1.61	0.49		
Post Test 2	1.61	0.49	0.29	t = 7.738 p=0.0001, S***
Post Test 3	1.90	0.30		
Pretest	1.20	0.63	0.70	t = 14.047 p=0.0001, S***
Post Test 3	1.90	0.30		

***p<0.001, S – Significant

Table 2: States that comparison of pre-test ,post-test 1, post-test 2 and post-test 3 level of physical activity among adults in the experimental group. In physical activity pre-test mean value is 1.20, SD value is 0.63 and post-test 1 mean value is 1.35, SD value is 0.48 and mean difference value is 0.15. The paired "t" test value is 5.061, P value is 0.0001 and it is not significant. In post-test 1 mean value is 1.35, SD value is 0.48, post-test 2 mean value is 1.61, SD value is 0.49 and mean difference value is 0.26. The paired "t" test value is 7.361, P value is 0.0001. Hence it is significant. In post-test 2 mean value is 1.61, SD value is 0.49, post-test 3 mean value is 1.93, SD value is 0.26 and mean difference value is 0.20. The paired "t" test value is 1.871, P value is 0.082 and it is not significant. In pre-test mean value is 1.27, SD value is 0.59, post-test 3 mean value is 1.90, SD value is 0.30 and mean difference value is 0.29. The paired "t" test value is 7.738, P value is 0.001. Hence it is significant. The pre-test mean value is 1.20, SD value is 0.63 and post-test 3 mean value is 1.90, SD value is 0.30 and mean difference value is 0.70. The paired "t" test value is 14.047, P value is 0.001. Hence it is significant.

Table 3: Comparison of pretest, post-test 1, post-test 2 and post-test 3 level of Physical Activity among adults in the control group.

n = 150

Physical Activity	Mean	S.D	Mean Difference	Paired 't' Test Value
Pretest	1.07	0.54	0.04	t = 1.419 p=0.158, N.S
Post Test 1	1.03	0.48		
Post Test 1	1.03	0.48	0.04	t = 1.000 p=0.319, N.S
Post Test 2	0.99	0.54		
Post Test 2	0.99	0.54	0.01	t = 0.242 p=0.809, N.S
Post Test 3	1.00	0.57		
Pretest	1.05	0.54	0.05	t = 0.881 p=0.380, N.S
Post Test 3	1.00	0.57		

N.S – Not Significant

Table 3: Indicate that comparison of pre-test, post-test 1, post-test 2 and post-test 3 level of physical activity among adults in the control group. In physical activity pre-test mean value is 1.07, SD value is 0.54, post-test 1 mean value is 1.03, SD value is 0.48 and mean difference value is 0.04. The paired "t" test value is 1.419, P value is 0.158 and it is not significant. In post-test 1 mean value is 1.03, SD value is 0.48, post-test 2 mean value is 0.99, SD value is 0.54 and mean difference value is 0.04. The paired "t" test value is 1.000, P value is 0.319 and it is not significant. In post-test 2 mean value is 0.99, SD value is 0.54, post-test 3 mean value is 1.00, SD value is 0.57 and mean difference value is 0.01. The paired "T" test value is 0.242, P value is 0.809 and it is not significant. In pre-test mean value is 1.05, SD value is 0.54, Post-test 3 mean value is 1.00, SD value is 0.57 and mean difference value is 0.05. The paired "t" test value is 0.881, P value is 0.380 and it is not significant.

Table 4: Comparison of pretest, post-test 1, post-test 2 and post-test 3 level of Physical Activity among adults between the experimental and control group.

N = 300(150+150)

Physical Activity	Experimental Group		Control Group		Mean Difference	Student Independent 't' Test Value
	Mean	S.D	Mean	S.D		
Pretest	1.20	0.63	1.07	0.54	0.13	t = 1.855 p=0.065, N.S
Post Test 1	1.35	0.48	1.03	0.48	0.32	t = 5.647 p=0.0001, S***
Post Test 2	1.61	0.49	0.99	0.54	0.62	t = 10.457 p=0.0001, S***
Post Test 3	1.90	0.30	1.00	0.57	0.90	t = 17.157 p=0.0001, S***

***p<0.001, S – Significant, N.S – Not Significant

Table 4: Denote that comparison of pre-test ,post-test 1, post-test2, and post-test 3 level of physical activity among adults between the

experimental and control group. In experimental group for physical activity pre-test mean value is 1.20, SD value is 0.63. In control group pre-test mean value is 1.07, SD value is 0.54 and mean difference value is 0.13. The student independent "t" test value is 1.855, P value is 0.065 and it is not significant. In experimental group post-test 1 mean value is 1.35, SD value is 0.48. In control group post-test 1 mean value is 1.03, SD value is 0.48 and mean difference value is 0.32. The student independent "t" test value is 5.647, P value is 0.0001 and it is significant. In experimental group post-test 2 mean value is 1.61, SD value is 0.49. In control group post-test 2 mean value is 0.99, SD value is 0.54 and mean difference value is 0.62. The student independent "t" test value is 10.457, P value is 0.0001 and it is significant. In experimental post-test 3 mean value is 1.90, SD value is 0.30. In control group post-test 3 mean value is 1.00, SD value is 0.57 and mean difference value is 0.90. The student independent "t" test value is 17.157, P value is 0.0001. Hence it is significant.

Table 5: Association of post-test score of physical activity among adults with their selected demographic variables in the experimental group.

n = 150

Demographic Variables	F	Physical Activity One Way ANOVA/ Unpaired 't' test value
Age in years		t= 1.310 p=0.192 N.S
40 – 45 years	74	
45 – 50 years	76	
Gender		t= 1.225 p=0.213 N.S
Male	56	
Female	94	
Educational status		F=0.113 p=0.952 N.S
High school	48	
Higher secondary education	46	
Graduate	55	
Post graduate	1	
No formal education	-	
Occupational status		F=0.011 p=0.989 N.S
Sedentary worker	21	
Moderate worker	101	
Heavy worker	28	
Religion		F=1.375 p=0.256 N.S
Hindu	32	
Muslim	49	
Christian	69	
Others	-	
Marital status		t=0.061 p=0.952 N.S
Single	39	
Married	111	
Widower	-	
Dietary habits		t= 2.871 p=0.005 S**
Vegetarian	69	
Non-vegetarian	81	
Other	-	
Alcohol consumption (ml/d)		F= 0.517 p=0.598 N.S
Non-drinkers (o or occasional)	55	
Moderate drinkers (1 – 100)	91	
Heavy drinkers (>100)	4	
Smoking (Cigarettes / day)		t= 0.672 p=0.508 N.S
Non-smokers	130	
Smokers	20	
Known case of diabetic		t= 1.395 p=0.170 N.S
Yes	116	
No	34	
Since how many years having hypertension		t= 1.162 p=0.249 N.S
≤ 1 year	-	
2 years	48	
3 years	102	
4 years	-	
≥5 years	-	
Do you have stress		t= 1.114 p=0.267 N.S
Yes	59	
No	91	
Reason for stress		F= 0.786 p=0.536 N.S
Children	21	
Family matters	26	
Financial matter	1	
Health problem	13	
No	89	
Do you have family history of heart disease?		t= 0.549 p=0.584 N.S
Yes	100	
No	50	
Do you diagnosed with high cholesterol?		t= 1.449 p=0.151 N.S
Yes	52	
No	98	
The Source of Information on prevention of risk for CAD is from		F= 0.265 p=0.768 N.S
Health care personnel	43	
Social media (TV/Radio/Internet)	78	
Family and friends	29	

**p<0.01, S – Significant, N.S – Not Significant

Association of post-test score of physical activity among adults with their selected demographic variables in the experimental group shows dietary habits shown significant relation and remaining socio demographic variables were non-significant.

DISCUSSION:

The great rate of undiagnosed as well as uncontrolled hypertension is often mentioned as a clarion call for increased medical management of high BP. However, hypertension is already the most common non traumatic reason for a visit to a physician's office, and antihypertensive medications cost more than $10 billion per year. The assets that would be compulsory to successfully control hypertension solely by increasing medical care as well as medication treatment for the assessed 32 million Americans with undiagnosed or ineffectively controlled hypertension are considerable. In addition, it is proving that cardiovascular risk is not restricted to levels that come across criteria for a diagnosis of clinical hypertension. Exceeding optimal BP also brings significant risk and has recently been called prehypertension to reflect this risk. Indeed, the number of individuals with above ideal BP or stage 1 hypertension is so large that the majority of BP-related CVD events occur in

this segment of the population. Undoubtedly, to achieve the maximum reduction in these events, the medical management of hypertension must be accompanied by effective nonpharmacologic strategies that can be utilized at the population level.

Population-based change in video assisted teaching (VAT) on figure of eight walking among the adults with hypertensionhas been proposed as a nonpharmacologic strategy for controlling hypertension. Our study assessed the level of the effect of VAT on figure of eight walking among the adults with hypertension. In this study, we included persons with stage 1 hypertension, including a subset with stage 1 ISHBoth the figure of eight and a reduced sodium intake significantly improved BP management in persons with hypertension also led to optimal or normal BP in several individuals with high-normal BP. Public health and clinical strategies for improving BP control rates should include recommendations to follow the figure of eight walking The above finding plainly gathers that video assisted teaching (VAT) on figure of eight walking on a decrease of BP controlled to hypertensive patients in the study group was discovered to be successful in improving the BP among hypertensive patients than the control group who had gone through typical routine measures.

Conclusion:

Figure of eight walking is a compelling and simple strategy to hypertension. From the aftereffect of the investigation, it was inferred that figure of eight walking assists with diminishing the pulse among hypertensive patients. From the aftereffects of the examination, it was inferred that video assisted teaching (VAT) on figure of eight had significant results and it is a simple and agreeable strategy, which can be polished for quite a while to diminish hypertension. Hence nursing educators can conduct mindfulness programs regarding Figure of eight walking among adults with hypertension.

Conflict of Interest: The authors proclaim that they have no conflict of interest for this study.

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Analysis of Emotional Symptoms of Premenstrual Syndrome

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Abstract

"Premenstrual Syndrome (PMS)" is a bunch of emotional, physical, and behavioral symptoms that generally begins during the week foregoing menstrual flow. Every month, a few women suffer from a premenstrual syndrome which brings several emotional symptoms. The present study has investigated the evaluation of several emotional symptoms in premenstrual syndrome. The researcher has associated with the understanding of how premenstrual syndrome can affect the situation on the quality of life and also seeking about the connected risk factors. Based on the elaboration of the literature review section, the research topic has been described in a better way with the implication of effective theory.

Data were extracted on basis of the research topic as the researcher has selected both a "secondary qualitative data collection method" and a "primary quantitative data collection method" to collect relevant information. Estimating the collected data, the researcher has used the tools such as SPSS software and thematic analysis. Severe PMS is connected with more disability of psychological distress as well as daily activities. Rural residence, regular cycles, older student age, and earlier age of menarche are considered the potential risk factors for the increase of PMS with emotions. Moreover, this research paper can help readers to understand the reasons and applicable tools for managing the emotional symptoms of PMS.

Keywords: premenstrual syndrome, emotional symptoms, health condition, women, therapy.

1. Introduction

1.1 Background of the study

Premenstrual Syndrome or PMS is a set of emotional and behavioral as well as physical symptoms that occur before the menstrual cycle of a woman gets started. PMS is seen in every woman who is their reproductive age, and the symptoms of PMS can affect the daily life and regular activities of women. PMS develops right between the time of ovulation and the start of the menstrual cycle, almost 2 weeks prior [1]. PMS symptoms begin any time after ovulation and last after 5 to 7 days as bleeding begins. PMS occurs because of hormonal changes in a woman's body and chemical changes in their brain impact the emotional changes in women. This study has thus focused on the emotional changes that start of the menstrual cycle.

1.2 Aim and objectives

The aim of the study focuses on the emotional and psychological behavioral changes before the menstrual cycle starts and the symptoms of premenstrual syndrome and its impact on the emotions of women.

Objectives

- To find out the behavioral changes in women before the menstrual cycle occurs
- To find out the impact of PMS on women
- To identify emotional symptoms among women that occur during the PMS

1.3 Definition of key terms

Premenstrual syndrome: The behavioral changes and symptoms that occur right before the start of the

premenstrual syndrome. PMS has various signs and symptoms such as depression, anxiety, joint muscle pain fatigue and many others. PMS symptoms are different for every woman and every woman experiences different types of pain during this time. However, when PMS occurs in a woman's life, the cycle of hormones starts to change and this change creates different reactions for every woman individually. However, these hormonal changes impact the psychology of women and create changes in their emotions rapidly.

2. Methods

The study will be based on secondary qualitative and primary quantitative research designs. Secondary qualitative strategy refers to the use of secondary sources which are capable of providing qualitative and subjective data such as articles, news reports and journals [2]. Apart from that, primary quantitative strategy refers to the use of primary sources that provide quantitative and objective data such as surveying people [3]. Several articles and journals that provide relevant information about the emotional changes due to PMS and its effects are reviewed for gathering qualitative data [1].

On the other hand, a survey is conducted among some groups of women to gather their opinions of the emotional changes due to PMS. Women and girls who are above 15 years old were allowed to participate in the survey and there were 51 respondents who provided their respective opinions on all the statements. Further, there were a total of 10 questions in the questionnaire including demographic questions on which data are collected and thematically evaluated with the support of the information collected from journals. Along with that, SPSS software is used as an instrument for generating statistics and conducting a statistical analysis in this study.

3. Results

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
3. Premenstrual syndrome is common among women in their 30s	50	0	2	1.16	.976
4. Mood swing is one of the most common emotional change in PMS	50	0	2	1.86	.495
5. Anxiety and stress are common psychological issues among women with PMS	50	0	2	1.58	.785
6. Smoking and unhealthy food habits can leads to PMS at a high level	50	0	2	1.80	.571
7. Lack of physical activity and quality sleep are the reasons of having PMS	50	0	2	1.90	.416
8. Irritability and unusual anger enhances with PMS which are other emotional changes	50	0	2	1.68	.683
9. Lack of sleep enhances difficulty in concentrating on work	50	0	2	1.76	.555
10. Exercise, healthy eating and drinking a lot of water can reduce PMS	50	0	3	2.62	.967
Valid N (listwise)	50				

Figure (3.1): Descriptive statistics (Source: SPSS software)

about the average responses of the participants. The mean statistics are crucial in this part which signifies whether most of the responses are positive or not [4]. Hence, the mean statistics of this study are 1.16, 1.86, 1.58, 1.80, 1.90, 1.68, 1.76 and 2.62. All the mean statistics are larger than 1 and that indicates that most of the responses provided by the respondents were positive.

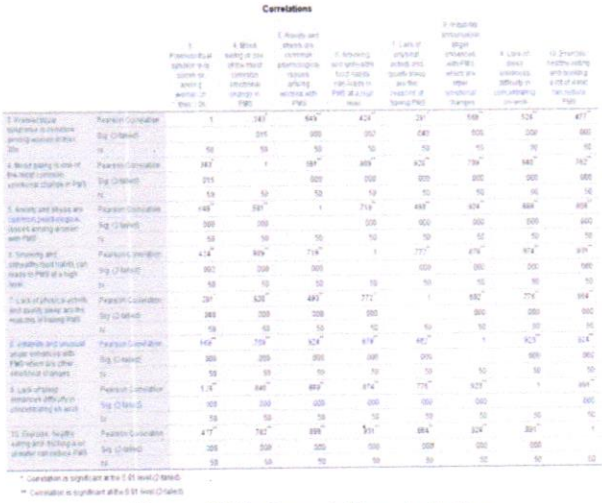

Figure (3.2): Correlation statistics (Source: SPSS software)

Correlation statistics is another vital part which includes the P values and significance values of variables and that helps to gain knowledge whether the variables have positive or negative relationships [5]. The significance values need to be lower than 0.05 for proving that the variables have a positive relationship. As the figure shows that the significance values are 0 and that is less than 0.05 (0.05 > 0); therefore, it can be stated that there are positive relationships among the variables in this study which maintains the significance of this article.

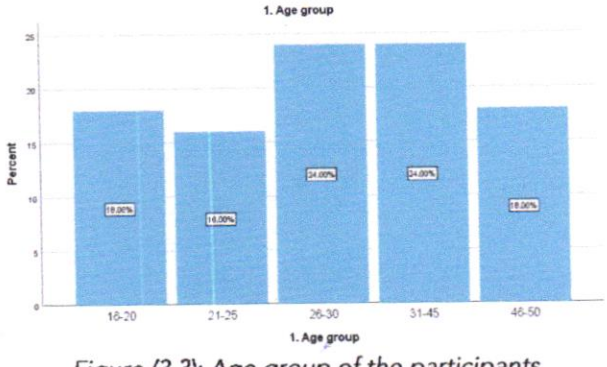

Figure (3.3): Age group of the participants (Source: SPSS software)

There were five groups of respondents based on their age and girls from 16 years old were allowed to participate in the survey. Five groups were 16-20 group, 21-25 group, 26-30 group, 31-45 group and 46-50 group. About 18% of the women were in the first group, 16% of the women in the second group, 24% of the respondents were in the third group, 24% participants in the fourth group and another 18% of the women in the fifth group. Most of the respondents were in the third and fourth group who

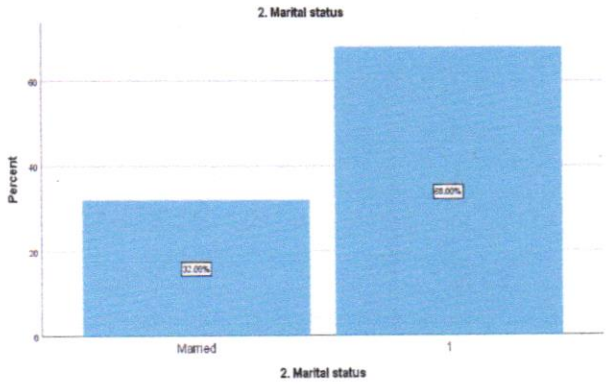

Figure (3.4): Marital status of participants (Source: SPSS software)

Next, the participants were asked about their marital status. About 32% of the women were married and 68% of the respondents were unmarried. Most of the women were unmarried in the survey.

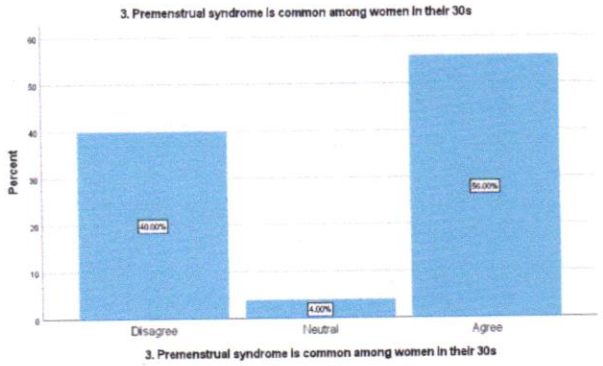

Figure (3.5): Premenstrual syndrome is common among women in their 30s. (Source: SPSS software)

Next statement was "premenstrual syndrome is common among women in their 30s" on which the women were requested to provide their opinions. About 40% of the women denied and stated that PMS can occur before their 30s and so many of them have experienced PMS before their 30s. Further, 56% of the participants have "agreed" and opinionated that most of the time women experience PMS after their 30s. Besides, 4% of the women have avoided providing any answer to the question.

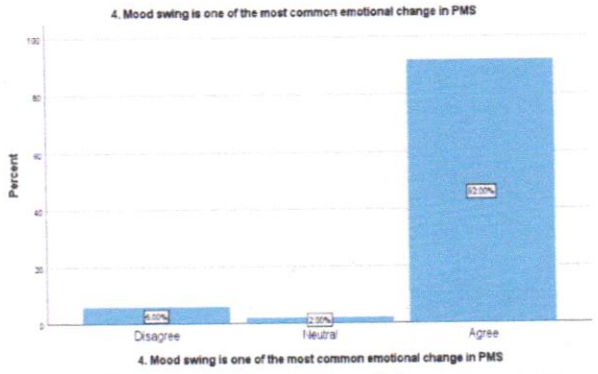

Figure (3.6): Mood swing is one of the most common emotional changes in PMS. (Source: SPSS software)

"Mood swing is one of the most common emotional women in the survey. Nearly 6% of the participants have "disagreed" and 92% of the women have "agreed" with the specific statement. Almost all the women in the survey have positively responded to the statement and opinionated that mood swing is absolutely the most common emotional change among women due to PMS. A few of the women have disagreed and stated mood swings can be controlled. Hence, 2% of the women were neutral for this statement and did not provide one specific opinion.

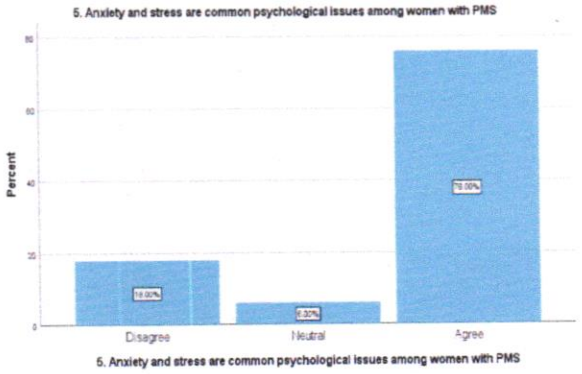

Figure (3.7): Anxiety and stress are common psychological issues among women with PMS. (Source: SPSS software)

Maximum number of women, which is about 76% of the women, has "agreed" that anxiety and stress are common psychological issues among women with PMS. They have opinionated that PMS increases stress and anxiety among women which leads to frequent mood swings. Anxiety is the most common psychological issue among women due to PMS. Apart from that, 18% of the women denied and opinionated that regular exercise and meditation can reduce anxiety and stress during PMS. Besides, 6% of the respondents did not reply on the statement and they were neutral.

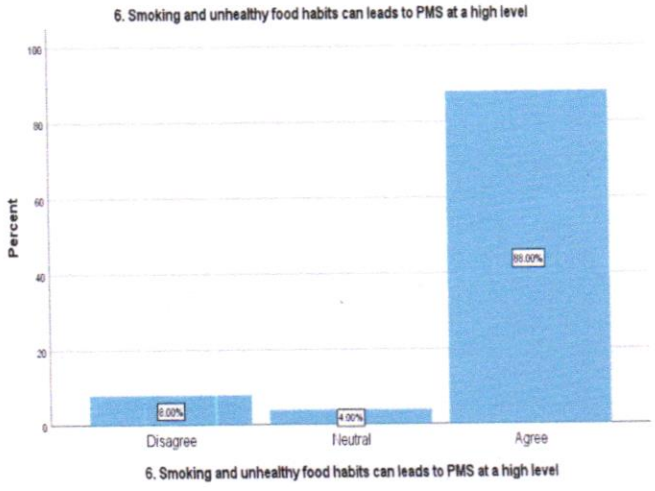

Figure (3.8): Smoking and unhealthy food habits can lead to PMS at a high level. (Source: SPSS software)

Next statement was "smoking and unhealthy food habits can lead to PMS at a high level" on which the women were requested to provide their opinions.

smoking and unhealthy foods are not the only reasons for having PMS and without smoking women suffer from PMS. Further, 88% of the participants have "agreed" and opinionated that smoking is a major reason which enhances the chances of PMS as well as unhealthy food habits are also harmful. Besides, 4% of the women have avoided providing any answer to the question.

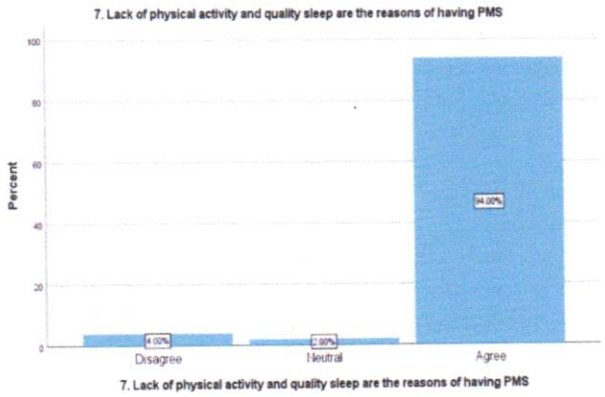

Figure (3.9): Lack of physical activity and quality sleep are the reasons of having PMS (Source: SPSS software)

"Lack of physical activity and quality sleep are the reasons for having PMS" was the next statement for the women in the survey. Nearly 4% of the participants have "disagreed" and 94% of the women have "agreed" with the specific statement. Almost all the women in the survey have agreed and stated that people are too busy in recent times and that led to lack of quality sleep and lack of physical activity. This highly influences PMS and enhances the chances of suffering from PMS. A few of the women have disagreed and stated these may be not the core reason for enhancing PMS. Hence, 2% of the women were neutral for this statement and did not provide one specific opinion.

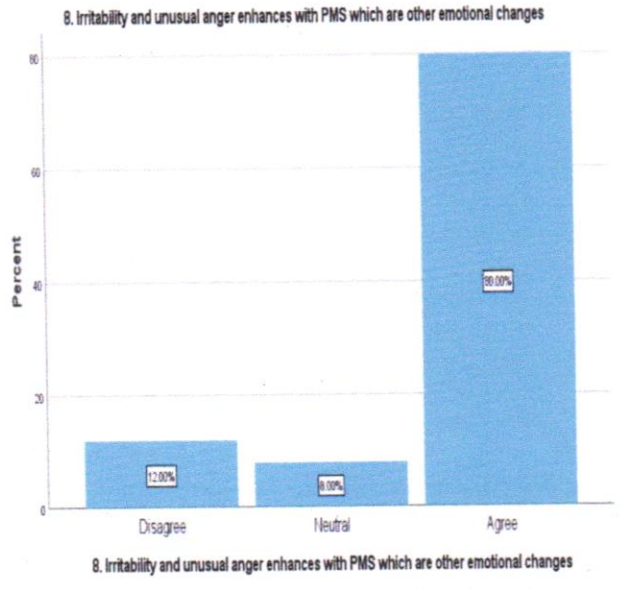

Figure (3.10): Irritability and unusual anger enhances with PMS which are other emotional changes. (Source: SPSS software)

which are other emotional changes" was the next statement for the women in the survey. About 12% of the women denied and stated that irritability and unusual anger are emotional changes but anxiety is the most crucial emotional change due to PMS. Moreover, 80% of the participants have "agreed" and opinionated that PMS enhances anxiety, stress and other psychological issues which lead to irritability and unusual anger among women during PMS. Apart from that, 8% of the women have avoided providing any answer to the question.

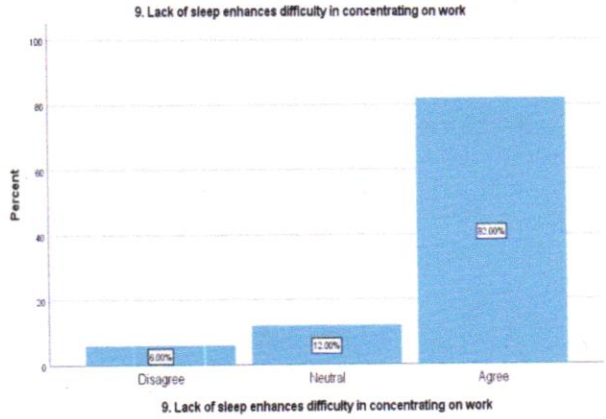

Figure (3.11): Lack of sleep enhances difficulty in concentrating on work (Source: SPSS software)

Most of the women, which is about 82% of the women, have "agreed" that lack of sleep enhances difficulty in concentrating on work. They have also stated that PMS increases stress and anxiety among women which causes lack of sleep and that enhances difficulty in concentrating on work. Anxiety is the most common psychological issue among women due to PMS. Apart from that, 6% of the women denied and opinionated that regular exercise and meditation can reduce anxiety and stress during PMS. Besides, 12% of the respondents did not respond to the statement which signifies that they did not have proper knowledge about PMS.

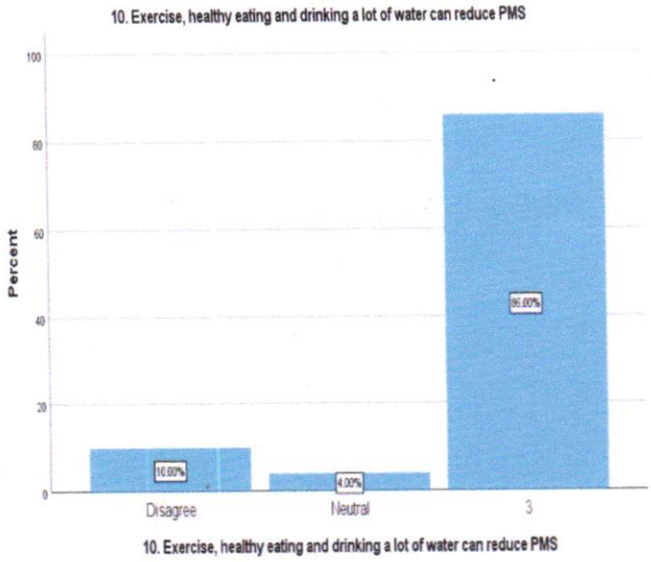

Figure (3.12): Exercise, healthy eating and drinking a lot

Next, the last statement was "exercise, healthy eating and drinking a lot of water can reduce PMS" on which the women were required to provide their specific perspectives. About 10% of the women denied and stated that sometimes exercise and healthy food habits cannot reduce the chances of PMS and people need to take proper treatment for these syndromes. Further, 86% of the participants have "agreed" and opinionated that physical activity is highly essential as well as healthy eating is also important for avoiding PMS. Besides, 4% of the women have avoided providing any answer to the question.

4. Discussion

Theme 1: Premenstrual syndrome and its related psychological syndrome

Premenstrual syndrome or PMS is a health condition which includes a combination of psychological, emotional and physical symptoms that occurs before the luteal phase of the menstrual cycle. These symptoms are different for every woman and the severity of the pain is also different for everyone. The physical pain during this time can be minor or majorly severe depending on the hormonal changes in a woman's body [6]. The treatment of PMS can range from medication and therapies to even surgery and often involves multidisciplinary teams while introducing the symptoms in a stepwise manner. Health professionals must treat women with PMS as 3% to 8% of women suffer from these symptoms that are majorly severe and 40% of women with symptoms of PMS are indifferent and crucial to understanding hence, it created difficulty and crucial situations for the professionals to treat the patients appropriately.

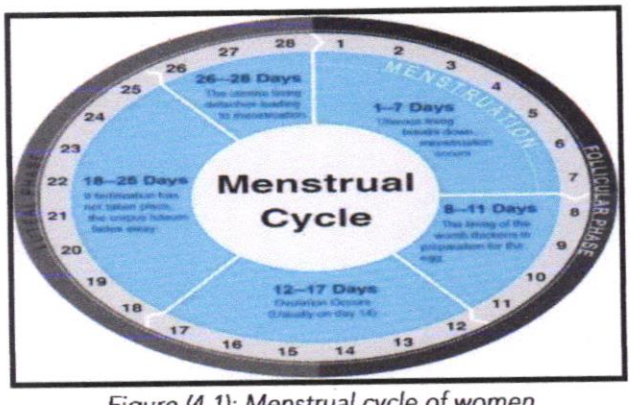

Figure (4.1): Menstrual cycle of women (Source: Influenced by [6])

Before the start of the menstrual cycle and during the cycle there are somatic and psychological changes that occur in the luteal phase of the cycle which impact the emotional well-being of the women. The somatic symptom of PMS is swelling. Breast tenderness, pain in the lower abdomen and many others. Besides these somatic symptoms, there are symptoms related to the psychology of the women such as anxiety, rapid mood swings, anger, loneliness, aggressive nature and many others [7]. PMS affects the lifestyle and regular activities of a woman and impacts their quality of leading their lifestyle.

PMS negatively impacts the psychology and the mood of women, and they suffer from various feelings at a time. With the hormonal fluctuation in the body, PMS occurs, and the woman suffers from anxiety, depression and many others. There is no clear etiology of PMS found out yet but there are some prescribed procedures available in the medical field to treat PMS for a while. Every woman goes through different symptoms either psychological or somatic and the symptoms cause physical and mental stress for the women [8]. Although medical department across the whole world presently depends on chamomile drugs with a variety of medicinal and therapeutic changes in women to get relaxation from the stress during PMS.

Theme 2: Emotional changes during the premenstrual cycle and its causes

The emotional changes during the premenstrual cycle are long such as tension, palpitations, feeling low, fatigue, aggressive nature, feeling lonely, sudden mood swings and many others. These symptoms last up to 5 to 10 days before the start of the menstrual cycle and end in 1 to 2 days after the start of bleeding. However, some women face PMS symptoms every month and this form is known as a premenstrual dysphoric disorder or PMDD [9]. Hence, emotional changes happen in their life every month and they suffer from the same kind of somatic and psychological stress every month. The emotional changes occurring in PMS make a woman restless and they become anxious every time. These changes affect their routine and sometimes they become emotional which affects their daily lifestyle. The emotional condition is severely associated with the mental health of a woman and the mental health condition of a woman can get worsened over time which is named premenstrual exacerbation or PME and can severely impact the emotional changes of a woman during PMS [10].

The main reason behind the emotional symptoms of PMS is connected with the rise and fall of hormones, especially the estrogen hormone, during the whole menstrual cycle. Apart from this, the chemical reactions in the brain constantly change during the menstrual cycle which also impacts the emotional well-being of women during their periods. Those women who suffer from PMDD become seriously depressed during this period and some also get panic attacks during this time [11]. During the ovulation of a woman the estrogen and progesterone hormones are dropped, and this sudden shift of hormones leads to physical and emotional symptoms that are related to PMS.

Emotional wellbeing impacts the daily life routine of a woman, and it can severely impact the mental health of a woman during PMS. Those who severely suffer from PME during this time worsen their

changes occur due to the rapid rise and downfall of hormones in the body of a woman during their periods. Emotional changes sometimes occur due to the physical pain they feel during this time and which is unbearable sometimes and women become emotionally very weak during this time [12]. It is very necessary for every woman in the PMS stage to lead a healthy and proper lifestyle with proper diet, exercise and medication during their menstrual cycle to prevent the symptoms of PMS.

This study has been conducted by selecting a secondary qualitative and primary quantitative data collection method to collect relevant, reliable and authentic data related to the topic. There is a detailed discussion about the facts and factors of the topic through the review of the literature in the study.

5. Conclusion

It can be concluded that premenstrual syndrome is a common issue among women of 30 or above years old. Some of the participants have opinionated that PMS can occur before 30s as well which signifies that the effects of PMS is increasing among women of different ages. Unhealthy food habits and smoking have been enhanced among a woman who values these syndromes and affects psychological health of women. Regular exercise is one of the most significant ways of preventing PMS. Along with that, women should have a healthy diet which is not only good for preventing PMS but also good for reducing the chances of other diseases.

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Appendix: Survey Questionnaire

Age group
16-20
21-25
26-30
31-45
46-50
Marital status
Married
Unmarried
(Please rate your opinion against the following statements as per the following scale
0 = Disagree, 1 = neutral, 2 = Agree)

Statements	0	1	2
Premenstrual syndrome is common among women in their 30s	20	2	29
Mood swing is one of the most common emotional change in PMS	3	1	47
Anxiety and stress are common psychological issues among women with PMS	9	3	40
Smoking and unhealthy food habits can leads to PMS at a high level	4	2	45
Lack of physical activity and quality sleep are the reasons of having PMS	2	1	48
Irritability and unusual anger enhances with PMS which are other emotional changes	6	4	41
Lack of sleep enhances difficulty in concentrating on work	3	6	42
Exercise, healthy eating and drinking a lot of water can reduce PMS	5	2	44

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Effect of VAT on Figure of Eight Walking among the Adults with Hypertension

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Abstract:

Background: Physical indolence is a leading cause of morbidity and mortality and is a foremost public well-being problem. Insufficient movement is responsible for a large proportion of non-communicable illnesses such as hypertension. Regular physical activity is associated with lower blood pressure, reduced cardiovascular risk, and cardiac remodeling. This study assessed the effect of VAT on figure of eight walking among the adults with hypertension.

Objectives:

1. To assess the pre-test and post-test level of the physical activity and figure of eight walking assessment among adults with hypertension in the experimental group and control group.
2. To evaluate the effectiveness of VAT on figure of eight walking assessment among adults with hypertension in the experimental group compare to control group.
3. To associate the post-test scores of effectiveness of VAT on figure of eight walking assessment among adults with hypertension with their selected socio demographic variables.

Methods: The adults with hypertension in this cross-sectional study are from rural areas of Nellore district. A total of 300 adults with hypertension were randomly selected. Trained investigators administered a figure of eight walking assessment tool to each participant during a face to face interview and carried out data collection procedure in pretest after that video assisted teaching on figure of eight walking was shown to the experimental group and then post-test was conducted for both experimental and control group adults with hypertension like Assessment I On 30 days, Assessment II On 60 days and Assessment III On 90 days.

Results: The results shown that the comparison of pre-test, post-test 1, post-test2, and post-test 3 level of physical activity among adults between the experimental and control group. In experimental group for physical activity pre-test mean value is 1.20, SD value is 0.63. In control group pre-test mean value is 1.07, SD value is 0.54 and mean difference value is 0.13. The student independent "t" test value is 1.855, P value is 0.065 and it is not significant. In experimental group post-test 1 mean value is 1.35, SD value is 0.48. In control group post-test 1 mean value is 1.03, SD value is 0.48 and mean difference value is 0.32. The student independent "t" test value is 5.647, P value is 0.0001 and it is significant. In experimental group post-test 2 mean value is 1.61, SD value is 0.49. In control group post-test 2 mean value is 0.99, SD value is 0.54 and mean difference value is 0.62. The student independent "t" test value is 10.457, P value is 0.0001 and it is significant. In experimental post-test 3 mean value is 1.90, SD value is 0.30. In control group post-test 3 mean value is 1.00, SD value is 0.57 and mean difference value is 0.90. The student independent "t" test value is 17.157, P value is 0.0001. Hence it is significant.

Conclusions: Figure of eight walking is a compelling and simple strategy to hypertension. From the aftereffect of the investigation, it was inferred that figure of eight walking assists with diminishing the pulse among hypertensive patients. From the after effects of the examination, it was inferred that video assisted teaching (VAT) on figure of eight had significant results and it is a simple and agreeable strategy, which can be polished for quite a while to diminish hypertension. Hence nursing educators can conduct mindfulness programs regarding Figure of eight walking among adults with hypertension.

Keywords: physical activity, figure of eight walking, hypertension, Adults.

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INTRODUCTION

Physical indolence is a leading cause of death and, hence, a major public health problem [1]. There is compelling proof that physical inactivity is responsible for a large proportion of coronary heart disease as well as hypertension[2]. Physical inactivity directed to 9% of premature deaths (5·3 million deaths) in 2008[3,4]. Furthermore, there are socioeconomic differences observed in physical inactivity[5]. The newly published WHO recommendations on physical activity directs that all adults (18- 64 years) should involve in 150–300 min of moderate-intensity, or 75–150 min of vigorous-intensity physical activity, or an same combination of moderate- as well as vigorous-intensity activity all the way through the week[6,7]. There is epidemiological data that proposes a dose-dependent relationship concerning physical activity and hypertension[8]. For example, the lifetime risk of developing hypertension in Americans aged 55–65 years has been estimated as 90%.[9] Control of hypertension in the United States is inadequate. Nearly half of individuals with hypertension are not diagnosed or, if identified, not treated, and among treated hypertensives, only about half achieve the currently recommended goal of systolic blood pressure (SBP) <140 mm Hg and diastolic blood pressure (DBP) <90 mm Hg.[10]

Predictors of poor control include older age, male sex, and not having visited a doctor in the past 12 months.[11] In addition, despite published guidelines, even those who do visit a doctor are often not satisfactorily treated on behalf of elevated blood pressure (BP). In a survey accompanied at five Veterans Administration hospitals, antihypertensive therapy was intensified in only 6.7% of office visits although the fact that BP stayed elevated in 40% of those patients.[12]

The majority of primary care physicians report that they do not intensify treatment once SBP is 140–160 mm Hg or DBP is 90–95 mm Hg unless the patient is younger than age 60 years.[13] A large proportion of these physicians are unskilled with current national guidelines for hypertension control.[10,13] Clearly, national efforts to improve control of high BP will involve convincing clinicians to turn into more aggressive about its pharmacologic treatment. A complimentary approach for BP control is the increased use of effective nonpharmacologic interventions.

Figure of eight walking: Walking is possibly the best exercise and definitely result in great wellbeing.[14] We must walk by means of a free brain with no interruption[15]In this advanced world morning walk is turning out to be style and a significant number of individuals walk talking with companion's face to face or through versatile. [16] Amongst the walking exercise is "8 shape walk strategy". This is probably the best techniques which give extraordinary advantages as proposed by the yogis and siddhars. It should be drilled day by day for 15-30 minutes.

In the event that one should stroll in the eight-shape line that keeps up great wellbeing. This technique for eight walk s, how it ought to be done appropriately, and what all the advantages are. Amongst the strolling works out, the best exercise is "8 shape walk strategy". This is perhaps the best strategy which gives marvellous advantages. It should be planned out day by day for 15-30 minutes. [17]

The aim of the current study is to assess the effect of VAT on figure of eight walking among the adults with hypertension.

Detailed Research Plan:

This study was carried out in rural areas of Nellore district, the target population of this study consisted of all adults with hypertension who met the inclusion criteria like who are between 20-60 years, who are available during the data collection time.

The target population of this study consisted of 300 adults with hypertension. Sample size was

calculated to estimate the effect of VAT on figure of eight walking among the adults with hypertension, Nellore, considering a confidence level of 95%, sampling error of 3 percentage points, percentage of losses estimated at 10%. Based on these parameters, we obtained a sample size of 300 adults with hypertension. For association tests, considering an estimated prevalence of the outcome of 50%, 80% power and 95% confidence level, this sample size would allow detecting as statistically significant VAT on figure of eight walking ratio of up to 1.4 as a risk factor and up to 0.6 as protective factor for both genders.

TOOLS FOR DATA COLLECTION:

The tool was divided in to 2 parts.

Section-1: It deals with demographic variables Age, Gender, Educational status, Profession, Family Revenue, Marital position, Type of family, Dietary pattern, Use of anti-hypertensive medication.

Section-2: It deals with the influence of VAT on figure of eight walking amongst the adults with hypertension.

DATA COLLECTION PROCEDURE:

This study was conducted in rural areas of Nellore district during 2016. This study comprises of both male and female adults between 20-60 years, adults who are not willing to participate and to give informed consent were excluded from the study. VAT on figure of eight walking score was adopted to assess the physical activity among the adults with hypertension.

After obtaining permission from Institutional ethics committee formal permission was obtained from the Principal, and Medical officer, Mutukuru. The Study was conducted among rural adults of Mutukuru villages like Krishna Patnam, Malluru, Valluru and Bramhadevivillages, Nellore district, Andhra Pradesh State to conduct main study. Informed consent was obtained from hypertensive adults. The main study was conducted among 300 adults with hypertension. The samples were selected by using simple random sampling technique by computer generated random number method. 150samples were assigned to experimental group and 150samples to control group. Pretest was done by using socio-demographic variables and Physical Activity by figure of eight walking assessment, was checked for both experimental and control groups. The intervention video assisted teaching on figure of eight walking was shown. Was used research assistants for the reinforcement of the activities among adults with hypertension for 3 months. Posttest was conducted like Assessment I On 30 days, Assessment II On 60 days and Assessment III On 90 days. Data was tabulated, analyzed and interpreted according to the objectives and hypothesis of the study by using descriptive and inferential statistical methods like Frequency and percentage distribution Mean, Median, Mode and Standard Deviation, paired t test, student t test, ANOVA and chi square.

RESULTS AND DISCUSSION:

A total of 300 adults with hypertension were participated in the study.

The socio demographic variables shown thatin relation to age 74 (49.3%) were between (40-45 years), 76 (50.7%) were between (45-50 year), in experimental group. In control group in relation to age 84(56.0%) were between (40-45 years), 66(44.0%) were between (45-50 years) and in relation to dietary habits in experimental group 69(46.0%) were vegetarian and 81(54.0%) were non-vegetarian. In control group 84(56.0%) were vegetarian and 66(44.0%) were non- vegetarian.

Table 1: Comparison of pretest and post-tests level of Physical Activity among the samples by Repeated Measures ANOVA in the experimental group.
N = 300(150+150)

Group	Physical Activity	Mean	S.D	Repeated Measures ANOVA
Experimental Group	Pretest	1.20	0.63	F = 114.07 P = 0.0001 S***
	Post Test 1	1.35	0.48	
	Post Test 2	1.61	0.49	
	Post Test 3	1.90	0.30	
Control Group	Pretest	1.07	0.54	F = 1.439 P = 0.240 N.S
	Post Test 1	1.03	0.48	
	Post Test 2	0.99	0.54	
	Post Test 3	1.00	0.57	

***p<0.001, S – Significant, N.S – Not Significant

Table 1: Denotes that comparison of pre-test and post-test level of physical activity among the samples by Repeated Measure ANOVA in the experimental group. In experimental group for physical activity pre-test mean value is 1.20, SD value is 0.63, post-test 1 mean value is 1.35, SD value is 0.48, Post-test 2 mean value is 1.61, SD value is 0.49 and post-test 3 mean value is 1.90, SD value is 0.30. The repeated measure ANOVA "F" value is 114.07, P value is 0.0001. Hence it is significant. In control group for physical activity pre-test mean value is 1.07, SD value is 0.54, post-test 1 mean value is 1.03, SD value is 0.48,

post-test 2 mean value is 0.99, SD value is 0.54 and post-test 3 mean value is 1.00, SD value is 0.57. The repeated measure ANOVA "F" value is 1.439, P value is 0.240. Hence it is not significant.

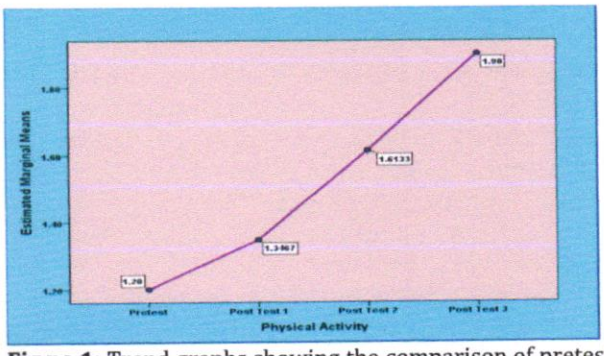

Fig.no.1: Trend graphs showing the comparison of pretest and post-tests level of Physical Activity among the samples by Repeated Measures ANOVA in the experimental group

Table 2: Comparison of pretest, post-test 1, post-test 2 and post-test 3 level of Physical Activity among adults in the experimental group.

n = 150

Physical Activity	Mean	S.D	Mean Difference	Paired 't' Test Value
Pretest	1.20	0.63	0.15	t = 5.061 p=0.0001, S***
Post Test 1	1.35	0.48		
Post Test 1	1.35	0.48	0.26	t = 7.361 p=0.0001, S***
Post Test 2	1.61	0.49		
Post Test 2	1.61	0.49	0.29	t = 7.738 p=0.0001, S***
Post Test 3	1.90	0.30		
Pretest	1.20	0.63	0.70	t = 14.047 p=0.0001, S***
Post Test 3	1.90	0.30		

***p<0.001, S – Significant

Table 2: States that comparison of pre-test ,post-test 1, post-test 2 and post-test 3 level of physical activity among adults in the experimental group. In physical activity pre-test mean value is 1.20, SD value is 0.63 and post-test 1 mean value is 1.35, SD value is 0.48 and mean difference value is 0.15. The paired "t" test value is 5.061, P value is 0.0001 and it is not significant. In post-test 1 mean value is 1.35, SD value is 0.48, post-test 2 mean value is 1.61, SD value is 0.49 and mean difference value is 0.26. The paired "t" test value is 7.361, P value is 0.0001. Hence it is significant. In post-test 2 mean value is 1.61, SD value is 0.49, post-test 3 mean value is 1.93, SD value is 0.26 and mean difference value is 0.20. The paired "t" test value is 1.871, P value is 0.082 and it is not significant. In pre-test mean value is 1.27, SD value is 0.59, post-test 3 mean value is 1.90, SD value is 0.30 and mean difference value is 0.29. The paired "t" test value is 7.738, P value is 0.001. Hence it is significant. The pre-test mean value is 1.20, SD value is 0.63 and post-test 3 mean value is 1.90, SD value is 0.30 and mean difference value is 0.70. The paired "t" test value is 14.047, P value is 0.001. Hence it is significant.

Table 3: Comparison of pretest, post-test 1, post-test 2 and post-test 3 level of Physical Activity among adults in the control group.

n = 150

Physical Activity	Mean	S.D	Mean Difference	Paired 't' Test Value
Pretest	1.07	0.54	0.04	t = 1.419 p=0.158, N.S
Post Test 1	1.03	0.48		
Post Test 1	1.03	0.48	0.04	t = 1.000 p=0.319, N.S
Post Test 2	0.99	0.54		
Post Test 2	0.99	0.54	0.01	t = 0.242 p=0.809, N.S
Post Test 3	1.00	0.57		
Pretest	1.05	0.54	0.05	t = 0.881 p=0.380, N.S
Post Test 3	1.00	0.57		

N.S – Not Significant

Table 3: Indicate that comparison of pre-test, post-test 1, post-test 2 and post-test 3 level of physical activity among adults in the control group. In physical activity pre-test mean value is 1.07, SD value is 0.54, post-test 1 mean value is 1.03, SD value is 0.48 and mean difference value is 0.04. The paired "t" test value is 1.419, P value is 0.158 and it is not significant. In post-test 1 mean value is 1.03, SD value is 0.48, post-test 2 mean value is 0.99, SD value is 0.54 and mean difference value is 0.04. The paired "t" test value is 1.000, P value is 0.319 and it is not significant. In post-test 2 mean value is 0.99, SD value is 0.54, post-test 3 mean value is 1.00, SD value is 0.57 and mean difference value is 0.01. The paired "T" test value is 0.242, P value is 0.809 and it is not significant. In pre-test mean value is 1.05, SD value is 0.54, Post-test 3 mean value is 1.00, SD value is 0.57 and mean difference value is 0.05. The paired "t" test value is 0.881, P value is 0.380 and it is not significant.

Table 4: Comparison of pretest, post-test 1, post-test 2 and post-test 3 level of Physical Activity among adults between the experimental and control group.

N = 300(150+150)

Physical Activity	Experimental Group		Control Group		Mean Difference	Student Independent 't' Test Value
	Mean	S.D	Mean	S.D		
Pretest	1.20	0.63	1.07	0.54	0.13	t = 1.855 p=0.065, N.S
Post Test 1	1.35	0.48	1.03	0.48	0.32	t = 5.647 p=0.0001, S***
Post Test 2	1.61	0.49	0.99	0.54	0.62	t = 10.457 p=0.0001, S***
Post Test 3	1.90	0.30	1.00	0.57	0.90	t = 17.157 p=0.0001, S***

***p<0.001, S – Significant, N.S – Not Significant

Table 4: Denote that comparison of pre-test ,post-test 1, post-test2, and post-test 3 level of physical activity among adults between the

experimental and control group. In experimental group for physical activity pre-test mean value is 1.20, SD value is 0.63. In control group pre-test mean value is 1.07, SD value is 0.54 and mean difference value is 0.13. The student independent "t" test value is 1.855, P value is 0.065 and it is not significant. In experimental group post-test 1 mean value is 1.35, SD value is 0.48. In control group post-test 1 mean value is 1.03, SD value is 0.48 and mean difference value is 0.32. The student independent "t" test value is 5.647, P value is 0.0001 and it is significant. In experimental group post-test 2 mean value is 1.61, SD value is 0.49. In control group post-test 2 mean value is 0.99, SD value is 0.54 and mean difference value is 0.62. The student independent "t" test value is 10.457, P value is 0.0001 and it is significant. In experimental post-test 3 mean value is 1.90, SD value is 0.30. In control group post-test 3 mean value is 1.00, SD value is 0.57 and mean difference value is 0.90. The student independent "t" test value is 17.157, P value is 0.0001. Hence it is significant.

Table 5: Association of post-test score of physical activity among adults with their selected demographic variables in the experimental group.

n = 150

Demographic Variables	F	Physical Activity
		One Way ANOVA/ Unpaired 't' test value
Age in years		t= 1.310 p=0.192 N.S
40 – 45 years	74	
45 – 50 years	76	
Gender		t= 1.225 p=0.213 N.S
Male	56	
Female	94	
Educational status		F=0.113 p=0.952 N.S
High school	48	
Higher secondary education	46	
Graduate	55	
Post graduate	1	
No formal education	-	
Occupational status		F=0.011 p=0.989 N.S
Sedentary worker	21	
Moderate worker	101	
Heavy worker	28	
Religion		F=1.375 p=0.256 N.S
Hindu	32	
Muslim	49	
Christian	69	
Others	-	
Marital status		t=0.061 p=0.952 N.S
Single	39	
Married	111	
Widower	-	
Dietary habits		t= 2.871 p=0.005 S**
Vegetarian	69	
Non-vegetarian	81	
Other	-	
Alcohol consumption (ml/d)		F= 0.517 p=0.598 N.S
Non-drinkers (o or occasional)	55	
Moderate drinkers (1 – 100)	91	
Heavy drinkers (>100)	4	
Smoking (Cigarettes / day)		t= 0.672 p=0.508 N.S
Non-smokers	130	
Smokers	20	
Known case of diabetic		t= 1.395 p=0.170 N.S
Yes	116	
No	34	
Since how many years having hypertension		t= 1.162 p=0.249 N.S
≤ 1 year	-	
2 years	48	
3 years	102	
4 years	-	
≥5 years	-	
Do you have stress		t= 1.114 p=0.267 N.S
Yes	59	
No	91	
Reason for stress		F= 0.786 p=0.536 N.S
Children	21	
Family matters	26	
Financial matter	1	
Health problem	13	
No	89	
Do you have family history of heart disease?		t= 0.549 p=0.584 N.S
Yes	100	
No	50	
Do you diagnosed with high cholesterol?		t= 1.449 p=0.151 N.S
Yes	52	
No	98	
The Source of Information on prevention of risk for CAD is from		F= 0.265 p=0.768 N.S
Health care personnel	43	
Social media (TV/Radio/Internet)	78	
Family and friends	29	

**p<0.01, S – Significant, N.S – Not Significant

Association of post-test score of physical activity among adults with their selected demographic variables in the experimental group shows dietary habits shown significant relation and remaining socio demographic variables were non-significant.

DISCUSSION:

The great rate of undiagnosed as well as uncontrolled hypertension is often mentioned as a clarion call for increased medical management of high BP. However, hypertension is already the most common non traumatic reason for a visit to a physician's office, and antihypertensive medications cost more than $10 billion per year. The assets that would be compulsory to successfully control hypertension solely by increasing medical care as well as medication treatment for the assessed 32 million Americans with undiagnosed or ineffectively controlled hypertension are considerable. In addition, it is proving that cardiovascular risk is not restricted to levels that come across criteria for a diagnosis of clinical hypertension. Exceeding optimal BP also brings significant risk and has recently been called prehypertension to reflect this risk. Indeed, the number of individuals with above ideal BP or stage 1 hypertension is so large that the majority of BP-related CVD events occur in

this segment of the population. Undoubtedly, to achieve the maximum reduction in these events, the medical management of hypertension must be accompanied by effective nonpharmacologic strategies that can be utilized at the population level.

Population-based change in video assisted teaching (VAT) on figure of eight walking among the adults with hypertensionhas been proposed as a nonpharmacologic strategy for controlling hypertension. Our study assessed the level of the effect of VAT on figure of eight walking among the adults with hypertension. In this study, we included persons with stage 1 hypertension, including a subset with stage 1 ISHBoth the figure of eight and a reduced sodium intake significantly improved BP management in persons with hypertension also led to optimal or normal BP in several individuals with high-normal BP. Public health and clinical strategies for improving BP control rates should include recommendations to follow the figure of eight walking The above finding plainly gathers that video assisted teaching (VAT) on figure of eight walking on a decrease of BP controlled to hypertensive patients in the study group was discovered to be successful in improving the BP among hypertensive patients than the control group who had gone through typical routine measures.

Conclusion:

Figure of eight walking is a compelling and simple strategy to hypertension. From the aftereffect of the investigation, it was inferred that figure of eight walking assists with diminishing the pulse among hypertensive patients. From the aftereffects of the examination, it was inferred that video assisted teaching (VAT) on figure of eight had significant results and it is a simple and agreeable strategy, which can be polished for quite a while to diminish hypertension. Hence nursing educators can conduct mindfulness programs regarding Figure of eight walking among adults with hypertension.

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Conceptual frame work on bundle care therapy on hypertension

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Abstract
Present health studies show that the world is heading for heart diseases of worldwide segment. The number of people at high risk from cardiovascular disease is increasing recent studies suggest that only 2 to 7 percent of the common population have no risk factors at all, and less than 70 percent individuals have multiple risk factors. Non-communicable diseases (NCDs) are a cluster of diseases with long duration, and are generally slow in progression that affect individuals over an extended period of time causing socio economic burden to the nation. The good result of a bundle comes from the body of science behind it and the way of execution. A bundle bounds the changes together into a package of involvement which people know must be followed for every patient, every single time. Bundles may resemble a checklist but it is more than that. Bundles are different from a checklist as the latter contains many elements (more than five usually), all are not necessarily evidence based. The hypertensive safety bundle care therapy (HSBCT) on cardiovascular disease was followed. HSBCT includes Diet - DASH diet with low carbohydrate, salt restricted and high fiber diet, physical activity, spiritual practices by prayer, stress management with Pranayama, reduction of Habits like alcohol and smoking, Obesity management regular intake of Medications and regular Follow up. Thus, a multimodal care so called hypertensive safety bundle care therapy on prevention of risk for CAD (cardiovascular disease) among hypertensive patients may yield a good result by reducing the CAD risk factors.

Keywords: Bundle care therapy, hypertension, coronary artery disease, public health

Introduction
Heart disease is one of the principal causes of death in men and women in the present world. Various alterable risk factors for coronary artery disease (CAD), including hypertension, hyperlipidemia, smoking, being overweight, being inactive, eating an unhealthy diet, are well known. Though treatments for hypertension and hyperlipidemia are significantly effective and relatively affordable, the majority of the people with these conditions are unable to manage them under control. Even though individuals can take steps to reduce their own risks of CVD, bundle care therapy has the potency to minimize risks among the populations. Changes in practices, policies, and health systems prepared to lower uncontrolled high blood pressure and cholesterol levels among populations can remarkably improve access to health care, quality of care, and patient adherence to treatments.

As the resources are limited and the need to prevent CVD is widespread, decision-makers and public health professionals must choose effective and sustainable strategies. The six strategies provide a framework for these efforts, and scientific evidence can help guide decisions about which strategies to adopt.

The root of the term bundle is that the whole is more than the quantity of its parts. A care bundle is a set of three to five or more evidence based practices, interventions supported by research that cause a substantial betterment in patients' outcomes. The interventions or components that make up the bundle must be grounded in solid research. The most important thing is that all the bundle elements must be executed in a series of sequential steps by one healthcare team within the same time frame for ensuring the occurrence of clinical improvement. In the process, even a single step must not be eliminated or else the intended

The conceptual frame work on bundle care therapy on hypertension Model, an illustrious theoretical model, can be used to regulate the programs related to health promotion and disease prevention. It is used to explain and anticipate individual changes in blood pressure and assessment of CAD Risk Factors, and implementation of Video assisted teaching (VAT) on Hypertensive safety bundle care therapy (HSBCT).

Main concepts

- In this stressful world, sandwiched life one or two interventions are not sufficient to take out the complications from adults with hypertension.
- It is essential to introduce at least six strategies among adults with hypertension to reduce the risk for CAD and thereby prevent complications.

Hypertensive safety bundle care therapy (HSBCT) means assessment of parameters like

i. Monitoring B.P,
ii. DASH Diet,
iii. Physical Activity by Figure of eight walking,
iv. Obesity by BMI, Waist / Hip monitoring,
v. Stress by Pranayama,
vi. Medication adherence scale.

- Even normal adults can also practice the HSBCT for health promotion and disease prevention.
- As health was believed to be multidimensional, disease can be prevented among adults with hypertension through multidimensional precautionary care so called HSBCT.
- Following HSBCT is simple, easy, cost effective, sustainable, affordable, accessible and implementable.
- The implementation of care bundles can aid in enhancing compliance to evidence-based quality process measures to improve patient care.
- Care bundles include a set of evidence-based measures. That when implemented together have shown to yield better outcomes and have a greater impact than that of the isolated implementation of individual measures.
- The Bundles also assist to create safe and steady care systems in the hospital settings since they are simple (three to five elements, in the present study 6), clear, and concise.
- The implementation of bundles promotes multi-disciplinary collaboration besides providing safe and secure patient care environments since they are developed collaboratively and consensus obtained with strong clinician engagement and endorsement.
- To succeed in the bundle implementation and achieve the most favorable outcomes ("all or none" approach), each element of the bundle must be implemented collectively with complete consistency.
- The effective implementation of a care bundle needs the measures to be adapted to the local setting, aptly followed; entrenched in the patient care culture, and recorded and evaluated to ensure compliance by the healthcare team members involved.
- It is advised that Healthcare providers always have to follow each bundle element for every patient. This aims to promote a positive habit-forming behavior among providers and ultimately a reliable care processes.
- The Bundled interventions are an effective way to implement change and improve the "culture" of patient safety by fostering teamwork, measuring compliance, and providing feedback and responsibility to frontline teams and hospital leadership to improve care.

Key elements of the conceptual frame work on bundle care therapy on hypertension Model focus on Category, Pre-Assessment, Intervention, Post Assessment and Outcome.

Category: A class or division of elements or things regarded as having particular shared characteristics among individuals. The present study includes individual socio demographic variables, CAD Risks, knowledge, and practice.

Pre-Assessment: Pre-assessment is an examination carried on research participants before the intervention to determine what the research participants need more instruction on and what they may already know. The present study includes individual socio-demographic variables like age, gender, educational status, occupation, religion, marital status, dietary habits, alcohol consumption, smoking, known case of diabetic, since how many years having HTN, stress, comorbid disease, source of information, Assessment of CAD Risk Factors are categorized like Normal, Mild Risk, Moderate Risk and Severe Risk, Assessment of knowledge which is graded like A+, A, B+,B,C and D and Assessment of practice which is categorized like Good Practice, Fair Practice and Poor Practice.

Intervention: Intervention is the action or process of intervening or implementation of the planned action. The present study includes Hypertensive safety bundle care therapy (HSBCT) assessment of parameters like Monitoring B.P, DASH Diet, Physical Activity by Figure of eight walking, Obesity by BMI, Waist/Hip monitoring, Stress by Pranayama and Medication adherence scale.
It is viewed that hypertension can be controlled with bundle of interventions. Bundle means a group of interventions.

Post Assessment: Post-assessment is an examination carried on research participants after the intervention. The present study includes the Assessment of CAD Risk Factors. They are categorized as Normal, Mild Risk, Moderate Risk and Severe Risk, Assessment of knowledge is graded as A+, A, B+, B, C and D and Assessment of practice which is categorized as Good Practice, Fair Practice and Poor Practice.

Outcome: It is the result that follows as an end result or consequence. It includes Decreased risk for CAD among hypertensive adults, Decreased high blood pressure to Optimal, Normal, High-normal, DASH Adherence Score to High adherence and Medium adherence, Physical Activity to greater smoothness, Decreased high BMI to Normal range, Decreased high Waist/hip ratio to Normal, Improved lipid profile to Normal and Increase in knowledge and practice.

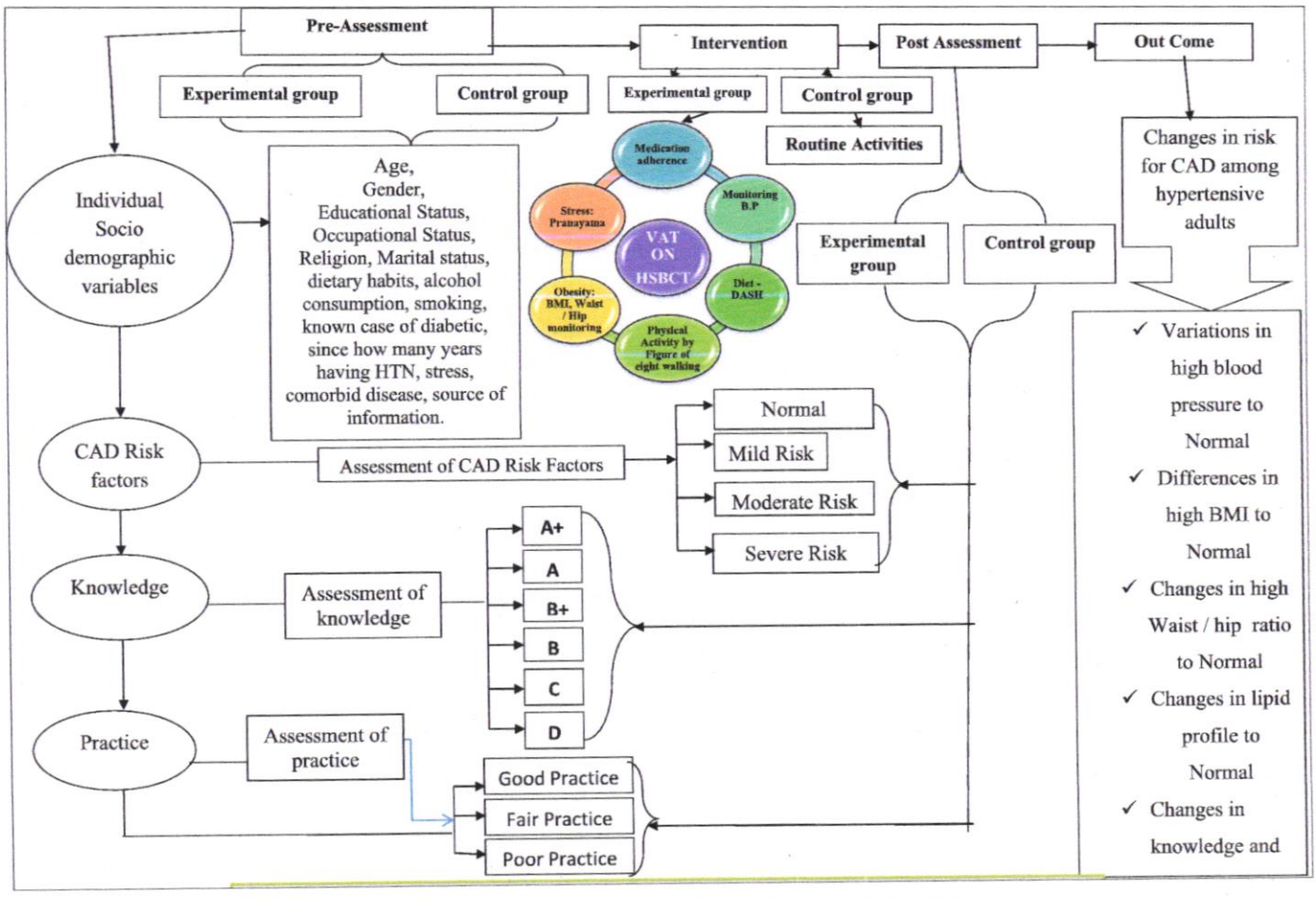

Fig 1: Conceptual frame work on bundle care therapy on hypertension

Conclusion

Using a bundle method can be an effective strategy for improving care has been confirmed by an increasing body of evidence from controlled before-after studies suggests that care bundles may reduce the risk of negative outcomes when compared with usual care and preventing certain serious clinical outcomes has been demonstrated successfully with a growing body of published results.

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Sleep As Preamble of Optimal Health Among Elderly Hypertensive Adults

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ABSTRACT

Introduction: Healthy Aging is for everyone, not just those who are currently disease-free. Many factors influence the health of the elderly, including underlying physiological and psychological changes, health-related behaviour, disease status and also environments in which people are living strongly influence their health.

Methodology: The 240 elderlies between the age group of 60-75 years from Primary Health Centre, Muthukur, Nellore, Andhra Pradesh, India was selected as study participants by simple random sampling technique and excluded those who were mentally and physically sick at the time of data collection. The Pittsburgh Sleep Quality Index (PSQI) scale was used to collect and Sleep promoting measures were taught and followed to experimental group for the period of six months.

Results: In this study, the posttest mean PSQI sleep score among experimental group was 6.16 and control group was 7.95, with the mean difference was 1.79, as it was large and it was statistically significant difference at the value of t=3.34 at p≤ 0.001 level which indicate sleep promoting measures was effective to enhance sleep quality and to maintain normal blood pressure.

Conclusion: Compared to the control group, the experimental group's elderly had better sleep quality; hence healthy sleep promoting measures are effective to manage and to maintain normal blood pressure.

Keywords: Sleep, Optimal Health, Elderly, Adults

INTRODUCTION

Globally, populations are ageing faster than ever. Healthy Aging is for everyone, not just those who are currently disease-free. Many factors influence the health of the elderly, including underlying physiological and psychological changes, health-related behaviour, disease status and also the environments in which people live strongly influence their health.[1] The older population of India (aged 60 years and older) is envisaged in contact with 194 million in 2031 from 138 million in 2021. An increase of 41%, for more than a decade {National statistical office (NSO) in the report in India 2021}.[2] According to New World Syndrome (NWS) 2018 reports 75 of the world population are affected with lifestyle diseases. Diabetes mellitus (DM) and hypertension (HTN) have emerged as major medical and public health issues worldwide.[3]

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The risk factors of hypertension include the major modifiable risk factors such as unhealthy diets, physical inactivity, obesity or overweight, high cholesterol, heavy alcohol use, psychological stress, unhealthy sleep habits, high consumption of sugar and low consumption of fibre. Non-modifiable risk factors are advanced age, family history/genetics.[3] Hypertension is the biggest single contributor to the global burden of cardiovascular disease. Sleep plays an important role in maintaining nocturnal BP control through autonomic control of heart rate and peripheral vascular resistance.[4] (Giuseppe Maiolino et.al 2020).People who work long hours in high-stress jobs and people with other risk factors for hypertension are more likely to have raised blood pressure after chronic poor sleep.[5] (Eric Suni, Ealena Callendar (2020)

Blood pressure (BP) varies over 24 hours, during normal sleep, BP typically decreases by 10% or more; sleep deprivation and obstructive sleep apnea, is associated with increased BP and risk of hypertension.[6] (Thomas, S. J. & Calhoun, D. (2017). Sleeping six to seven hours a night is associated with more favourable heart health."[6] (American College of Cardiology. (2021, May 5).) Tan et al.[7] found that better sleep quality predicted psychological well-being of older people, while fewer physical and somatic symptoms predicted better sleep quality.[7]This article attempts to highlight some of the issues that an ageing population might bring. The elderly was given special attention, and issues that would impair their quality of sleep were highlighted.

A study to assess the effectiveness of sleep promoting behaviour among elderly with hypertension at Muthukur, Nellore, AP, India.

The study's objectives are to evaluate the effectiveness of sleep promoting measures and link sleep quality among the elderly in rural setting to demographic factors

MATERIALS AND METHODS

Setting and sample: A broad review and community based evaluative study was performed involving sleep pattern in aging democrats causes the alteration in the blood pressure level. The study was performed in rural part of Nellore district, Andhra Pradesh state, India. The rural section of the study was preceded in Muthukur Primary Health Centre, it covers 86 villages,11 sub centres with the total population of 61304 and an approximately a month 190 adults with hypertension and 250 adults with diabetes mellitus are attending the outpatient department. The 240 elderlies from Muthukur Primary Health Centre, Nellore district were selected as study participants by simple random sampling technique; elderly between the age group of 60-75 years of age were included and excluded those who were mentally and physically sick at the time of data collection.

Ethical clearance: The study procedure was accepted by the Narayana College of Nursing's Institutional Ethics Committee in Nellore, Andhra Pradesh, India (File no. 04/PhD(N) /LU/2019 dated as 07th February 2019).

Data collection: Obtained written informed consent from elderly prior to data collection. Base line data such as Age, Religion, Occupation, Marital Status, Education, Gender, Income, Residential Status, Habits, Number of children, Duration of medication and Family history of hypertension were collected. The Pittsburgh Sleep Quality Index (PSQI) scale was used to collect data on sleep quality and disturbances, it contains 19- Individual self-report items are grouped into 7 equally-weighted component scores: 1) Subjective Sleep Quality (1 item) usual sleep wake patterns, duration of sleep; 2) Sleep Latency (2 items) time to fall into sleep, factors of trouble sleeping;3) Sleep Duration (1 item)hours of sleep per night; 4) Habitual Sleep Efficiency (3 items) usual bed time, getting up time and hours of sleep per night ; 5) Sleep Disturbances (9 items) wake of in the middle of night or early morning, get up to use bath room, cannot breath comfortably, cough or snore loudly, feel to cold, and hot, had bad dreams, have pain and other reasons; 6) Use of Sleeping Medication (1 item)how often have you taken medicine; and 7) Daytime Dysfunction (2 items) had trouble staying awake while eating, driving or engaging in social activity and how much of problems has it been for you to keep up enough enthusiasm to get things done.

The PSQI instrument Responses are categorized as items 1–4 is free entry of: usual bed and wake times, minutes of total sleep time, and sleep latency (minutes). Items 5–18 are 4-point Likert scale responses pertaining to problem frequency: "not during the past month (0)"; "less than once a week (1)"; "once or twice a week (2)"; and "three or more times a week (3)." Item 19 is a 4-point Likert scale rating of overall sleep quality: "Very good (0)"; "Fairly Good (1)"; "Fairly Bad (2)"; "Very Bad (3)." The Global Score ranges from 0 to 21. All component scores range from 0 to 3. The 7 component scores are summed to yield a single Global Score. Finally, the score Interpreted as higher Global Scores indicate poorer sleep quality. An empirically derived cut-off score of > 5 distinguishes poor sleepers from good sleepers. A Global Score >5indicates that a subject reports severe difficulty in at least 2 domains, or moderate difficulties in more than 3 areas.

Educative interventional programme taught to the experimental group and regular follow up made for the period of six months. It includes Stick to a regular bedtime, Taking a warm bath before bed time, Take time to calm down before you turn out the lights, Drinking less fluids at night, Include physical activity in your daily routine, Don't consume caffeine late in the day, Reduce irregular or long daytime naps, Optimizes your bedroom environment, Relax and clear your mind in the evening, Doesn't eat late in the evening, Increases bright light exposure during the day, Reduce blue light exposure in the evening, Turn off your electronic devices and TV an hour before

bed. The cursory instructions were given to the control group at the end of 6 month.

Data analysis: SPSS v18 was used to analyse the data, which was entered into an MS Excel sheet. 1) Subjective Sleep Quality 2) Sleep Latency 3) Sleep Duration 4) Habitual Sleep Efficiency 5) Sleep Disturbances 6) Use of Sleeping Medication 7) Daytime Dysfunction were all used to determine sleep quality. The average and standard deviation of the scores have been calculated (SD). The significance of the mean difference score was tested using a student paired t-test, P value of P=0.001 has been considered for statistical significance. The mean and standard deviation scores in each domain were also calculated. McNemar's test was used to find the significance of sleep quality. Mean Difference of sleep reduction score was tested with 95% Confidence interval. Component wise PSQI sleep score was compared with Mann Whitney u-test.

RESULTS

Considering age group, in experimental group out of 120 elderlies, majority of 45 (37.50%) were in the age group of 60-63years, 33 (27.50%) were in 64-67years, 20 (16.67%) were in 68-71years and 22 (18.33%) were in 72-75years. Whereas in the control group out of 120 elderly, 35 (29.17%) were in 60-63years, 35 (29.17%) were in 64-67years, 22 (18.33%) were in 68-71years and 28 (23.33%) were in 72-75years.In gender wise distribution of elderly, in the experimental group, 68 (56.67%) were male and 52 (43.33%) were female. In the control group, 65 (54.17%) were male and55 (45.83%) were female. Identifying habit of elderly reveals that in the experimental group, 18 (15.00%) were taking alcohol, 36 (30.00%) were smokers, 28 (23.33%) were tobacco chewers and 38 (31.66%) were not having any habit. In the control group, 24 (20.00%) were taking alcohol, 41 (34.17%) were smokers, 23 (19.17%) were tobacco chewers and 32 (26.66%) were not having any habit. Considering family history HT of elderly, in the experimental group, 70 (58.33%) had family history and 50 (41.67%) were not having family history, whereas in control group 62 (51.67%) had family history and 58 (48.33%) were not having family history.

Reveals that pre and post level of blood pressure among elderly with hypertension in both groups. Considering the pretest level of blood pressure, there is no significant difference between experiment group and Control group. whereas in posttest, the experimental group got marked reduction in the level of blood pressure with the help of Educative interventional programme on sleep promoting behavior than control group. (Table 1)

The posttest sleep score, experimental group mean PSQI was 6.16 and control group mean PSQI was 7.95, with the mean difference was 1.79, as it was large and it was statistically significant difference at the value of t=3.34 at p≤ 0.001 level which indicated highly significant difference.

Table 4: Illustrates that the effectiveness of sleep hygiene on sleep reduction score among elderly. In experimental group, an average, in posttest, after following the proper sleep hygiene measures among elderly sleep reduction score are reduced 11.33% than pretest score. Whereas in Control group, 1.28% sleep score than pretest score. This difference presents that experimental group elderly had healthy and good quality of sleep pattern than the control group.

Table 1: Frequency and percentage distribution of level of blood pressure between experimental and control group

	Group	
	Experimental (n=120) (%)	Control (n=120) (%)
Pre test*		
Normal	6 (5)	4 (3.33)
High normal	30 (25)	38 (31.67)
HT stage 1	44 (36.67)	45 (37.5)
HT stage 2	30 (25)	24 (20)
HT stage 3	10 (8.33)	9 (7.5)
IS HT grade 1	0 (0)	0 (0)
IS HT grade 2	0 (0)	0 (0)
Post test**		
Normal	18 (15)	6 (5)
High normal	47 (39.17)	40 (33.33)
HT stage 1	40 (33.33)	42 (35)
HT stage 2	15 (12.5)	24 (20)
HT stage 3	0 (0)	8 (6.67)
IS HT grade 1	0 (0)	0 (0)
IS HT grade 2	0 (0)	0 (0)

*P value 0.72 (NS); **P value 0.01 (S)

Table 2: Mean and standard deviation of pre-test and post-test level of blood pressure in experimental group and control group

BP Assessment	Group		Mean difference	Student paired t-test
	Pre-test (Mean ± SD)	Post-test (Mean ± SD)		
SBP				
Experimental	168.98 ± 19.61	141.87 ± 11.93	-27.11	**t=15.46 p=0.001(S)**
Control	166.00 ± 19.46	164.68 ± 18.18	-1.32	t=1.94 p=0.06 (NS)
DBP				
Experimental	100.86 ± 11.34	90.93 ± 6.92	-9.93	**t=10.39 p=0.001 (S)**
Control	99.72 ± 12.13	99.23 ± 11.83	-0.49	t=1.86 p=0.07 (NS)

Table 3: Frequency and percentage distribution of Pre-test and Post-test level of sleep pattern

PSQI	Group		P value*
	Pretest (n=120) (%)	Posttest (n=120) (%)	
Experiment			
Normal	32 (26.67)	59 (49.16)	0.001(S)
Disturbed	88 (73.33)	61 (50.84)	
Control			
Normal	35 (29.16)	42 (35)	0.14 (NS)
Disturbed	85 (70.83)	78 (65)	

* (McNamar's test)

Portrays that mean, standard deviation and mean difference of blood pressure in experimental and control group. It denotes that marked improvement in reduction of Systolic blood pressure and Diastolic blood pressure in experimental group than the control group. (Table 2)

Depicts that sleep pattern in both groups, regards to it interprets that the marked improvement in quality of sleep throughout the study period among experimental group than control group as it proves that sleep promoting behavior and habits are effective in sustaining normal range of blood pressure. (Table 3)

Presents that each component wise PSQI sleep quality shows, statistically there is no significant difference between experiment and control group of elderly in pre-test and significant in post-test. (Table 5)

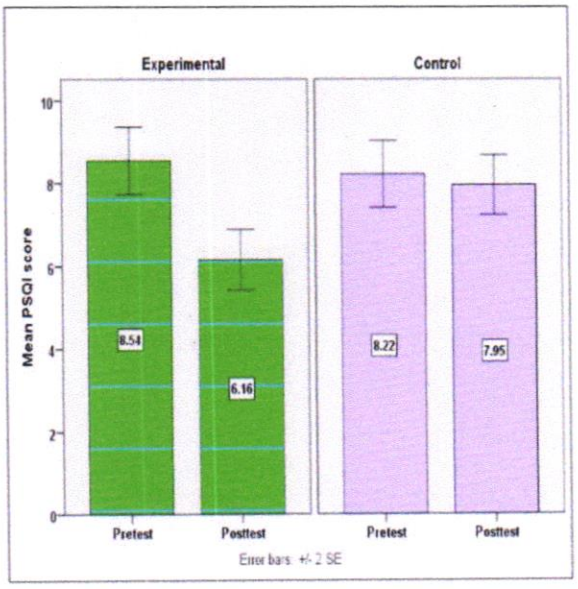

Figure 1: Simple bar diagram with 2 standard error shows the PSQI score among experimental and control group

Table4: Effectiveness of sleep hygiene on PSQI-sleep reduction score

	Max score	Mean score	% of Mean score	Mean Difference of sleep reduction score with 95% Confidence interval	Percentage of sleep Reduction score with 95% Confidence interval
Experimental					
Pretest	21	8.54	40.67%	2.38 (1.76 – 3.00)	11.33% (8.38% – 14.29%)
Posttest	21	6.16	29.33%		
Control					
Pretest	21	8.22	39.14%	0.27 (-0.02 – 0.56)	1.28% (-0.11% –2.66%)
Posttest	21	7.95	37.86%		

Table 5: Comparison of component wise PSQI sleep score between experiment and control group

Components	Group		Mean Difference	Mann Whitney u-test
	Experiment (Mean±SD)	Control (Mean±SD)		
Pre-test				
Subjective sleep quality	1.43 ± ± 1.17	1.36 ± 1.20	0.07	z=0.41 p=0.66(NS)
Sleep Latency	1.76 ± 1.09	1.74 ± 1.18	0.02	z=0.12 p=0.90(NS)
Sleep Duration	1.28 ± 1.16	1.16 ± 1.03	0.12	z=0.77 p=0.44(NS)
Habitual Sleep Efficiency	.92 ± 1.05	.89 ± 1.05	0.03	z=0.20 p=0.84(NS)
Sleep disturbances	1.28 ± 1.14	1.22 ± 1.01	0.06	z=0.39 p=0.69(NS)
Use of sleeping medications	.71 ± .84	.57 ± .79	0.14	z=1.20 p=0.22(NS)
Daytime dysfunction	1.16 ± 1.20	1.28 ± 1.20	-0.12	z=0.70 p=0.48(NS)
Total Global PSQI score	**8.54 ± 4.31**	**8.22 ± 4.54**	**0.32**	z=0.51 p=0.61(NS)
Post-test				
Subjective sleep quality	.99 ± 1.10	1.28 ± 0.98	-0.29	**z=1.97 p=0.05(S)**
Sleep Latency	1.42 ± 1.20	1.68 ± 1.21	-0.26	z=1.58 p=0.12(NS)
Sleep Duration	1.01 ± 1.13	1.13 ± 1.04	-0.12	z=0.91 p=0.36(NS)
Habitual Sleep Efficiency	.59 ± .84	.87 ± 1.05	-0.28	**z=2.08 p=0.03(S)**
Sleep disturbances	.89 ± 1.05	1.17 ± 0.93	-0.28	**z=1.99 p=0.05(S)**
Use of sleeping medications	.37 ± .76	.57 ± .61	-0.20	**z=2.05 p=0.04(S)**
Daytime dysfunction	.89 ± 1.15	1.25 ± 1.21	-0.36	**z=2.16 p=0.03(S)**
Total Global PSQI score	**6.16 ± 4.08**	**7.95 ± 4.43**	**-1.79**	**z=2.97 p=0.01(S)**

Table 6: Association between post-test level sleep pattern and demographic variables of elderly in study group

Demographic variables	Post-test PSQI level		Total	Chi square test
	Normal (n=59) (%)	Disturbed sleep (n=61) (%)		
Age (yrs)				
60-63 years	30 (66.67)	15 (33.33)	45	$\chi2=10.58$ $\pi=0.01$**
64-67 years	15 (45.45)	18 (54.55)	33	**DF=3(S)**
68-71 years	8 (40)	12 (60)	20	
72-75 years	6 (27.27)	16 (72.73)	22	
Gender				
Male	33 (48.53)	35 (51.47)	68	$\chi2=0.02\pi=0.87$
Female	26 (50)	26 (50)	52	DF=1(NS)
Marital status				
Married	37 (46.25)	43 (53.75)	80	$\chi2=0.82\pi=0.37$
Widow/widower	22 (55)	18 (45)	40	DF=1(NS)
Education				
Illiterate	12 (50)	12 (50)	24	$\chi2=4.48\pi=0.21$
Primary /middle education	25 (56.82)	19 (43.18)	44	DF=3(NS)
High school/intermediate	20 (47.62)	22 (52.38)	42	
Graduate or Post graduate	2 (20)	8 (80)	10	
Occupation				
Unemployed	22 (51.16)	21 (48.84)	43	$\chi2=1.40$ $\pi=0.84$
Unskilled worker	6 (40)	9 (60)	15	DF=4(NS)
Semi-skilled worker	13 (54.17)	11 (45.83)	24	
Skilled /semi professional	6 (40)	9 (60)	15	
Clerical, shop owner/farm	12 (52.17)	11 (47.83)	23	
Family Income				
Rs.2641-7,886	5 (38.46)	8 (61.54)	13	$\chi2=3.75\pi=0.44$
Rs.7,887-13,160	13 (44.83)	16 (55.17)	29	DF=4(NS)
Rs.13,161-19,758	19 (45.24)	23 (54.76)	42	
Rs.19,759-26,354	14 (66.67)	7 (33.33)	21	
26,355-52,733	8 (53.33)	7 (46.67)	15	
Type of family				
Nuclear	33 (55)	27 (45)	60	$\chi2=1.96\pi=0.38$
Joint	19 (41.3)	27 (58.7)	46	DF=2(NS)
Extended	7 (50)	7 (50)	14	
Dietary pattern				
Vegetarian	15 (36.59)	26 (63.41)	41	$\chi2=3.94$ $\pi=0.05$*
Non-vegetarian	44 (55.7)	35 (44.3)	79	**DF=1(S)**
Nature of medicine				
Hypoglycemic drugs	6 (50)	6 (50)	12	$\chi2=0.55$ $\pi=0.88$
Antihypertensive drugs	3 (60)	2 (40)	5	DF=2(NS)
Hypoglycemic + Antihypertensive +other drugs	50 (48.54)	53 (51.46)	103	
Duration of treatment (yrs)				
2 years	33 (53.22)	23 (46.78)	62	$\chi2=7.23$ $\pi=0.03$*
3 years	8 (40)	12 (60)	20	**DF=2(S)**
4 years	12 (31.58)	26 (68.42)	38	
Habits				
Alcohol	10 (55.56)	8 (44.44)	18	$\chi2=0.40$ $\pi=0.94$
Smoking	17 (47.22)	19 (52.78)	36	DF=3(NS)
Tobacco chewing	14 (50)	14 (50)	28	
Nil	18 (47.37)	20 (52.63)	38	
Family history of DM & amp;HT				
Yes	37 (52.86)	33 (47.14)	70	$\chi2=0.92$ $\pi=0.33$
No	22 (44)	28 (56)	50	DF=1(NS)

Table shows the association between post-test level of sleep pattern among experimental group had significantly associated with. age, dietary pattern and duration of treatment elderly people are having more disturbed sleep than others.

The association between post-test level of blood pressure and demographic variables of elderly among experimental group was statistically significant association with the age group of 68-75 years at the level of **p=0.05***, male elderly at **p=0.03*** and smoking habit at **p=0.03*** and were not associated with Marital status, Education, Occupation, Family Income, Type of family, Dietary pattern, Nature of medicine, duration of treatment (yrs) and Family history of HT Where as in control group none of the variables was a statistically significant association with blood pressure.

DISCUSSION

As the increasing older population year by year, nursing and healthcare facilities received many older adult patients with various health considerations. With the understanding of the factors that contribute to healthy aging, nurses and healthcare professionals are expected to promote exercise, mental health training, and better sleep quality for a better outcome of healthy aging.

The experimental group's elderly sleep reduction scores are reduced by 11.33% more than the pretest score. Whereas in the Control group, 1.28% sleep score to pretest score, this difference presents that the experimental group elderly had a healthy and good quality of sleep pattern than the control group. The effect of Subjective sleep quality with adequate hours of sleep at night got a reduction in the level of blood pressure is supported with lower sleep efficiency on one night was associated with higher systolic (B= -0.51, SE =0.11, P<.001, R^2=0.23) and diastolic BP (B=-0.17, SE=0.065, P=0.12, R^2=.16) the following day. Lower sleep duration and efficiency are associated with higher daytime systolic BP and higher night-time BP when assessed separately.[7] (Doyle et al 2019). This was observed from the experimental group elderly quality of sleep has improved and maintained their blood pressure level thereby avoiding the complication after following the proper sleep-promoting measures like the regular practice of meditation, warm bath, warm milk before going to the bed, avoiding caffeinated drinks late in the day, Reducing irregular or long daytime naps, sleep and waking at consistent times., Optimizing the bedroom environment, whereas the control group elderly quality of sleep and blood pressure have not been maintained at a satisfactory level.

The presents study results revealed that sleep duration, daytime dysfunction, and sleep efficiency have an impact on fluctuations in Blood pressure, the similar report was observed in the first National Health and Nutrition Examination Survey of 4,810 middle-aged (32-59 years) Americans in fully adjusted models, short sleep duration (≤ 5 h/night) was associated with a 60% higher risk of self-reported incident hypertension over an 8- to 10-year follow-up period (hazard ratio, 2.10; 95% CI, 1.58-2.79).[9] Calhoun, D. A., & Harding, S. M. (2010) and Cross-sectional observational studies, in general, support a relationship between short sleep duration or insomnia and higher BP.[16.17.18]

In post-test, each component-wise PSQI sleep score shows, statistically there is a significant difference between the experiment and the control group of the elderly. Overall Global PSQI score of the experiment group is 6.16 and the control group is 7.95, so the difference is a 1.79 sleep score, this difference is large and it is a statistically significant difference. Huang *et al.* also reported that poor sleep quality is an important risk factor for hypertension possibly because of higher activation of the sympathetic nervous system.13 The present study also observed that age, diet pattern, sleep habits, and environmental factors are influencing the quality of sleep, and also the researcher felt that sleep quality is one of the essential factors to maintain blood pressure. The association between post-test level of blood pressure and demographic variables of elderly among the experimental group was a statistically significant association with the age group of 68-75 years at the level of p=0.05*, male elderly at p=0.03* and smoking habit at p=0.03*, this was supported with the result of there is mounting evidence for an association between sleep disorders and hypertension.[8] (Van Ryswyk E. et al 2018). Longer follow-up duration (relative risk 1.29 (95% confidence intervals 1.09–1.52)) tended to show a higher incidence of hypertension compared with shorter follow-up duration (1.03 (0.73–1.46))[15] This study majority of elderly 45(37.50%) were in the age group of 60-63 years with poor sleep quality, but Liu, RQ et.al observed the mean age for subjects with poor sleep quality was 56.38 years, which was significantly higher than the mean age in subjects with good sleep quality (50.58 years, *P*<0.001.[14]

In gender wise distribution of elderly, in current study, 68(56.67%), and 65(54.17%) were male and 52(43.33%) and 55(45.83%) were female the experimental and control group respectively and also the female had disturbed sleep than the male it was equal to the study Xiao, L et.al 2021 says that the older adults aged ≥ 60 years who were included in the survey included 2198 (45.5%) males and 2635 (54.5%) females developed poor quality sleep.[19.21]

The researcher observed that elderly from rural areas with illiterate (50.00%), unemployed (48.84%) and less monthly income (61.54%) have high proportionate to poor quality sleep leads to difficulty in control and maintenance of the normal range of blood pressure, it was supported by the study Peng Wang et. al 2019 says that poor sleep quality or sleep disorders are highly prevalent in a rural elderly population in China.[20.] The researcher found that sociodemographic factors are major concerns in determining the quality of sleep and hypertension.

CONCLUSION

The present study suggests that short sleep duration, poor quality sleep, and daytime dysfunction are associated with a higher risk of hypertension among elderly adults and recommend that sleep-promoting behavior and lifestyle modifications are mandatory for people with elevated blood pressure to maintain a normal range of systolic and diastolic blood pressure.

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ORIGINAL ARTICLE

Study of Expectant Fathers' Prejudices and Practices vs. Pregnant Women's Pleasure related to Antenatal Care at OPD, NMCH, Nellore, A.P., India

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ABSTRACT

Introduction: The engagement of the expectant father in the pregnancy and birth of the child has an impact on the pregnancy result. It lowers the risk of preterm birth, low birth weight, foetal growth restriction, and infant death by reducing unfavourable maternal health behaviours. The role of the expectant father is critical in identifying difficulties throughout pregnancy. With this backdrop in mind, the goal of the study is to analyse the attitudes and practises of expectant dads on pregnant women when it comes to antenatal care. **Methods:** A cross-sectional study was done among 100 pregnant fathers attending an antenatal clinic. Using a structured questionnaire and observational check list, prejudices and practice of these individuals was analyzed. **Results:** In the majority of families (58 %), husbands made the decisions. Moreover half (58.2%) of the 100 expectant fathers polled, reported that health care facility was visited only if there was a difficulty. Only 20% of men preferred to accompany their women to prenatal appointments. The majority of them believed that their primary responsibility was to provide financial assistance. **Conclusion:** Most of the prospective fathers have a good understanding of antenatal care, although its relevance is not fully appreciated. Expectant fathers accompanying their wives to antenatal appointments will aid not only in the utilization of antenatal services, but also in the early detection and treatment of difficulties.

Keywords: Prejudices, Practices, Antenatal Care, Expectant Fathers Pregnant Women

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INTRODUCTION

Pregnancy, labour, and childbirth are all crucial events in a couple's life. It is likely to be the most emotional and dramatic experience of a woman's life, as well as the lives of her family members. If pregnancy and birth are simple, they can be a lovely experience. Nevertheless, if they are complicated, the woman's life may be jeopardised. Pregnancy is a physiological event that can cause stress and anxiety in the mother due to neurohormonal, physiological, mental, and social changes in the mother. At this time, mothers should acclimatise to their new role.

The phrase "maternal fatality" refers to deaths that occur during pregnancy or delivery as a result of complications. According to UN inter-agency estimates, the global maternal mortality rate fell by 38% between 2000 and 2017, from 342 to 211 deaths per 100,000 live births.

The engagement of the expectant father in the pregnancy and childbirth has an impact on the pregnancy result. It lowers the risk of preterm birth, low birth weight, foetal growth restriction, and infant death by reducing unfavourable maternal health behaviours. Male involvement reduces maternal stress (by providing emotional, logistical, and financial support), increases prenatal care, leads to the cessation of risk behaviours, and ensures men's involvement in their future parental roles from an early age, according to epidemiological and physiological evidence.

According to UN inter-agency estimates, the worldwide maternal mortality ratio dropped by 38% from 2000 to 2017 – from 342 to 211 deaths per 100,000 live birth (1). It is critical to invest in paternal inclusion from the beginning of the pregnancy so that the father understands that he is an integral part of the process and that a father is the most important person and must be present beside the pregnant mother (2). Men's involvement in maternal health decision-making, male attendance during antenatal care, male attitudes toward maternal healthcare, and male participation in health extension worker home visits, are all aspects

of male involvement. Early involvement of men in healthcare is seen as an opportunity to educate men on the importance of perinatal care and to their effective assistance in supporting their partners during pregnancy, birth preparation, and the postnatal period (3). The goal of this study is to analyse expectant fathers' attitudes toward maternity care and practises.

In India, men are seen to be the guardians of families, therefore involving them in maternal health care will promote health service usage, reduce maternal health complications, improve maternal self-esteem, and reduce the risk of pregnancy complications (4).

Prenatal care aids in the early detection, treatment, and prevention of illnesses connected to maternal morbidity and death. Many women in underdeveloped nations do not have access to this level of treatment. Understanding and enhancing community knowledge and behaviours about prenatal and postnatal care is critical to programme success. Expectant fathers must be active in obtaining timely prenatal care.Studies have shown that when fathers accompany the pregnant wife to appointments, women are considerably more likely to use maternity care. In the United States, partner involvement in pregnancy has increased antenatal care by 1.5 times.

In India, improving the awareness regarding maternal care and promoting their attendance during prenatal care may ensure better maternal health outcomes. If the SDGs for maternal care are to be met, it is critical to increase husband-involvement agenda be enhanced in India (4). India's maternity and paternity leave policies are as follows: Regular male employees with anew born child or who lawfully adopt a child under the age of one year are eligible for paternity leave at Adobe. There is no minimum service requirement. Candidates are eligible for 2 weeks of paid paternity leave, i.e. 10 days of 100% paid paternity leave.

The goals are to examine antenatal care prejudices and practises among pregnant women, as well as to link antenatal care prejudices and practises among anticipating fathers of pregnant women to demographic characteristics.

MATERIALS AND METHODS

In 2019, a cross-sectional study was carried out at Narayana Medical College and Hospital in Nellore, Andhra Pradesh, India. The goal of this study was to examine the biases and practises of husbands of primigravida women who were attending antenatal OPD with their wives in Narayana Medical College and Hospital 2019 and who were willing to participate in this survey.

Before the data was collected, each participant signed a written informed consent form. All eligible participants were interviewed using a standardised questionnaire that comprised of a socio-demographic profile as well as questions about their knowledge and preconceptions about ANC, along with their practise. A total of 100 husbands were enrolled in the trial, with expectant fathers who were mentally ill or had a drug addiction were excluded. As a result, 100 primigravida expecting fathers who attended a prenatal clinic were interviewed. Prejudices about various aspects of Antenatal care were the focus of 20 questions, while other questions focused on Antenatal care practises.

A grade was assigned to each assertion. If a total score of 100 is obtained, strongly agree 4 (81-100), agree 3 (61-80), neutral 2 (41-60), disagree 1 (21-40), strongly disagree considered 0(1-20) is the Checklist for assessing the level of practise. Early registration, visits, antenatal care, vitamin, iron, and folic acid supplementation, prompt hygiene, and awareness of risk indications are all part of the check list. It is made up of nine different items. The level of practise was determined. Those who answered yes received a score of 1, while those who said no received a score of 0. Frequency, mean, standard deviation, and percentage were done in the analysis.

The study protocol was approved by the ethics committee under institutional ethics committee, Narayana college of nursing,Nellore, India. File no:03/phD(N)/LU/2018 dated 06thJune 2018.

RESULTS

A total of 100 expectant fathers agreed to participate in the study. About 75% of all expectant fathers were between the ages of 21 and 30 years, while 25% were above the age of 31 years. The majority of the moms, (83%), were between the ages of 21 and 30 years, with the remaining 17% being between the ages of 31 and 35 years.

The educational condition of the fathers revealed that 18% were illiterate, 38% had completed secondary school, and 44% had completed high school. In terms of the mothers' educational standing, 30% were illiterate, 56% had completed secondary school, and 14% had received a diploma. When it came to the occupations of expectant fathers, 51% worked in clerical jobs and ran their own businesses, 12% worked as skilled employees, and the remaining 37% worked as semi-skilled workers. The majority of pregnant women (81%) were housewives, while the remaining 19% ran their own business with their husband. Around two-thirds of those polled, or 76%, identified as Hindu.The monthly income of respondents ranged from Rs. 1500 to Rs. 15,000.

Husbands were the primary decision-makers in their families' health care (58%), followed by other family

members (30 %). Only 12% of cases involved shared decision-making with a spouse. In terms of family structure, 76% of respondents belonged to a nuclear family, while 24% lived in a mixed family.

According to the frequency and percentage distribution of prejudice categories, 32% strongly agree, 22% agree, 26% are neutral, 12% disagree, and 8% strongly disagree (Table I). The majority of prospective fathers (90%) believed that antenatal care was a need in everyday life, but they were not sure regarding the gestation period for registration, 20.8% properly stated first trimester, while 21% correctly responded third trimester. More than half (58.2%) believed that going to a health care facility should only be done if there was a complication.

Table I: Prejudices regarding antenatal care among expectant fathers on pregnant women.

CATEGORIES OF PREJUDICES	FREQUENCY (F)	PERCENATGE (%)
Strongly Agree	**32**	**32**
Agree	22	22
Neutral	26	26
Disagree	12	12
Strongly Disagree	8	8
TOTAL	100	100

A substantial percentage of expectant fathers (82%) thought regular antenatal visits and ultrasound measurement during antenatal care were necessary, and over 80% of wives were aware of the necessity for vitamin, iron, and folic acid supplements antenatally. While half of the women knew that blood pressure and weight were taken at every antenatal visit, the other half didn't. 85% of spouses believe that with strong family support, a woman can deliver in an institutional setting (Table II). A total of 48% of expectant fatherseffectively practised antenatal care, 30%were irregular, and 22% were ineffective in practised (Table III). The mean of antenatal care prejudices among expectant fathers is 26.6, with a standard deviation of 6.679. The mean level of prenatal care practise among expectant fathers is 24.3, with a standard deviation of 7.4 (Table IV). Work schedules (48%), family pressure (23%), culture (12%), peer pressure (11%), and societal issues were all cited as reasons for men not attending their spouses to the hospital (6%) (Table V).

Table II: Level of Practices regarding antenatal care among expectant fathers

ITEM	LEVEL OF SCORE ON PRACTICE	
	YES	NO
Regular antenatal visits and investigations	82(82%)	18(18%)
It is necessary to go for ANC even if there is no complication	73(73%)	27(27%)
Full course of TT	79(69%)	21(31%)
Vitamin, Iron and folic acid supplementation	80(80%)	20(42%)
Attending antenatal classes	40(40%)	60(60%)
Maintain prompt hygienic practices	67(45%)	33(20%)
Aware of danger signs of pregnancy	55(55%)	45(45%)
Institutional delivery	85(85%)	15(15%)
Paternity leave	78(78%)	22(22%)

Table III: Level of Practices regarding antenatal care among expectant fathers

LEVEL OF SCORE ON PRACTICE	FREQUENCY(F)	PERCENTAGE (%)
a) Effective	48	48
b)moderate	30	30
c) Ineffective	22	22
Total	100	100

Table IV: Mean and standard deviation of categories of prejudices and level of practice

CATEGORIES	MEAN	STANDARD DEVIATION (S.D)
Categories of prejudices	26.6	6.679
Level of practices	24.3	7.4

Table V: Reasons for not accompanying wife in antenatal care according to expectant fathers.

Criteria	No of participants
Reasons for not accompanying wife in antenatal care	
Job	48
Family	23
Culture	12
Peer pressure	11
Other social factors	6
Total	100

DISCUSSION

In this study, we discovered that educated prospective fathers were more knowledgeable about the health care of pregnant women. It is expected that educated males will be more conscious of their own and the health status of their family and seek out more information on health care. Those who lived in nuclear homes had slightly better antenatal care knowledge. In a study conducted in West Bengal, it was discovered that in a nuclear family, antenatal care was much better (5).

In this study, we discovered that the majority of pregnant dads enthusiastically agreed to participate in antenatal care despite their lack of understanding. But awareness of pregnancy danger indications was very poor. Husbands' education and career were the factors that influenced their attitudes about prenatal care. Similarly, Mullany (6) discovered that the most significant obstacle

to male involvement in maternal health was occupation. In our survey, 82% of expectant men believed that their primary responsibility was to offer financial assistance to their families rather than to participate in birthing preparation. Wai et al. (7) came up with a similar finding. They conducted a cross-sectional study on husbands and discovered that while the majority of husbands financially supported their wives' maternal care services, they were less involved in birth preparation and postnatal care. Knowledge of maternal health and exposure to maternal health education was necessary. Expectant fathers who did not attend regular antenatal sessions cited a lack of necessity (30.8%), transportation issues (26.3%), and family resistance as excuses (2.9%). In a research conducted in Jaipur, the reasons for not attending antenatal care on a regular basis were dependency on family members (26.5%), transportation issues (20.6%), and the exhausting nature of the process (20.6%). The majority of the women (79%) had received two TT doses during their pregnancy (8). It was found that presence of men during ANC visits were challenged by structural and local cultural norms (9,10). Another research also found that counselling reduced state anxiety in expectant fathers (11).

Prejudices toward antenatal care of pregnant women were shown to be significantly low among prospective fathers in our study. The number of women who received good prenatal care was rather low. Only 20% of men wanted to accompany their women to maternity care, but 94% believed that other family members may accompany them to periodic check-ups. Work schedules (48%), family pressure (23%), culture (12%), peer pressure (11%), and societal issues were all cited as reasons for men not attending their spouses to the hospital (6%). This discovery is in line with Sanjel et al., (2011) findings in Nepal found that the most common reason for not attending ANC was financial difficulties (12).

CONCLUSION

In our study, prospective dads' attitudes of antenatal care were shown to be favourable. They must, however, be inspired to put that knowledge into practise. More instructional and motivating surveys should be conducted in outlying health-care institutions, and such surveys should include views of the wives. In our country, many ANC programmes are being held, but much more is needed to be done.As expectant fathers are the ones who influence health-care decisions in their families, a shift in their mindset can make a big difference, resulting in early registration, early detection of problems, and timely management. Paternity leave information, education, and communication efforts should be improved on Antenatal care through community campaigns and mass media such as local television channels, radio, and local newspapers to raise community, spousal, and family knowledge.

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Critical Evaluation of Childhood Exposure to Various Environmental Pollutants

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Abstract

This study has been carried out to illustrate and assess childhood exposure to environmental pollutants and evaluate the associated impact on children's health. Children are more susceptible to pollutants and toxicants of the environment and protecting their health should be a priority. Climate change, increased pollution and other environmental issues have pushed children to become the most endangered group to be affected. Children are habitual to unhealthy practices and putting anything in their mouth and identification of the main issues or pollutants affecting children's health is highly required. Additionally, children breathe more air, drink more water, eat anything they find nearby, and constantly increase their biological growth. In this study, secondary qualitative data has been collected by exploring online journals, websites and newspaper articles. The collected data has been evaluated and interpreted by conducting a thematic analysis and the results suggest that children stand as the most vulnerable group severely impacted by environmental pollutants such as air pollution and water or soil pollution. Governments and the United Nations have taken several initiatives to reduce environmental impacts on children. Several programs have been to improve children's environmental health and implement the Sustainable Development Goals. It has been observed that ensuring environmental sustainability can reduce the crucial impact and improve children's health.

Keywords: Children, Health, Environment, Hygiene, Immunity, Pollutants.

Background

Children stand among the most endangered groups due to their unhealthy habits and lesser knowledge about harmful substances. In addition, children have several types of unhealthy habits such as putting anything in their mouth and they eat almost every object they find nearby. Their biological growth is constantly evolving and due to this, children drink more water and breathe more air. The immunity system of children is also undeveloped and vulnerable to any kind of harmful object. Air pollution and smoking have been identified to have a major impact on children's health and can develop obesity [1]. Excessive use of pesticides, harmful waste and air pollution poses major impacts on children's health as they are habituated to crawling

These practices impact the emotional, psychological and mental health of children and even can cause death.

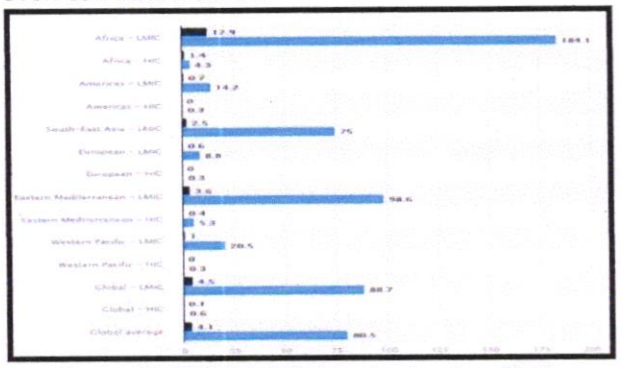

Figure (1): Child death rate due to air pollution worldwide in 2016
(Source: 2)

changes affect children's health and mental development. On the other hand, household pollution has been identified to pose a major impact on children's health more than climate change and industrial pollution. In 2016, 100,000 children from South-East Asia regions died due to air pollution [2]. This indicates the vulnerable condition of childhood exposure to environmental contaminants and associated impacts. Air pollution has been identified to have a major impact on children's health, while other significant environmental threats are harmful chemicals and waste, e-waste, poor sanitation, infected water and climate change. These factors pose a crucial impact on children's health and even lead to severe physical challenges and death.

Significance of the study

The following study has been focused on addressing childhood exposure to environmental contaminants and provided significant evidence. All potential environmental issues and pollutants impacting children's health and well-being have been explored and their potential impacts have been addressed. In addition, this research has also provided effective recommendations for preventing the impact on children's health by reducing the environmental pollution. Thus, this study has signified the potential impact on children's environmental health along with the importance of protecting children's health. In addition, the harmful impacts of several types of environmental issues and hazards, and the urgent requirement for improving sustainability, especially decreasing household pollution have been evaluated in this study. Hence, it can be stated that this research has provided significant insights into childhood exposure to environmental contaminants.

Operational definitions

Environmental pollutants

Environmental pollutants or EP involve compounds that influence several types of changes within the environment and even change the climate. The major pollutants are pesticides, fungicides and herbicides used in agriculture and there are several more types of pollutants are available.

Exposure

Exposure is referred to as experiencing something and childhood exposure associated with environmental pollutants involves experiencing or impacting by the pollutants.

Aim of the study

The aim of this study is to evaluate and identify childhood exposure to environmental pollutants, assess potential impact and develop suitable recommendations to prevent the impact.

Objectives

- To assess childhood exposure to
- To identify and evaluate the potential impact of environmental pollutants on children's health
- To recommend strategic solutions to reduce environmental pollution and prevent its impact on children

Evaluation of children's environmental health

Infants are among the endangered groups to be impacted due to any low or high environmental impacts due to their developing nature and lack of proper immunity. In addition, children drink more water, eat more food and breathe more than adults as per their size and they are also habituated to putting anything to their mouth. Children's and women's environmental health is more vulnerable than adults' as and high environmental impacts have been identified to develop issues such as cardiovascular disease, diabetes and "liver enzyme abnormalities" [3]. The infant period is regarded to be the time of rapid development and growth and during this time, children face several types of issues regarding the surrounding environment.

"Gene-environment interaction" is a major cause of health conflicts in children and protecting children's environmental health is a vital need. Moreover, children's behavioural and mental difficulties have been identified to consist of a correlation with exposure associated with their environment [4]. Environmental risks are major causes of infant death in recent years, and it has been observed that decreasing environmental issues by improving sustainability can improve children's environmental health. Children are majorly influenced by their surrounding environment and lack knowledge of good habits. Environmental threats pose a high impact on children's health and in 2012, approximately 1.7 million infants under the age of five died due to environmental issues [5]. Children's development and progress are majorly influenced by their surrounding environment, which is a major cause of increasing child death due to environmental issues. Additionally, inadequate water, poor sanitation, hygiene issues, the impact of chemicals and hazardous waste, especially household waste and air pollution are the main risk factors for children [21].

Environmental issues affecting children's health.

Infants consist of a rapidly developing nature and increase their biological development over a long time and are vulnerable to any low or high impact from the environment. There are numerous types of environmental issues that can affect children's health and progress, including air pollution, soil and water pollution, poor sanitation, radiation, harmful waste and climate change. It has been observed that parenting stress and "environmental risk factors" pose a high impact on children's emotional and mental progress [6]. Air pollution and radiation

improper development and can also lead to death. On the other hand, a significant number of children's death has been observed to be the reason for household air pollution.

Rapid environmental changes, including climate change and increasing pollution, also impact highly on the mental and physical progress of children's development. Another emerging threat to children's health is e-waste and chemical waste and children are habituated to touching and putting anything in their mouths. Due to these practices, they are mostly affected by hazards and environmental risk factors. On the other hand, infants mostly remain indoors and lack extra indulgence with the outer world [7]. Lacking proper immunisation is also a cause of children's vulnerability to environmental impacts and poor sanitation and hygiene also cause severe damage to children's health.

1. Methods

The research method is a highly essential key tool to lead any specific research process and extract the right information to sustain the research paper for a long-term issue. Selecting every single tool is vital to conducting further processes in the correct order.

Research Approach

The researcher has selected an "inductive research approach" to lead this paper as it allows flexibility and also supports the new formation of data. It serves the research process with the strength that the researcher can assume what might happen in the future [8]. Accompanied by observing and measuring the potential outcomes, this research approach is helpful in detecting themes while evaluating the raw data.

Research Philosophy

In this research paper, the researcher has found an "interpretivism research philosophy" as helpful as it allows proper understanding between researcher and subject during the research process. Due to collecting data, this philosophy helped in reconstructing and made acknowledging the data in better way.

Research Design

Research design is a vital part of research that ensures project time schedules with better documentation. The researcher has chosen an "exploratory research design" as it low cost and able to make the research process understandable at an early stage [9]. It has basically served the formula of previously un-researched subjects to reveal new facts based on issues.

Data Collection tool

In this study, the researcher has found a "secondary qualitative data collection tool" is useful to collect relevant data and information. It has been collected by exploring online journals, websites, selected between 2018 and 2022 to get recent data. On the contrary, all the dissertation articles have been rejected as they could mislead the research process by providing wrong information. Since these resources remain already existed, it has saved both time and money for the researcher.

Data Analysis tool

After the process of the collection of data, the collected data has been evaluated and interpreted by conducting a "thematic analysis" process. It has been chosen because it does not require any specific technological and theoretical knowledge. It allows a more approachable texture of evaluation that could be understandable by readers [11]. As it is capable of describing the content and outcome in a better way, the researcher has experienced its benefits. Moreover, all the research tools have helped the researcher find out authentic information related to the research topic.

2. Results

Theme 1: Various environmental pollutants and their impact on children's mental and emotional progress

With the rapid changes in the global environment, numerous environmental contaminants have raised developing high threats to environmental sustainability and health. These pollutants include harmful chemicals, waste, inadequate water, radiation and climate change. Apart from this, these pollutants pose a major impact on children's progress and can develop conflicts in cognitive progress [12]. On the other hand, a common household waste is lead, which has been identified to hinder the development of intelligence and cognitive progress. These pollutants can also increase behavioural difficulties and can develop a mental disorder that eventually creates a barrier to learning and development. Environmental contaminants are also responsible for immature child death and increasing mental disorders among children.

Theme 2: Importance of protecting children's health.

Children are regarded to be the future of society and regarding this, protecting their health is highly required. In addition, protecting their mental and psychological health from environmental pollutants is crucial as affected health can lead them toward living with mental distress or disorder and improper physical progress while being adults. Environmental pollutants cause a significant rate of child death every year and are mainly due to household air pollution and regarding this, reducing the pollution level is vital. The immunisation system and mental progress of children remain in progressive condition due to which they touch and put everything in their mouth including household waste, pesticides and

be stated that children are among the most endangered groups to be impacted by environmental pollutants and protecting their health is highly required for the development and progress of society. It has been identified that children's emotional progress is more endangered by "traumatic events" than adults' [13]. Trauma and associated aspects can pose a crucial impact and protecting children's health is vital for the progress and growth of society.

Theme 3: Initiatives taken by governments and international organisations.

Considering the imperative requirement to protect children's health and future from environmental pollutants, governments and international humanitarian organisations have taken several initiatives. The "World Health Organisation" or WHO has been focused on improving "children's environmental health" and regarding this, the organisation has arranged programs and upgraded information-sharing practices with volunteers and policymakers. Additionally, the organisation has arranged a "rapid assessment" named "National Children's Environmental Health Profile" for collecting information on environmental risks and children's health [14]. In the UK, one of the major issues affecting children's health is air pollution. In this regard, the government has implemented the "Clean Air Strategy" to tackle this issue by reducing air pollution [15]. WHO collaborates with the governments of various nations and develops effective policies based on accurate and reliable information. Additionally, the "risk assessment programs" are thoroughly dependent on the input acquired through government ministries and humanitarian organisations.

3. Discussion

In the present study, a secondary qualitative data collection method has been used and the outcomes have been interpreted by conducting a thematic analysis. Several types of "environmental pollutants" have been identified that affect "children's health" and progress. Children consist of a developing biological system and immunisation system, which have made them vulnerable to resisting any minimal impact of their surrounding environment. Technological advancement, globalisation and changing global climate have formed several types of pollutants that have a direct impact on child's health, such as radiation, hazardous waste and chemicals, e-waste, air pollution and pesticides. Interaction between air pollution and immature genes can cause "childhood asthma" [16]. In addition, the pollutants have been observed to have a vital impact on the psychological and cognitive progress of children.

Increasing mental disorders and behavioural conflicts among children are also due to increasing air pollution and household pollution. It has been every available object in their mouth, touching everything and drinking, eat breathe more than adults. Infants are of a constantly developing nature and involve several types of unhealthy habits and activities due to their immature mental and psychological progress. On the other hand, the severe impact of "environmental pollutants" on pregnant women can also disrupt "child development" [17]. Due to a lack of a properly developed immunisation system, infants are vulnerable to any harmful substances in their surrounding environment, including household waste, pollution and lead usage. Additionally, the infected or psychologically disabled child grows up with the same disabilities which can create barriers to social progress. Hence, reducing pollution and protecting children's health is severely required for society.

Governments of several nations and international humanitarian organisations have taken various interventions to reduce pollution in order to protect "children's environmental health". The United Nations developed a "Joint Framework Initiative on Children, Youth and Climate Change" in 2010 for ensuring a "low-carbon and climate resilient future" for every child [18]. Moreover, the United Nations has been focused on protecting the environment and reducing pollution by improving collaboration, while the WHO has arranged a "risk assessment" program for identifying and assessing the context of "children's environmental health" by accessing data from various governments. These international humanitarian organisations have established collaboration with governments of different nations, especially where pollution is high in order to develop suitable policies, arrange programs and protect "children's environmental health".

4. Conclusion

In the following study, the context of childhood exposure due to "environmental pollutants" has been explored and the potential impact on children's health has been assessed. A secondary data collection method has been used and the findings reveal that the emergence of technology, climate change and globalisation has increased pollution levels to a significant extent and children are vulnerable to any kind of injuries due to their immature immunisation system. Infants constantly increase their biological growth and household air pollution has been identified to pose the most crucial impact on children's health. "Gene-air pollution interaction" can cause severe cognitive and behavioural difficulties and ultimately impacts their emotional, psychological and physical development.

WHO, the United Nations and governments have arranged several types of programs and taken interventions to protect children's environmental health. The World Health Organisation has arranged a risk assessment program to collect data by

Protecting "children's health" has become a social requirement as environmental exposure and trauma can have an impact on their adolescents also and ultimately limit social progress. Thus, this study has provided effective and accurate insights into the impacts of "environmental contaminants" on "children's health and exposure. Reducing pollution and increasing environmental sustainability is highly required as air pollution has become the cause of a high rate of children's death every year.

5. Recommendation

Infants are among the most vulnerable groups to be affected by pollutants and other environmental issues and regarding this, protecting their health is vital. Parents have to dispose of household waste in a safer place out of reach of children and keep harmful chemicals and pesticides away [19]. Storing toxic objects in tightly closed containers can be effective along with placing them in high places. Infants spend most of their time in the home and get highly impacted by household pollution. In this context, parents have to ensure stopping smoking within the home as well as keeping the home safe and sanitised. On the other hand, the government has to develop an efficient and flexible voluntary system for providing required health supplements in case of chemical poisoning. Eliminating the use of polluted and poor quality water and "contaminated fish" are other initiatives that parents can take in order to ensure the protection of children's health. Keeping children within the home and protecting them from going into the sun or areas having toxic air can protect them from air pollution. In addition, parents have to ensure the availability of fresh air in the home in order to avoid suffocation for the child.

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A Study To Assess The Quality Of Life Among Type2 Diabetes Mellitus Clients In Urban Area Of Tirupati.

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Abstract:

Background: Depression in elderly diabetic population is a serious public health concern all over the globe, leading to unnecessary suffering, impaired functional status, non-adherence to diet, physical exercise, excessive use of health-care resources and increased mortality. Therefore, early detection and prompt intervention remains the mainstay to reduce the burden of the disease. The study aimed to estimate the prevalence of depression among Type2 Diabetes Mellitus population and to determine the association between socio-demographic factors and depression.

Materials and Methods: 120 Type2 Diabetes Mellitus individuals were assessed. Geriatric Depression Scale was used to assess the level of depression. Data was analysed using MS Excel 2007 and SPSS version 26 for windows.

Results: The present study results suggest that most of the Type2 Diabetes Mellitus population were mild depressives (68.3%) as per GDS scale. About 19.2% were severe depressives and only 12.5% of study population were normal. Twenty-three (13 males and 10 females) were suffering from severe depression.

Conclusion: Depressive symptoms were positively associated with religion and body mass index. But there was no significant association between age, sex, type of family, caste, education, socio economic class and depression in our study.

Keywords: Depression, Type2 Diabetes Mellitus, GDS scale and sociodemographic factors.

Introduction:

Depression in elderly population is a serious public health concern all over the globe, leading to unnecessary suffering, impaired functional status, non-adherence to diet, physical exercise, excessive use of health-care resources and increased mortality. Therefore, early detection and prompt intervention remains the mainstay to reduce the burden of the disease. (1)

Geriatric depression is a mental and emotional disorders affecting elderly adults. Older adults may feel of sadness and often "blue" moods are normal. However, lasting depression is not a typical part of aging. (2)

The Global Health estimates that depression is most common among females (5.1%) than males (3.6%). Prevalence rates vary by age, peaking in older adults. The Worldwide depressives were 322 million in 2017. Nearly half of these people live in South East Asian countries (27% of whom live in China and India).(3)

Diabetes mellitus impacts 387 million people worldwide, with the number predicted to rise by 205 million by 2035, with around 75 million diabetics living in the Southeast Asian area.(4)

In India 45.7 million population are suffering with depression. Highest prevalence is seen in states of Tamilnadu, Telangana, Goa, Kerala, moderate prevalence is seen in Andhra Pradesh and lowest prevalence is seen in Odhisa.(5)

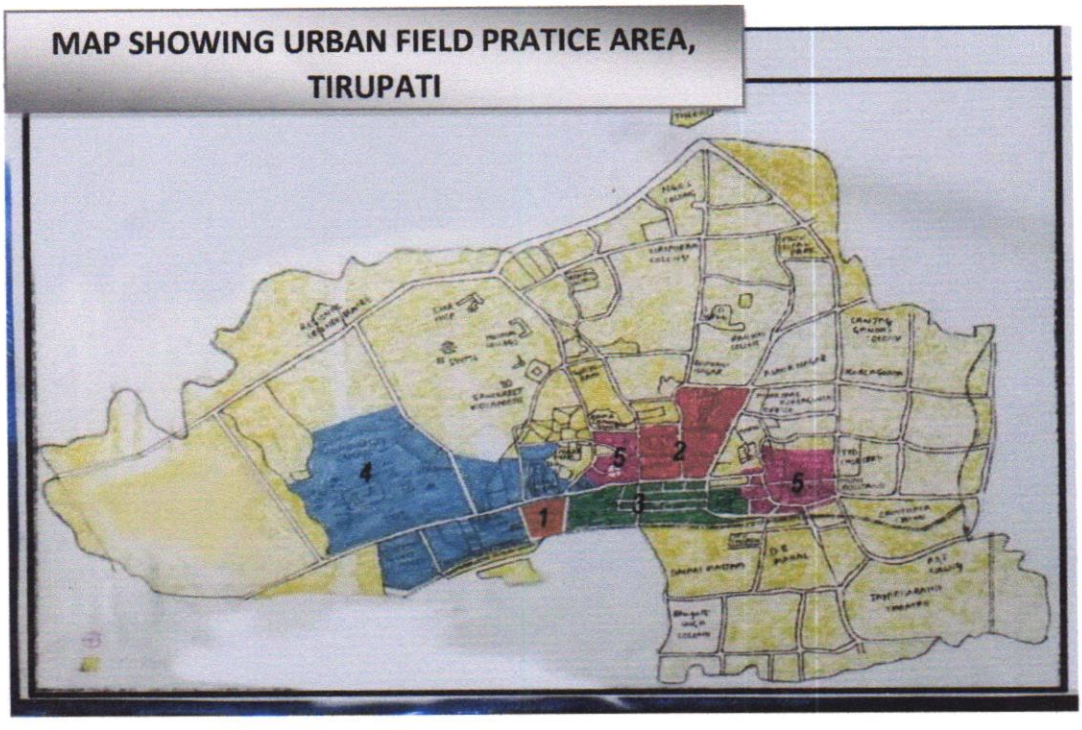
The objective of the study is to estimate the prevalence of depression among Type2 Diabetes Mellitus population and to determine the association between socio-demographic factors and depression. This study will help to encourage in the treatment of diabetes and depression as can improve the quality of life of the needed population

Materials and Methods:

A Cross-sectional study was conducted among Type2 Diabetes Mellitus belonging to different socio-economic and varying demographic groups of urban field practice area of Sri Padmavathi Medical College for Women, SVIMS, which comes under Urban Health Training Centre, Gandhi Road, Tirupati.

Study setting:

Figure No:1- Map Showing Urban Field Practice Area



Urban field practice area of SVIMS, Sri Padmavathi Medical College for Women comes under Urban Health Training Centre, Gandhi Road, Tirupati. It includes 5 wards covering population of 42,438

(10,425 families) out of which Type2 Diabetes Mellitus population constitute 3,603 (1,843 males and 1,760 females).

SAMPLING:

Sample size calculation:

Considering the prevalence of morbidity among Type2 Diabetes Mellitus to be 50%, we calculated the sample size for our study using the formula

$N = Z^2pq/L^2$:

- p= 50
- q= 50 (100-p)
- L=10% of p

i.e.,

3.84x50x50/10x10 = 96

Based on the above, sample size was determined to be 96, considering a non-response rate of 20%, the total sample size was found to be **116**, round off to **120**.

The sample of the study subjects to be drawn from each ward in urban field practice area has been calculated by the method of probability proportional to population size.

In Urban field practice area, all the households in each ward were selected by systematic random sampling method. In the final stage, all persons aged 60 years with Type2 Diabetes Mellitus & above in the selected households were included in the study.

The proportional sample for individual wards in urban area was obtained by multiplying this fraction to the Type2 Diabetes Mellitus population of the selected wards.

Thus the final sample of 120 study subjects included in the study from the 5 wards in urban field practice area is shown in the table 1 below by using Stratified random sampling with proportional allocation:

Table 1:

Name of urban ward	Population	Number of Households	Number of Type2 Diabetes Mellitus (%)	Sample size to be drawn as per PPP size
24	8139	1901	691(19.17)	23
25	8865	2214	753(20.89)	25
28	8239	2154	699(19.40)	23
29	8449	1864	718(19.92)	24
31	8746	2286	742(20.59)	25
Total	**42438**	**10425**	**3603(100.0)**	**120**

Inclusion criteria: All adults aged 60 years and above with Type 2 Diabetes Mellitus, healthy and willing to participate in the study were selected.

Exclusion criteria: All the study subjects who were bedridden and under treatment for chronic diseases and have known terminal or mental illness. All the study subjects who were not willing to participate in the study were excluded.

Data collection: The questionnaire was divided into two parts. The first part comprised of socio-demographic information which includes age, sex, type of family, religion, caste, education, socio-economic status and Body Mass Index (BMI).

The second part comprised of a scale known as Geriatric Depression Scale (GDS). The GDS is a 30-item self-report assessment used to recognize depression in the elderly. The scale was first developed by JA Yesavage and others in 1982. (6)

Ethical approval:

The study protocol was approved by the Institutional Ethical committee, in Human subjects, Narayana College of Nursing, Nellore, India was obtained (File.No:02/PhD(N)/LU/2018 dated 6th June 2018).

Data Analysis: Data was analysed using MS Excel 2007 and SPSS version 26 for windows. Appropriate statistical tests were used which included Chi-square test. Results having P <0.05 are considered as significant. The GDS questions are answered 'Yes' or 'No'. One point is given to each answer and total score is rated on a score grid. The scale sets a range of 0-9 as 'normal', 10-19 as 'mildly depressed' and 20-30 as 'severely depressed'.

Results:

A total of 120 elderly with Type2 Diabetes Mellitus were assessed using GDS 30, 15(12.5%) subjects were found to be having score 0-9 that means normal, 82 (68.3%) were mildly depressed with GDS score 10-19 and 23(19.2%) were severely depressed having a score >20. So prevalence of severe depression was found to be 19.2% [Table 2].

Table 2: Distribution of study subjects according to the level of depression(n=120)

Category	Number	Percent
Normal	15	12.5
Mild Depressives	82	68.3
Severe Depressives	23	19.2
Total	120	100

Table 3: Distribution of study subjects according to socio demographic factors.

Socio demographic variables	Number	Percentage (%)
Age (in years)		
60-69	79	65.8
70-79	31	25.8
≥80	10	8.3
Sex		
Male	62	51.7
Female	58	48.3
Type of family		
Nuclear	94	78.3
Joint	25	20.8
Extended	1	0.8
Religion		
Hindu	81	67.5
Muslim	27	22.5
Christian	12	10
Caste		

Scheduled Tribe	25	20.8
Scheduled Caste	30	25
Backward Class	36	30
Others	29	24.2
Education		
Illiterates	26	21.7
Literates	94	78.3
Socioeconomic Class		
Upper	1	0.8
Upper Middle	15	12.5
Lower Middle	47	39.2
Upper Lower	54	45
Lower	3	2.5

From **Table 3** it was observed that most of the study population were in the age group of 60-69 years (65.8%) followed by 70-79 years (25.8%) and ≥80 years (8.3%). Most of them were males (51.7%). Most of the study population belong to nuclear families (78.3%) followed by joint families (25%) and extended families (0.8%) respectively. About 67.5% of the families belong to hindu religion followed by muslims (22.5%) and christians (10%) respectively. About 30% of the families belong to backward class followed by scheduled caste (25%), others (24%) and scheduled tribe (20.8%) respectively. Most of them were literates (78.3%). Majority of families (45%) belongs to upper lower-class group followed by lower middle class (39.2%), upper middle class (12.5%), lower class (2.5%) and upper class (0.8%) respectively.

Table 4: Distribution according to sociodemographic characteristics and level of depression (n=120)

	Normal (%)	**Mild depression (%)**	**Severe depression (%)**
Age (in years)*			
60-69	6(7.6%)	59(74.7%)	14(17.7%)
70-79	8(25.8%)	16(51.6%)	7(22.6%)
≥80	1(10%)	7(70%)	2(20%)
Sex*			
Male	7(11.3%)	42(67.7%)	13(21%)
Female	8(13.8%)	40(69%)	10(17.2%)
Type of family*			
Nuclear	10(10.6%)	66(70.2%)	18(19.1%)
Joint	5(20%)	15(60%)	5(20%)
Extended	0(0%)	1(100%)	0(0%)
Religion**			
Hindu	9(11.1%)	55(67.9%)	17(21%)
Muslim	1(3.7%)	21(77.8%)	5(18.5%)
Christian	5(41.7%)	6(50%)	1(8.3%)

Caste*			
Scheduled Tribe	1(4%)	20(80%)	4(16%)
Scheduled Caste	5(16.7%)	20(66.7%)	5(16.7%)
Backward Class	5(13.9%)	27(75%)	4(11.1%)
Others	4(13.8%)	15(51.7%)	10(34.5%)
Education*			
Illiterates	1(3.8%)	20(76.9%)	5(19.2%)
Literates	14(14.9%)	62(66%)	18(19.1%)
Socioeconomic Class*			
Upper	0(0%)	1(1.2%)	0(0%)
Upper Middle	2(13.3%)	11(13.4%)	2(8.7%)
Lower Middle	6(40%)	34(41.5%)	7(30.4%)
Upper Lower	7(46.7%)	33(40.2%)	14(60.9%)
Lower	0(0%)	3(3.7%)	0(0%)
Body Mass Index**			
Under weight	3(20%)	0(0%)	0(0%)
Normal	2(13.3%)	12(14.6%)	6(26.1%)
Over weight	10(66.7%)	70(85.4%)	17(73.9%)

* Not significant ** Significant

Table 4 reveals that most of the elderly with severe depression were in the age group of 70-79, ≥80 and 60-69 years respectively. Most of the elderly with mild depression were in the age group of 60-69, ≥80 and 70-79 years respectively. Relation between age and depression is not statistically significant.

Among the study population 21% of males had severe depression compared to females (17.2%), 69% of females had mild depression compared to males (67.7%). Association between sex and depression is not statistically significant.

About 20% and 19.1% of study population having severe depression were in joint and nuclear families respectively. About 100%,70.2% and 60% of study population having mild depression were in extended, nuclear and joint families respectively. Relation between type of family and depression is not statistically significant.

About 21%, 18.5% and 8.3% of study population having severe depression belonged to the religious group of hindus, muslims and christians respectively. About 77.8%, 67.9% and 50% of study population having mild depression belonged to the religious group of muslims, hindus and christiansr espectively. Relation between religion and depression is statistically significant.

Most of the study population having severe depression belonged to the caste others, Scheduled caste, Scheduled tribe and Backward class respectively. Most of the study population having mild depression belonged to the caste scheduled tribe, backward class, scheduled class and others respectively. Relation between caste and depression is not statistically significant.

Among the study population 19.2% of illiterates had severe depression compared to literates (19.1%). About 76.9% of illiterates had mild depression compared to literates (66%). Association between education and depression is not statistically significant.

Most of the study population having severe depression were in upper lower, lower middle and upper middle class respectively. Most of the study population having mild depression were in

lower middle, upper lower, upper middle, lower and upper class respectively. Here it is not statistically significant with socio economic class and depression.

Most of the study population having severe depression were overweight and normal respectively. Most of the study population having mild depression were overweight and normal respectively. Here it is statistically significant with BMI and depression.

Discussion:

The present study was a community based cross sectional study done to assess the level of depression among elderly population using Geriatric depression scale.

In this study most of the study population were in the age group of 60-69 years. Similar findings were observed in the study done by Vu et.al (7).

Depression was more common in males as compared to females. Similar findings were observed in the both studies done by A M Radazi et al (8) and Fung ACH et.al (2018) (9).

Based on the religion, majority were Hindu, Similar finding was found in the study done by Dogra P et al (2017) (10).

Most of the study population were literates. Similar finding was observed in the study done by A M Radazi et al (8).

Elderly living in nuclear family system were more likely to suffer from depression than those living in joint family system which is not similar in the study done by Vandana A. Kakrani et al. (2015) (11).

In our study depressive symptoms were positively correlated to religion and body mass index. Similar findings identified in this study Beata Dziedzic et al. (2020) (12). But there was no significant association between age, sex, type of family, caste, education, socio economic class and depressive symptoms among study subjects.

In our study, about 19.2% of the study subjects were severe depressives, 68.3% were mild depressives and only 12.5% of study population were normal. Similar findings were observed in the study done by Vu et al. (7), which showed 10% of elderly with severe depression, 69.4% of elderly with mild depression and 20% were normal.

Community based mental health studies in India have revealed that the prevalence of depressive disorders in the elderly Indian population ranges between 13% and 25% (13).

Predominance of depressive symptoms varied from 13.5% to 36.8% in community dwelling older adults (14,15,16).

Some other studies have unveiled that the incidence of depression in community samples of elderly in India ranges from 6% to 50% (17,18)

The absence of caretaker may be the possible cause for depression. There is a necessity for greater understanding of depression among family members and community at large.

Conclusions:

It can be concluded from this study thatdepressive symptoms were positively associated with religion and body mass index. But there was no significant association between age, sex, type of family, caste, education, socio economic class and depression in our study.

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ORIGINAL ARTICLE

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Antidiabetic effect of 2-(4- [(2-hydroxyacetyl benzyl) ketoamino]-phenyl amino-methyl)- hydrobenzophenon on Alloxan induced rats

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ABSTRACT

Diabetes Mellitus is known as a syndrome, a collection of disorders with high blood glucose level & glucose intolerance as its feature, either because of insulin deficiency or insulin impairment or both. Diabetes Mellitus, based on insulin, is broadly classified into two types. Type one indicates the distraction of pancreatic β - cells that leads to diabetes mellitus, in which insulin is necessary to prevent ketoacidosis, coma, death. Type two diabetes is characterized by disorders of insulin resistance & secretion. Male Wistar albino rats with an average weight of 180-250 g were used in this study. With a 12 hours' light and dark period, they were kept under normal conditions (room temperature 24-27°C and humidity 60-65 %). The free access of drinking water & pellet diet to male Wistar albino rats was allowed, as per the CPCSEA guidelines. Anti-diabetic activity of Compound 2-(4- [(2-hydroxyacetyl benzyl) ketoamino]-phenyl amino-methyl)- hydrobenzophenon, male Wistar albino rats were divided into four different groups. 1ml of blood samples were collected directly into anticoagulant bottles from the tail vein & later plasma was collected after centrifugation. Blood sugar levels were determined by spectrophotometer. There was a significant decrease in blood sugar levels in Alloxan + Glibenclamide and Alloxan + Compound groups on compared to control. The present self-funded study concludes that antidiabetic activity of 2-(4- [(2-hydroxyacetyl benzyl) ketoamino]-phenyl amino-methyl)- hydrobenzophenon in Alloxan induced diabetic rats significantly shows decreed blood sugar levels when compared to the control group.

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INTRODUCTION

Diabetes Mellitus, a disease as old as mankind, is a collection of disorders with high blood glucose level and glucose intolerance as its feature, either because of insulin deficiency or insulin impairment, or both. Diabetes Mellitus classified into two types. A few other types are less predominant and are categorized as hereditary, endocrine, exocrine pancreatic, and diabetes mellitus caused by medications (American Diabetes Association, 2020).

In India, it is estimated that presently 77 million individuals are affected by this deadly disease,

which is likely to go up to 134 million by the year 2045 (Kannan, 2020). Diabetes Mellitus of all types can lead to complications in the body and increase premature death. Kidney malfunction, gangrene lead to limb amputation, loss of vision, and nerve injury are possible risks. Adults with diabetes mellitus may have a two to three times higher chance of strokes and heart attacks. Poorly controlled diabetes mellitus in pregnancy raises the risk of fetal death and other complications. In millions of cases around the world, these symptoms are seen. Diabetic retinopathy, which happens due to damage to the eye's blood vessels, can be attributed to about 3 percent of global blindness. Kidney disease is also among the leading causes of diabetes mellitus. Nerve damage and reduced blood flow to the limbs may lead to foot ulcers, limb amputation may result from related infections and complications in diabetes mellitus (Faselis *et al.*, 2020).

Type 1 diabetes mellitus cannot be prevented at present. Appropriate approaches are available to prevent type 2 diabetes mellitus. These include policies and practices around whole communities and particular contexts (school, home, workplace) that lead to good health for all, irrespective of whether they have Diabetes, such as daily exercise, balanced diet, smoke cessation, blood pressure & lipid control. Early detection is the starting point for living well with diabetes mellitus; the longer a person lives with undiagnosed and untreated diabetes mellitus, the worse will be their health. In primary health care facilities, convenient access to blood sugar testing should be available. For complications, patients will require regular specialist examination or care. (American Diabetes Association, 2019)

Insulin and several oral antidiabetic agents, such as sulfonylureas, meglitinides, biguanides, thiazolidinediones, glucosidase inhibitors, DPP-4 & SGLT2 inhibitors, and other oral antidiabetic agents are currently available for the treatment of Diabetes mellitus and have some severe side effects (Shrestha *et al.*, 2017). Therefore, there is a growing interest in natural and novel synthetic anti-diabetic remedies due to their efficacy, minimum clinical adverse effects. Herbal medicines or their extracts are commonly prescribed even though their biologically active compounds are unclear (Samad *et al.*, 2009).

To collect knowledge about different pathological disorders, animal models are commonly used. Several animal models of Diabetes mellitus have been developed so far. It is important for an animal model of Diabetes mellitus to be able to mirror the pathogenesis of diabetes mellitus. The most widely used compounds for the induction of type 1 diabetes mellitus are alloxan and streptozotocin chemical substances (Radenković *et al.*, 2016).

In preclinical and clinical studies to cure diabetes mellitus, plant extracts and drugs have been evaluated. Apart from these, several chemically synthesized compounds with reducing adverse effects have also been tested for diabetes mellitus. Many novel synthetic biological activity compounds have been seen previously. Vanadyl complex of p-hydroxyl aminophenol derivatives, vanadium compound Bis ((5-hydroxy-4-oxo-4Hpyran-2-yl) methyl benzoatato) oxovanadium (IV) and 2-Hydroxy 4-methoxy benzoic acid (HMBA) isolated from the roots of Hemidemus indicus were tested for antidiabetic activity (Wei and Yang, 2012). We have reported earlier that the of 2-(4- [(2-hydroxyacetyl benzyl) ketoamino]-phenyl amino-methyl)- hydrobenzophenon has acute anti-diabetic activity. The present research was done to demonstrate the effect of 2-(4- [(2-hydroxyacetyl benzyl) ketoamino]-phenyl amino-methyl)- hydrobenzophenon on long term anti-diabetic activity.

MATERIALS AND METHODS

Animals

Male Wistar albino rats with an average weight of 180-250 g were used in this study. With a 12 hours' light and dark period, they were holding under normal conditions (room temperature 24-27 degree centigrade and humidity 60-65 percent). The free access of drinking water and pellet diet to male Wistar albino rats was allowed, as per the CPCSEA guidelines. The experimental study got approval from the institutional animal ethical committee (Reg.No 04/NMC/2017).

Induction of Diabetes

In male Wistar albino rats, diabetes was induced by intraperitoneal administration of water-dissolved Alloxan (single dose of 150 mg/kg b.w.). After 72 hours, rats with marked hyperglycemia (P250 mg/dl fasting blood glucose) were selected and included in the study.

Drugs

To evaluate the antidiabetic activity, compound 2-(4-[(2-hydroxyacetyl benzyl) ketoamino]-phenyl amino-methyl)-hydrobenzophenone compounds was used. The compound was synthesized and procured from the Chemistry department, Sri Venkateswara University, Tirupati, Andhra Pradesh, India.

Grouping of animals

For the long-term studies (30 days) anti-diabetic

Table 1: Long term studies (30 days) anti diabetic activity of 2-(4- [(2-hydroxyacetyl benzyl) ketoamino]-phenyl amino-methyl)- hydrobenzophenon - 60 mg on Alloxan induced rats

Blood sugar levels Group	0 day Mean ± SD	15 day Mean ± SD	30 day Mean ± SD	
I – Control	91.7±2.04	90.5±1.64	90.98±1.35	
II - Control + Compound C 60 mg/kg b.w, p.o	90.07±0.82	91.43±4.7	91.33±3.88	Alloxan vs. All + C ***
III – Alloxan	281.5±6.6	264.33±4.32	264.33±4.32	Alloxan vs. All + G ***
IV - Alloxan + Compound C 60 mg/kg b.w, p.o	278.5±7.82	161.50±6.66	126.8±4.11	Alloxan + C vs. All + G **
V - Alloxan + Glibenclamide 20 mg/kg p.o b.w	287.5±4.32	151.83±3.76	115.5±4.81	

ANOVA: followed by the Tukey multiple comparison tests, at 0.05*, 0.01**, 0.001*** level of significance
< 0.001 comparedwith the 0 day blood sugar level.

activity of the designed compound, male Wistar albino rats were divided into four different groups.

1. Group I: Control (Normal saline-treated rats)
2. Group II: Control + Compound 60 mg/kg b.w
3. Group III: Alloxan induced rats
4. Group IV: Diabetic rats + Compound 60 mg/kg b.w
5. Group V: Diabetic rats + Glibenclamide (20 mg/kg. b.w)

Blood collection and Biochemical Analysis

1ml of blood samples were collected directly into anticoagulant bottles from the tail vein, and later plasma was collected after centrifugation. Blood sugar levels are determined by spectrophotometer.

RESULTS AND DISCUSSION

Table 1 shows Long term studies (30 days) anti-diabetic activity 2-(4- [(2-hydroxyacetyl benzyl) ketoamino]-phenyl amino-methyl)- hydrobenzophenon - 60 mg/kg b.w on Alloxan induced rats significance in Alloxan vs. Alloxan + Compound 60 mg/kg, Alloxan vs. Alloxan + Glibenclamide 20 mg/kg, Alloxan + Compound 60 mg/kgvs. All + Glibenclamide 20 mg/kg.

Control group starting at zero-day mean ± SD 91.7±2.04 after fifteen days 90.5±1.64, at thirtieth day 90.98±1.35. Control + Compound 60 mg/kg b.w, p.o starting at zero-day mean ± SD 90.07±0.82 after fifteen days 91.43±4.7, at thirtieth day 91.33±3.88 when compared to starting zero-day the blood sugar levels were not decreased. Alloxan group starting at zero-day mean ± SD 281.5±6.6 after fifteen days 264.33±4.32, at thirtieth day 226.86±6.21

Alloxan + Compound 60 mg/kg b.w, p.o starting at zero-day mean ± SD 278.5±7.82 after fifteen days 161.50±6.66, at thirtieth day 126.8±4.11 when compared starting zero-day the blood sugar levels were significantly decreased. In Alloxan + Glibenclamide 20 mg/kg p.o b.w at starting zero-day mean ± SD 287.5±4.32 after fifteen days 151.83±3.76, at thirtieth day 115.5±4.81, when compared to starting zero-day the blood sugar levels, was significantly decreased.

The present research is conducted to assess the anti-diabetic activity of 2-(4- [(2-hydroxyacetyl benzyl) ketoamino]-phenyl amino-methyl)- hydrobenzophenon on Alloxan induced male Wistar albino rats. The outcome of the study reveals compound 60 mg/kg b.w significantly decreased the blood sugar levels when compared to control and did not develop any hypoglycemic activity.

Three new aminophenol-derivatized nitrilotriacetic acid vanadyl complexes (VOohpada, VOmhpada, VOphpada) were synthesized and demonstrated antidiabetic action by Wang *et al.* (2015). The anti-diabetic action of bis((5-hydroxy-4-oxo-4H-pyran-2-yl)methyl benzoatato) oxovanadium (IV) in streptozoticin induced diabetic rats was stated by Wei and Yang (2012), Mahalingam Gayathri documented antidiabetic activity in streptozoticin-induced diabetic rats of 2-Hydroxy 4-methoxy benzoic acid isolated from the roots of Hemidemus indicus (H. indicus) (Gayathri and Kannabiran, 2009). Xing-hua Zhang et al. tested 19 β-acetamide ketones in vitro anti-diabetic activity, demonstrated relatively low activity (Zhang *et al.*, 2011). Sonia

Escandón-Rivera et al. reported that due to the high activity of metabolites such as 6-hydroxyethyl-5-hydroxy-2,2-dimethyl-2H-chromene, brickellia cavanillesii has a hypoglycaemic effect (Escandón-Rivera *et al.*, 2012). Yan-Yan Ma et al. demonstrated antidiabetic activity of compound 5 among 19 phenolic compounds isolated from the flower of E. gardneri in streptozotocin induced diabetic mice (Ma *et al.*, 2015). The antidiabetic properties of N(1)-2,4-dihydroxybenzylidene-N(4)-2-hydroxybenzylidene-S-methyl-thiosemicarbazidato) in streptozotocin induced diabetic rats were reported by Yanardag *et al.* (2009). Thus stating that hydroxyacetyl, benzyl, aminomethyl, hydroxy benzyl groups have antidiabetic activity in accordance with the present study.

CONCLUSION

The present self-funded study concludes that antidiabetic activity of 2-(4- [(2-hydroxyacetyl benzyl) ketoamino]-phenyl amino-methyl)- hydrobenzophenon in Alloxan induced diabetic rats significantly shows decreased blood sugar levels when compared to the control group. Further extensive pre-clinical research should be done to evaluate this compound's safety and efficacy as an antidiabetic agent.

Conflict of Interest

The authors declare that they have no conflict of interest for this study.

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ORIGINAL ARTICLE

Assess 3 I's (Instruction, Initiation, Improvement) as a Road Map to Breastfeeding Success among Postnatal Mothers at NMCH, Nellore, A.P, India

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ABSTRACT

Introduction: Breastfeeding has numerous health benefits and ensures that new-borns receive all essential nutrients during their first few months of life. Breastfeeding should begin within the first hour of birth, according to WHO guidelines. "Early commencement of breastfeeding" refers to feeding infants a mother's breast milk within an hour after delivery. This ensures that the children receive colostrum, or "first milk," which is high in protective elements, as soon as possible after delivery. **Method:** Quasi experimental research design was adopted and 100 postnatal mothers to assess their breastfeeding concept using a structured questionnaire and observational check list. **Results:** Frequency and percentage distribution of the breastfeeding problems among postnatal women (30%) had moderate knowledge, (51%) had low knowledge, (19%) had adequate knowledge. Mean and Standard deviation regarding breastfeeding problems among postnatal mothers, 24.46 is mean and 6.967 is standard deviation and 48.534 is its variance statistically significant at the level of $p<0.05$ the findings state that effect on initiating breastfeeding, and those women of lower parity had greater intention to breastfeed and parous women had moderate knowledge about due to the physical condition in postnatal the early initiation of breastfeeding is not much effective. **Conclusion:** The concept of early commencement of breastfeeding and breast-feeding procedures were unfamiliar to postnatal women. The mother's cultural and physical factors continue to impact when colostrum is given to the newborn. To implement the notion of breast feeding, postnatal mothers must get sufficient knowledge during the antenatal period.

Keywords: Breastfeeding, Postnatal Women, Early initiation of breast feeding

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INTRODUCTION

Historically, the only way to serve a newborn was to breastfeed them, whether that was the biological mother or a wet nurse, infants are expected get benefited from milk that was specifically made for them. This provides acquired immunity as well as the emotional bond provided through breastfeeding, which has become characterized as attaching or bonding (1). Breastfeeding is the best source of nutrition for newborns during their first year of life when their physiological and developmental growth is at its fastest. Early initiation of breastfeeding demonstrated short- and long-term medical and neuro developmental benefits, it also improves sensory and cognitive development, and is one of the most cost-effective approaches to prevent infant morbidity and death from diarrhoea, respiratory infections, and other illnesses (2,3). Early or timely initiation of breastfeeding, specifically within 1 h of birth, refers to the best practice recommended to mother and the newborn by the World Health Organization (WHO) (4). The identified barriers to the early initiation of breastfeeding in South Asia have been synthesized as supply-side and demand-side barriers (2). Early breastfeeding can save 250,000 lives in India alone by lowering fatalities caused by diarrheal diseases and lower respiratory tract infections in children. Despite an increase in hospital delivery to approximately 79 percent nationally, the number of children breastfed within one hour of birth is less than 42 percent, according to the National Family Health Survey 4 (NFHS-4). According to several reports, breastfeeding rates are dropping in practically all countries of the world, owing to increased industrialization, the advent of artificial feeds, and the early introduction of complementary feeds (3). During the twentieth century, breastfeeding became less common in high-income countries. In low- and middle-income countries,

similar tendencies were observed in better-educated, wealthier, and metropolitan women (6). Breastfeeding can be encouraged by bolstering existing antenatal breastfeeding counselling, informing all pregnant women about the benefits of breastfeeding, and motivating them by dispelling their misconceptions about breastfeeding and informing them that breastfeeding is the healthiest and safest way to feed babies (7, 8). the variables of breastfeeding that have been highlighted are amenable that early initiation can be protected, promoted, or support better in such a way that the newborn gets their complete benefit by breastfeeding (6). Low rates of exclusive breastfeeding and early commencement of breastfeeding can be attributed to a lack of adequate information being provided to women (5).

MATERIALS AND METHODS

Postnatal mothers' knowledge does not significantly influence the pattern of breastfeeding practices they adopt in early initiation. The research approach was to educate with video assisted teaching for postnatal mothers on aspects of early incitation of breastfeeding, latching on techniques, exclusive breast feeding is implemented using a quantitative approach. Quasi experimental research design was adopted; the study was conducted in postnatal ward in Obstetric and Gynaecological Department at Narayana Medical College Hospital, Nellore. The accessible population was postnatal mothers in postnatal ward and new mothers at postnatal visits. The sample was chosen using a simple random sampling technique using random numbers, with a total of 100 postnatal mothers meeting the inclusion criteria: a) mothers of healthy 0-6-month-old babies, b) Between 37 and 42 weeks of pregnancy, or just born baby c) without major birth defects like congenital heart disease, cleft lip/cleft palate, or Down syndrome, and d) who consented to take part. Exclusion criteria were Antenatal mothers in early pregnancy, with comorbid diseases. Total hundred mothers enrolled in the study. Participants' demographic information was gathered, including their age, religion, location of residence, employment, education, and family's monthly income, as well as the kind of delivery, number of children, exclusive breastfeeding, and breastfeeding initiation. A structured questionnaire was used to assess knowledge and practises, myths about early breastfeeding vs. early breastfeeding initiation benefits, latching on techniques, different breastfeeding methods, breast care and massage, and exclusive breastfeeding benefits to mother and baby to postnatal mothers. Check list of thirty questions with possible response as yes/no/don't know. Approximately half of the thirty questions were framed with 'No' as the correct response.

Description of the Tool

The tool was created after a thorough analysis of many textbooks, journals, and websites. The tool was developed to assess the effectiveness of video assisted teaching on aspects of Myths on early breastfeeding Vs Early breastfeeding initiation benefits, latching on techniques, different breastfeeding methods, breast care and massage, exclusive breastfeeding benefits to mother and baby was educated to the postnatal mothers.

Ethical clearance

The study protocol was approved by the institutional ethics committee and the principles of the Declaration of Hospital and the regulations on personal data protection were followed. All participants signed an informed consent form Narayana college of nursing, Nellore, India file no/PhD(N)LU2018 dated 6th June 2018.

Procedure for Data Collection

All moms were given an explanation of the study's goal after receiving approval from hospital personnel. The mothers who decided to take part in the study had to complete an informed consent form. The data was collected by the investigator in wards with the structured questionnaires and checklist, it took about 20 minutes to complete. Following the completion of the questionnaire and checklist, the mothers were taught about their incorrect responses. Confidentiality of the study participants was maintained. The score interpretation was given according to score A + (Excellent) 91 – 100 % A (Very good) 81 -90 % B + (Good) 70 – 80 % B (Average) 61 – 70 % C (Fair) 50 – 60 % D (Poor) < 50.

Intervention Protocol

The intervention consists of video assisted teaching for mothers regarding Breastfeeding concept. It is a combination of moving slides of pictures with audio. The video assisted teaching was aimed to improve the knowledge regarding breastfeeding concept. The duration of video assisted teaching was 40 minutes. The video includes Myths on early breastfeeding Vs Early breastfeeding initiation benefits, latching on techniques, different breastfeeding methods, breast care and massage, exclusive breastfeeding postnatal care, postpartum clinic visit and postnatal care regarding diet, rest, hygiene breastfeeding methods, breast care and massage, exclusive breastfeeding postnatal care, postpartum clinic visit, concept was delivered to the study participants. Video assisted teaching on safe motherhood was given to experimental group and the control group was advised to follow the routine antenatal care. Following the session on the same day, both groups were given a post-test utilising the same structured questionnaire and checklist. Using descriptive and inferential statistics, data was categorised and analysed based on the study's objectives.

RESULTS

Data collection and analysis were organized, analyzed, and interpreted using descriptive and inferential statistics in accordance with the study's objectives. Frequency and percentage distribution mean and standard deviation

of socio demographic variables of postnatal mothers, level of knowledge regarding breastfeeding aspects and techniques among postnatal mothers in experimental group and control group comparison was identified. Association between posttest knowledge scores with selected socio demographic variables among postnatal mothers on breastfeeding aspects Table I Explains that among 100 primipara women with regard to age (52%) are between 18-23 years, and (37%) are between 24-29 years, and (11%) are between 30-35 years. (76%) belongs to nuclear family, (24%) belongs to joint family and none of them belongs to extended family. (100%) have the family practice of breastfeeding. Breast massage techniques (7%) are well nourished, (85%), 8 (8%) is moderately nourished and none of them are poorly nourished. mode of delivery, (60%) underwent vaginal delivery, (40%) is LSCS and none of them underwent vacuum and forceps delivery. Dietary pattern (23%) is vegetarian, (77%) are non-vegetarian, and none of them are ova and lacto-vegetarian. Source of health information (21%) gets information from print and electronic media, (13%) from friends/neighbors, (9%) from family members/relatives and (57%) from health personnel. Table II shows the Frequency and percentage distribution of the breastfeeding problems among postnatal women (30%) had moderate knowledge, (51%) had low knowledge, (19%) had adequate knowledge. Table III shows Mean and Standard deviation regarding breastfeeding problems among postnatal mothers,24.46 is mean and 6.967 is standard deviation and 48.534 is its variance. Table IV Knowledge levels on breastfeeding among postnatal mothers in experimental group the pre-test mean is 33.5 with SD 4.006. In control group the post-test mean is 23.3 with SD 7.585.

The result showed that frequency of breastfeeding of newborn by their postnatal mothers significantly low. The null hypothesis is therefore rejected in breastfeeding skills. This better breastfeeding skills among the multipara could be due to their past experiences of having breastfed many infants before which shows moderate knowledge,

Table I: Association between breastfeeding problems among postnatal women with their socio demographic variables

Demographic variables	Mild		Moderate		Severe		Chi square
	(F)	(%)	(F)	(%)	(F)	(%)	
Age of a mother							C=2.259
18-23 years	14	14	30	30	8	8	T=2.241
24-29 years	12	12	16	16	9	9	df=4
30-35 years	4	4	5	5	2	2	S*=0.05
Religion of mother							C=4.429
Hindu	11	11	29	29	8	8	T=4.427
Muslim	11	11	14	14	5	5	df=4
Christian	8	8	8	8	6	6	S*=0.05
Others	-	-	-	-	-	-	
Education of mother							C=3.069
No formal education	-	-	-	-	-	-	T=2.989
Primary Education	13	13	19	19	8	8	df=4
Secondary Education	12	12	28	28	10	10	S*=0.05
Graduation	5	5	4	4	1	1	
Occupation of mother							C=4.019
House wife	24	24	38	38	17	17	T=5.064
Private Job	1	1	4	4	-	-	df=6
Gov.Job	1	1	1	1	1	1	NS=0.05
Other Job	4	4	8	8	1	1	
Income per month							C=2.223
5000-7000/-	5	5	8	8	3	3	T=2.173
7001-9000/-	3	3	2	2	1	1	df=6
9001-11000/-	13	13	25	25	11	11	S*=0.05
Less than11000/-	9	9	16	16	4	4	
Type of family							C=10.027
Nuclear family	27	27	32	32	17	17	T=10.574
Joint family	3	3	19	19	2	2	df=2
Extended family	-	-	-	-	-	-	NS=0.05
Marital status							
Married	30	30	51	51	19	19	-
Un married	-	-	-	-	-	-	
1-2years	12	12	21	21	7	7	
2-3years	10	10	13	13	6	6	
More than 3years	8	8	17	17	6	6	
Family practices of breast-feeding							
Yes	50	50	30	30	20	20	-
No	-	-	-	-	-	-	
Hydration status of mother							C=5.303
Well nourished	2	2	4	4	1	1	T=5.831
Nourished	24	24	46	46	15	15	df=4
Moderately nourished	4	4	1	1	3	3	*NS=0.05
Poorly nourished	-	-	-	-	-	-	
Mode of delivery of mother							C=0.795
Vaginal delivery	16	16	32	32	12	12	T=0.788
Vacuum delivery	-	-	-	-	-	-	df=2
Forceps delivery	-	-	-	-	-	-	S*=0.05
LSCS	14	14	19	19	7	7	
Vegetarian							C=1.842
Vegetarian	8	8	9	9	6	6	T=1.830
Non-vegetarian	22	22	42	42	13	13	df=2
Ova-vegetarian	-	-	-	-	-	-	S*=0.05
Lacto-vegetarian	-	-	-	-	-	-	
Habits of mother							C=1.99
Smoking	-	-	-	-	-	-	T=5.99
Drinking	-	-	-	-	-	-	df=2
Tobacco chewing	8	8	19	19	4	4	S*=0.05
No dreadful habits	22	22	32	32	15	15	
Source of health information							C=2.931
Print and electronic media	5	5	11	11	5	5	T=3.135
Friends/neighbors	5	5	7	7	1	1	df=6
Family members/relative	4	4	4	4	1	1	NS=0.05
Health personnel	16	16	29	29	12	12	

Table II: Mean and Standard deviation regarding breastfeeding problems among postpartum women

Category	Mean	Std. Deviation	Variance
Problems	24.46	6.967	48.534

Table III: Frequency and percentage distribution of the breastfeeding problems among postnatal women.

CATEGORY	Frequency	Percentage%
Mild Problems	30	30
Moderate Problems	51	51
Severe Problems	19	19
Total	100	100

Table IV: Knowledge on breastfeeding among postnatal mothers

Group	Criteria	Mean	Standard deviation (SD)	Unpaired t test
Experimental group	Pre-test	33.50	4.006	C = 6.491 df =58 T = 0.252 S P < 0.05
Control group	Post-test	23.33	7.586	

and it goes in line with the adage that "practice makes perfect". However, researchers discovered that parity had minimal effect on breastfeeding initiation, and that women with lower parity showed a greater desire to breastfeed.

DISCUSSION

The knowledge of exclusive feeding practise and related factors among mothers was investigated in this study. Despite the widespread recommendation for early breastfeeding beginning, our research found that only multipara moms nursed within one hour of birth. The reported percentage of regular vaginal births with this method is substantially greater than the quoted average (9).

Early breastfeeding initiation and explanation of benefits, advice on the dangers of pre-lacteal feeding and its long-term risk, and the advantages of exclusive breastfeeding, nature, feeling, position, and other factors. According to statistics, 6% of women never breastfed their children. Colostrums were rejected by 17% of moms. Traditional notions that colostrums were unclean, cheesy, or indigestible, and that the children would suffer from stomach ache were among the reasons given for avoiding feeding it to newborns (10). A standardised questionnaire was utilised to examine knowledge and practises regarding breastfeeding among postnatal moms. The comparison of maternal-infant bonding was done at 24 and 48 hours after delivery, and the results were compared. Only 18% mothers knew about the correct technique of breastfeeding that both nipple and areola be introduced in babies' mouth for effective suckling by the baby. Also, only 18% of the mothers knew that in case of separation from the baby mother can express milk in a clean container and store at room temperature for 8 hours so as to be fed to the baby.(11) Improper latching leads to ineffective transfer of milk and leads to common problems like sore nipples which ultimately affect the continuation of exclusive breastfeeding.(12,13) Mothers who are visiting postnatal clinics with one child have more time to come to a hospital where their health facilities have the opportunity to obtain information related to breastfeeding practices that are good and right (14).The data collected were analysed and interpreted using statistical methods. The study's goal was to find out how much knowledge postpartum women have regarding nursing techniques and components. The relationship between post-test moms' knowledge scores and other demographic parameters found that 60% of breastfeeding mothers come from a nuclear family, whereas 2% come from a joint family. None of them are extended family. The frequency and percentage distribution of breastfeeding practices among mothers was found to be low. The null hypothesis is rejected in breastfeeding skills. It has been suggested that the multipara's better breastfeeding skills are due to their past experiences. Frequency and percentage distribution of the breastfeeding problems among postnatal women (30%) had moderate knowledge, (51%) had low knowledge, (19%) had adequate knowledge. Mean and Standard deviation regarding breastfeeding problems among postnatal mothers, 24.46 is mean and 6.967 is standard deviation and 48.534 is its variance.

CONCLUSION

This study's findings reveal a link between instruction, initiation, and improvement in breast-feeding practises. Because of a variety of factors, postnatal knowledge is sometimes difficult to execute. The importance of exclusive breastfeeding was acknowledged to most postnatal moms, according to this study on knowledge, attitude, and behaviour. As a result, moms must get ongoing assistance in the form of counselling and motivation during the prenatal and postoperative periods. Because so many factors influence children, such as society, the media, and others, the knowledge they obtain does not always match the attitude they have or carry. The same understanding cannot always be put into practise. Special health education related to the prevention of selected breastfeeding problems, techniques and other breast care Educating to postnatal mothers and providing them correct information can help them to prevent complications during the time of breastfeeding.

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Original Article

Impact of Accelerated Recovery Program on Compassion Fatigue among Nurses in South India

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Abstract

Background: Nurses suffer from Compassion Fatigue (CF) when exposed to chronic stress while caring for patients. Depression and anxiety disorders can develop following CF and intervention at the earliest is essential. The present study aimed to evaluate the effectiveness of the Accelerated Recovery Program (ARP) on CF among nurses. **Materials and Methods:** The present experimental study was carried out with a pretest posttest design and control group among 120 nurses working in Narayana Medical College Hospital, India. The nurses selected through simple random sampling were divided into two groups: intervention and control (every 60 nurses). Data were collected using the Professional Quality of Life Scale: Compassion Satisfaction and Fatigue Version 5 (ProQOL) (Stamm, 2010) which consists of the three subscales of Compassion Satisfaction (CS), Burnout (BO), and Secondary Traumatic Stress (STS). The pretest was conducted at day 1, and posttests I, II, III, IV, and V were conducted at 5th week, 3rd month, 6th month, 9th month, and 12th month, respectively using ProQOL. ARP and routine care were implemented for 5 weeks in the intervention group, and routine activities were implemented in the control group. Data were analyzed using descriptive and inferential statistics. **Results:** There was a statistically significant difference in the ProQOL score between the intervention and control groups, which demonstrated a significant difference between the groups in terms of CS ($F_{1,118} = 120.10$, $p < 0.001$), BO ($F_{1,118} = 123.$, $p < 0.001$), and STS ($F_{1,118} = 205.18$, $p < 0.001$). **Conclusion:** In conclusion, ARP has a significant impact on ProQOL, resulting in an improvement in CS, and a decrease in BO and STS.

Keywords: *Burnout, compassion fatigue, nurses, psychological*

Introduction

Nursing is an exceptionally challenging but gratifying profession. It necessitates the physical, psychological, emotional, and spiritual involvement of the nurse.[1] Nurses are in contact with patients in every phase of treatment, and support them and give them the confidence to fight the illness. Being a facilitator, nurses undergo painful experiences during their career.[2] Caring has positive and negative effects on the Professional Quality of Life (ProQOL) of the nurses. Factors such as work environment, competency in caregiving, designation, nature of job, beliefs, and perception influence the ProQOL score.[3] ProQOL has two components, namely, Compassion Satisfaction (CS), and Compassion Fatigue (CF). CS is an optimistic feeling resulting from helping individuals to overcome distressing events.[4] Figley states that CF, also termed vicarious trauma or Secondary Traumatic Stress (STS), occurs when an individual is exposed to chronic stress in caring for patients due to experiencing misery, catastrophe, and grief.[5]

CF comprises CS, Burnout (BO), and STS.[5] BO is defined as a mental pattern that involves a lengthened reaction to persistent interpersonal stressors on the job (Jan Beckstrand, 2017).[6] STS is a situation portrayed by an enduring decrease in compassion for a long period. BO and STS are interrelated as the former is the outcome of ecological stressors, and the latter is the result of the experience of caring for patients.[7] According to the World Health Organization (WHO) (2012), the information from the National Institute for Occupational Safety and Health (NIOSH) revealed that "healthcare workers have higher rates of substance abuse and suicide than other professions and high rates of

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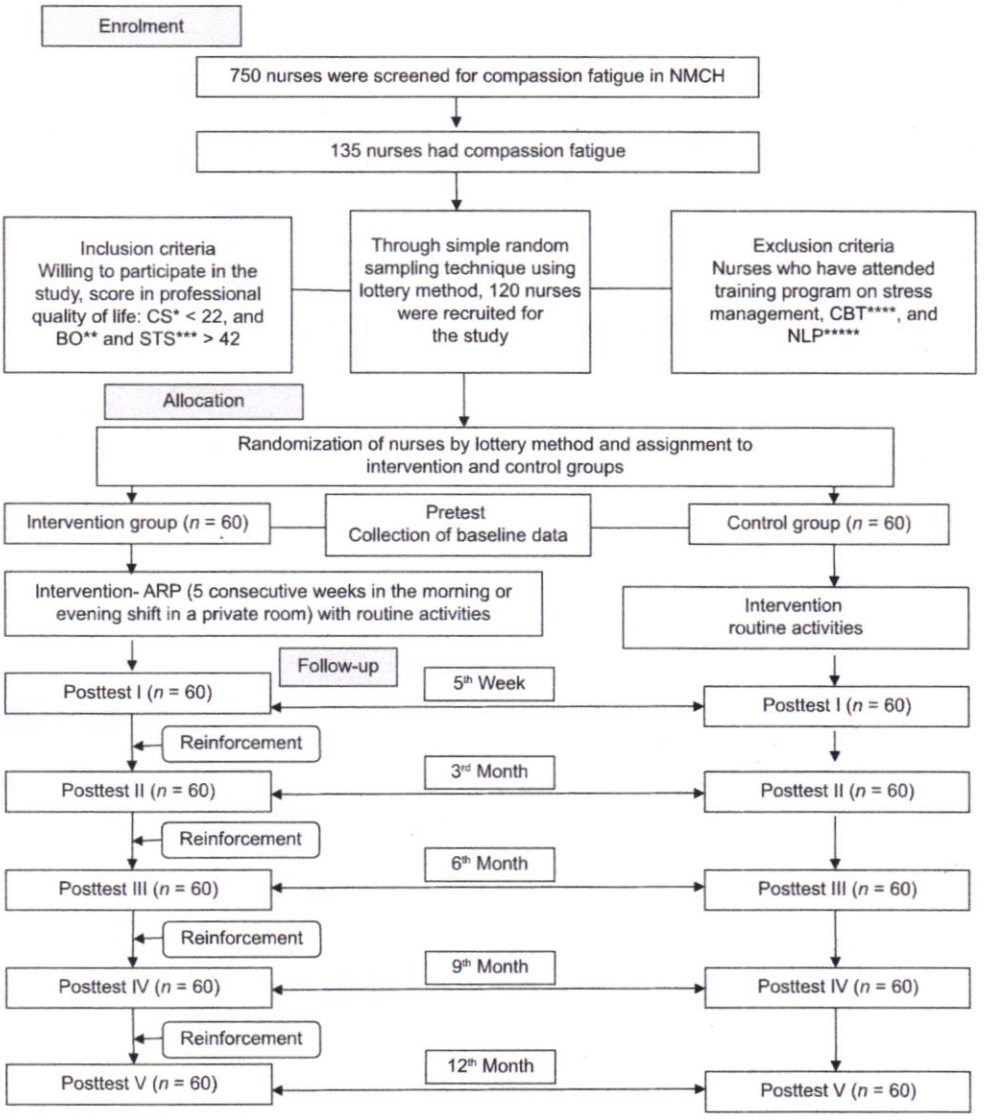

Figure 1: SPIRIT Flow chart of the Study (CS* Compassion satisfaction, BOBurnout, STS***Secondary traumatic stress, CBT**** Cognitive-behavioural therapy, NLP***** Neuro-linguistic programming)**

depression and anxiety linked to job stress."[7] Previous studies have reported that 79% of nurses suffer from BO,[8] and 42% of palliative professionals and 64% of emergency nurses had STS.[9] Another study reported that 17% of nurses working in a hospice and palliative care had CF.[10] In the study by Kelly *et al.*, 60% of healthcare workers reported feeling burned out by their jobs, 34% planned for a new job, and 45% were looking forward to a job change over the next 2 years.[11] Nolte stated that CF has not been labeled as a psychiatric disorder, but it can lead to depression and anxiety disorders.[12] Various research studies have been conducted on the prevalence of stress, BO, Post-Traumatic Stress Disorder (PTSD), and CF. Some studies conducted have proved that interventions such as guided imagery, mindfulness training, educational programs, and resiliency programs are effective on combating stress, BO, PTSD, and CF. A holistic program is vital in managing the problem of CF and in bringing out the optimal personal and professional potentials of an individual.

An Accelerated Recovery Program (ARP)[13] is an interventional package that includes guided imagery, Neuro-Linguistic Programming (NLP), Thought Field Therapy (TFT), self-management plan, and self-analysis which can augment the clinical competencies and enrich the personal well-being of nurses. The literature search by the investigator also revealed that very few studies have been carried out on CF and the effectiveness of ARP on CF. Thus, the present study aimed to evaluate the impact of ARP on CF among nurses.

Materials and Methods

An experimental study with a pretest-posttest design and control group was conducted from April 2015 to March 2017 in Narayana Medical College Hospital, Nellore, Andhra Pradesh, India. The sample size was calculated

Table 1: Comparison of professional quality of life (compassion satisfaction) between the intervention and control groups (n=120)

Duration of the study	Mean (SD*)		MD**	Z***	p	F****, p
	Intervention group (n=60)	Control group (n=60)				
Pretest	20.67 (1.99)	20.28 (1.51)	0.39	0.85	0.390	
Posttest I	34.30 (7.66)	19.85 (1.62)	14.45	9.06	0.001	
Posttest II	35.87 (5.43)	20.17 (1.25)	15.70	9.08	0.001	120.102
Posttest III	37.37 (2.83)	19.65 (1.49)	17.72	9.59	0.001	0.001
Posttest IV	36.47 (2.82)	19.53 (1.58)	16.94	9.57	0.001	
Posttest V	35.50 (2.81)	19.37 (1.77)	16.13	9.61	0.001	

*SD: Standard deviation, **MD: Mean difference, ***Z: Wilcoxon signed-rank test, ****F: RM ANOVA

using power analysis ($Z1\alpha/2$ = 1.96; $Z\beta1$ = 0.85; S = 1.82; d = 1.60), and 120 nurses from ICUs and emergency wards were recruited for the study through simple random sampling using lottery method. The nurses were randomly assigned to the intervention (60 nurses) and control groups (60 nurses). The study inclusion criteria were being a nurse and a CS score of less than 22, and BO and STS scores of higher than 42. Nurses who underwent any training program related to stress management, cognitive-behavioural therapy (CBT) and NLP were excluded from the study. Data was collected using the ProQOL Scale: Compassion Satisfaction and Fatigue Version 5 (Stamm, 2010).[14] The 30-item ProQOL Scale consists of the 3 subscales of CS, BO, and STS, each containing 10 items that are scored on a 5-point Likert scale. All subscales have a minimum score of 10 and a maximum score of 50. The ProQOL score is interpreted as high if the CS score is high, BO score is low, and STS score is average, as average if the score of all subscales is average, and as low if the CS score is low, BO score is high, and STS score is average.

Content validity was obtained with the help of experts in the field of psychology and psychiatric nursing. Spearman-Brown prophecy formula was used to check the reliability of the tool; the reliability of the CS, BO, and STS subscales were 0.88, 0.75, and 0.81, respectively. Pretest data were collected at day 1, and posttest I, II, III, IV, V data were collected at 5th week, 3rd month, 6th month, 9th month, and 12th month using the ProQOL Scale [Figure 1].

ARP is a consecutive 5-week program based on an individualized standard treatment protocol in 5 sessions, each lasting 90–120 min. The program involves didactic and experiential training along with audios. Session 1 focuses on the assessment of condition, life goals, conflicts, followed self-care strategies, stressors. The participants practice the guided imagery with the "retirement party visualization" script for 30 min. Session 2 focuses on developing a personal and professional time-line telling a story in which the participants narrate the achievement have had and hurdles have overcome in their life. Session 3 emphasizes a review of graphic time-line review and constructing the target/trigger list. Based on this, individualized self-management plans were developed and trained. In TFT, the troubling memories of participants were identified and tapping was conducted 5–8 times on the eyebrows, under the eye, beneath the armpit, on the collarbone, and the gamut series point located just above, and between the little and ring finger knuckles. In the NLP, safety and competency anchors were created, the negative anchors I and II were identified, and negative anchors were released through desensitization and reprocessing. Session 4 focuses on supervising the self; the "Letter from the Great Supervisor" is read and reread repeatedly, and then, introspected. Session 5 highlights the evaluation of program goals and addressing pathways for recovery.[15,16] The sessions were held once a week either in the morning or evening in a private room. The collected data were coded, grouped, and analyzed using the SPSS software (version 15; SPSS Inc., Chicago, IL, USA). Descriptive statistics including frequency, percentage, Mean (M), and Standard Deviation (SD), and the nonparametric Chi-square test, Wilcoxon signed-rank test, Mann-Whitney U test, and repeated measures ANOVA were used for analysis.

Ethical considerations

Permission to conduct the study was obtained from the Institutional Ethics Committee (IEC-NMCH-23/12/2013), Narayana Medical College, Director, Medical Superintendent, and Nursing Dean of Narayana Medical College Hospital. The nature and purpose of the study were explained to nurses and informed consent was obtained from all participants. Nurses in the intervention group received the 5-week intervention along with routine activities and received continuous reinforcement through telephone calls until the 12th month, whereas the control group only received routine activities.

Results

In both groups, nurses were in the age group of 21–30 years. Moreover, 80% of nurses were women, 71.70% were single, 56.70% had less than 1 year of experience, and 85% worked as a staff nurse. Furthermore, 58.30% of nurses lived in rural areas, 63.30% received support from their family, 48.30% listened to music as a

coping strategy, 98.30% did not have a history of physical illness, 60% had dependent parents, and 96.70% had no history of recent loss.

Wilcoxon signed-rank test showed a statistically significant difference in mean CS, BO, and STS scores after the intervention in the intervention group compared to the control group [CS: (intervention group: $p < 0.001$), (control group: $p < 0.01$)], [BO: (intervention group: $p < 0.001$), (control group: $p < 0.01$)], [(STS: (intervention group: $p < 0.001$), (control group: $p < 0.01$)]. Mann-Whitney U test showed a statistically significant difference between the two groups after the intervention in terms of the CS, BO, and STS scores [(CS: $p < 0.001$), (BO: $p < 0.001$), (STS: $p < 0.001$)] . The effect of the intervention up to a period of 1 year was analyzed using repeated-measures ANOVA, which revealed a statistically significant difference within the intervention ($p < 0.001$) and control ($p < 0.01$) groups (CS: $F_{1,59} = 125.96$, 3.138), (BO: $F_{1,59} = 178.37$, 30.749), (STS: $F_{1,59} = 389.09$, 10.413) (and between the intervention and control groups (CS: $F_{1,118} = 120.10$, $p < 0.001$) (BO: $F_{1,118} = 123.11$, $p < 0.001$) (STS: $F_{1,118} = 205.18$, $p < 0.001$) [Tables 1-3].

Discussion

The study findings indicate that the mean score of BO and STS significantly decreased and CS increased in the intervention group compared to the control group. ARP helps increase CS and reduce CF among nurses. The present study findings are consistent with that of the study conducted by Scarlet *et al.* on the effects of compassion cultivation training (CCT) (self-compassion skills, psycho-education, and 20 min of guided meditations) on BO and job satisfaction. They reported significant improvements in participants' self-compassion, mindfulness, and interpersonal conflict scores.[17] Daxesh *et al.* also reported that guided imagery is effective in reducing BO.[18] Bazarko *et al.* examined the effect of a novel telephone-adapted mindfulness stress reduction (MBSR) program on the health and well-being of nurses and reported an improvement in health, decrease in stress, decrease in work BO, and progress in other areas.[19]

Moreover, a 4-hour group seminar in educating and preventing CF was helpful for nurses working in the oncology unit as reported in Flarity *et al.* study. They found a statistically significant increase in CS ($p = 0.004$), decrease in BO ($p = 0.001$), and decrease in STS symptoms ($p = 0.001$) after the implementation of a multifaceted education program.[20] In a pilot study, Potter *et al.* found a CF resiliency program to be effective in lessening STS and improving job satisfaction. A 5-week (90 min) didactic program was found to be effective in reducing CF.[21] In the present study, the comparison of the mean scores between the intervention and control groups showed a statistically significant difference in CS ($p < 0.050$), BO ($p < 0.010$), and STS ($p < 0.001$). This could be due to the personality type of the nurses; they may have a natural inbuilt capacity to withstand the amount of stress and BO they undergo and effectively overcome it by using their coping mechanisms.

In the current study, there was a continuous follow-up until the end of 1 year, which proves that uninterrupted reinforcement and follow-up helps nurses to combat CF. A model program comprising of self-regulation, intentionality, and CF interventions seemed to be efficient in decreasing the symptoms of CF in the posttest at 3 and

Table 2: Comparison of professional quality of life (burnout) between the intervention and control groups (n=120)

Duration of the study	Mean (SD)		MD	Z	p	F, p
	Intervention group (n=60)	Control group (n=60)				
Pretest	45.72 (1.53)	45.72 (1.53)	0	0	>0.999	
Posttest I	33.92 (2.78)	43.57 (2.18)	-9.65	9.30	0.001	
Posttest II	36.08 (2.06)	46.57 (1.69)	-10.49	9.53	0.001	123.11
Posttest III	35.65 (2.71)	46.95 (1.76)	-11.30	9.61	0.001	0.001
Posttest IV	36.88 (3.08)	46.13 (1.26)	-9.25	9.54	0.001	
Posttest V	35.6 (2.55)	46.38 (1.47)	-10.78	9.56	0.001	

Table 3: Comparison of professional quality of life (secondary traumatic stress) between the intervention and control groups (n=120)

Duration of the study	Mean (SD)		MD	Z	p	F, p
	Intervention group (n=60)	Control group (n=60)				
Pretest	46.57 (1.69)	45.97 (1.93)	-0.47	1.61	0.107	
Posttest I	35.40 (2.30)	44.67 (1.83)	-9.27	9.59	0.001	
Posttest II	30.27 (3.78)	45.03 (2.31)	-14.76	9.57	0.001	
Posttest III	32.82 (1.96)	45.13 (0.87)	-12.31	9.6	0.001	205.17
Posttest IV	33.27 (2.31)	44.50 (2.07)	-11.23	9.53	0.001	0.001
Posttest V	35.57 (1.60)	43.68 (1.33)	-8.11	9.64	0.001	

6 months.[22] Several research reviews have studied only one intervention for the prevention and management of CF; however, the present study offers an intervention package for managing CF. The present study had some limitations. One limitation was that although it adopted an intervention package, the effect of each intervention was not assessed. Moreover, the researchers had no control over the support and counselling received from superiors, colleagues, and families. The control group also had an equal opportunity to receive support from others. This might have influenced the outcome of the study. Additional researches need to be conducted on larger populations to prove the efficacy of the ARP.

Conclusion

Regular practice of ARP can enhance CS and thus, reduce CF. A professional obligation exists for nurses to strengthen their CS and to prevent, recognize, and combat CF so that they can continue their work with the presence it deserves.

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Conflicts of interest

Nothing to declare.

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ORIGINAL ARTICLE

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Anti-diabetic effect of Biological activities of 2-(4- [(2-hydroxy benzyl) amino]-phenyl amino-methyl)-phenol derivatives on Alloxan induced rats

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Blood Sugar

ABSTRACT

The word diabetes describes a category of metabolic disorders characterised and defined by hyperglycemia in the absence of therapy. Type 1 & 2 diabetes mellitus are two main types. It is now widely accepted that failure or loss of pancreatic β (beta) cells is the underlying common feature of all types of diabetes. In this study, male Wistar albino rats of approximate weighing 180-250 g were used. Compound 2-(4-[(2-hydroxy benzyl) amino]-phenyl amino-methyl)-phenol derivatives were used to assess the anti-diabetic activity. Derivatives such as hydroxyl amino, acetyl keto, and hydro benzophenone groups are derivatives and are further studied for the screening of anti-diabetic activity. Diabetes was produced by intraperitoneal administration of Alloxan in male Wistar albino rats. Rats were divided into 12 groups of six in each group. The outcomes of the study reveal compound C - 60 mg/kg shows significance in decreasing the blood sugar level when compared to control. A significant effect on blood sugar levels was shown by glibenclamide 20 mg/kg. The study concludes that Biological activities of 2-(4- [(2-hydroxy benzyl) amino]-phenyl amino-methyl)-phenol derivatives of compound C - 60 mg/kg has high blood sugar-lowering activity.

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INTRODUCTION

The word diabetes describes a category of metabolic disorders characterised and defined by hyperglycemia in the absence of therapy. Type 1&2 diabetes mellitus are two main types. Historically the difference between the two groups is based on age at first, degree of depletion of β (beta) -cell action, degree of resistance to insulin, and the presence of diabetes-related autoantibodies & survival insulin therapy requirements (Leslie *et al.*, 2016).

Diabetes can have hallmark symptoms such as thirst, polyuria, blurring of vision, and weight loss. Often there are genital infections of yeast. The most extreme health sign was ketoacidosis, a non-ketotic hyperosmolar state leads to starvation, coma, and death in the absence of appropriate care. Hyperglycemia is sufficient to induce pathological and functional changes that can occur well before a diagnosis, resulting in complications being present at

diagnosis (Zimmet *et al.*, 2001).

Diagnostic tests for diabetes mellitus usually are required, fasting plasma glucose, two-hour post-load glucose in plasma following a 75 grams' oral glucose tolerance test, HbA1c & blood glucose at random in the presence of diabetes symptoms & signs. Persons with fasting glucose in plasma values of up to 7.0 millimoles per litre (126 milligrams per deciliter), two-hour post-load glucose in plasma up to 11.1 millimoles per litre (200 milligrams per deciliter), HbA1c up to 6.5 per cent (48 millimoles per mole) or random blood glucose up to 11.1 millimoles per litre (200 milligrams per deciliter) are considered to have diabetes in the presence of signs and symptoms (Güemes *et al.*, 2016).

The prevalence of diabetes globally is projected at 9.3 per cent in 2019 (463 million persons). It is projected to increase to 10.2% by 2030 (578 million) & 2045, 10.9 per cent (700 million). In urban areas, the prevalence is larger (10.8%) than in rural areas (7.2%), And in countries with high incomes (10.4%) than in countries with low incomes (4.0%). One in two people living with diabetes (50.1 per cent) is unaware of having diabetes. In 2019, The worldwide incidence of impaired glucose tolerance was estimated at 7.5 per cent (374 million) and was projected to reach 8.0 per cent (454 million) by 2030 and 8.6 per cent (548 million) by 2045 (Saeedi *et al.*, 2019).

It is now widely accepted that failure or loss of pancreatic β (beta) cells is the underlying feature common to all types of diabetes. Several factors may lead to a decrease in function or damage to β (beta)-cells; these cells are not replaced because the human pancreas is unable to regenerate β (beta)-cells after 30 years of age. Such pathways include hereditary predisposition and defects, cycles of epigenetics, tolerance to insulin, autoimmunity, related infections, inflammation & environmental factors. Differentiating β (beta)-cell malfunction & β (beta)-cell mass decreased may have significant consequences for therapeutic strategies to control or improve glucose tolerance. Comprehension β (beta)-cell status will help identify diabetes subtypes and guide care (Skyler *et al.*, 2017).

In clinical trials for diabetes treatment, a significant number of extracts from crude plants were evaluated. Apart from these, several chemically synthesised compounds with declining side effects have also checked for diabetes (Izzo and Ernst, 2001). Many novel synthetic compounds for biological activities have been seen previously. The antidiabetic activity of the aryl-oxy-propanolamines based on chalcone was tested (Satyanarayana *et al.*, 2004). The current research was conducted to show the antihyperglycemic activity of 2-(4-[(2-hydroxy benzyl) amino]-phenyl amino-methyl)-phenol derivatives.

MATERIALS AND METHODS

Animals

In this study, male Wistar albino rats of approximate weighing 180-250 g were used. They were kept under (24-27^{0}C room temperature and 60-65 per cent humidity) conditions with a light & dark period for 12 hours. Ad libitum, food was available in the form of dried pellets & water as per CPCSEA guidelines. The experimental study got approval from the institutional animal ethical committee (Reg.No 04/NMC/2017).

Drugs

Compound 2-(4-[(2-hydroxy benzyl) amino]-phenyl amino-methyl)-phenol derivatives were used to assess the anti-diabetic activity. The compound derivatives were synthesised and procured from the Chemistry department, Sri Venkateswara University, Tirupati, Andhra Pradesh, India. Derivatives such as hydroxyl amino, acetyl keto, and hydro benzophenone groups are derivatives and are further studied for the screening of anti-diabetic activity.

1. (Compound A): 2-(4-[(2-Dihydroxybenzylimine) amino]-phenyl amino-methyl)-phenol
2. (Compound B): 2-(4- [(2-hydroxyacetyl benzyl) ketoamino]-phenyl amino-methyl)-phenol
3. (Compound C): 2-(4- [(2-hydroxyacetyl benzyl) ketoamino]-phenyl amino-methyl)- hydrobenzophenon

Induction of Diabetes mellitus

Diabetes was induced by intraperitoneal administration of Alloxan in male Wistar albino rats (single dose of 150 mg/kg bw), dissolved in water. After 72 hr rats with hyperglycemia (fasting blood glucose P250 mg/dl) were selected and used for the study.

Grouping of animals (each group six rats)

1. Group 1: Control (Normal saline-treated rats)
2. Group 2: Diabetic control (Alloxan induced treated rats)
3. Group 3: Alloxan + Compound A - 20 mg /kg b.w p.o

4. Group 4: Alloxan + Compound B - 20 mg /kg b.w p.o
5. Group 5: Alloxan + Compound C - 20 mg /kg b.w p.o
6. Group 6: Alloxan + Compound A - 30 mg /kg b.w p.o
7. Group 7: Alloxan + Compound B - 30 mg /kg b.w p.o
8. Group 8: Alloxan + Compound C - 30 mg /kg b.w p.o
9. Group 9: Alloxan + Compound A - 60 mg /kg b.w p.o
10. Group 10: Alloxan + Compound B - 60 mg /kg b.w p.o
11. Group 11: Alloxan + Compound C - 60 mg /kg b.w p.o
12. Group 12: Alloxan + Glibenclamide 20 mg /kg. b.w p.o

Blood samples (0.1 ml) were obtained from the tail vein for blood glucose assessment at 0, 1, 2, 3, 4, 5, & 6 h after administration of compounds, and Dextrostix (glucose oxidase method) with the Simple One Touch Accuchec Glucometer was used to calculate blood glucose levels. The findings were compared to those of the 12th group (20 mg Glibenclamide/kg) of rats.

RESULTS AND DISCUSSION

Table 1 shows the Anti-diabetic effect of Biological activities of 2-(4- [(2-hydroxy benzyl) amino]-phenyl amino-methyl)-phenol derivatives of 20 mg on Alloxan induced rats, Alloxan Vs. A, B, C are significance. & A, B, C - 20 Vs. Glibenclamide is significant. Compared with the 0 hr blood sugar levels compounds A, B, C and Glibenclamide significant reduction in blood sugar levels. Compound A, B & C - 38.4%, 35.2% and 44.0% maximum blood sugar lowering effect at 6 hr and Glibenclamide 30.3 % at 5hr.

Table 2 shows the Anti-diabetic effect of Biological activities of 2-(4- [(2-hydroxy benzyl) amino]-phenyl amino-methyl)-phenol derivatives of 30 mg on Alloxan induced rats, Alloxan Vs. A, B, C are significance. & A, B, C - 30 Vs. Glibenclamide is significant. Compared with the 0 hr blood sugar levels compounds A, B, C and Glibenclamide significant reduction in blood sugar levels. Compound A, B & C – 43.1%, 40.1% and 45.6% maximum blood sugar lowering effect at 6 hr and Glibenclamide 29.8 % at 5hr.

Table 3 shows the Anti-diabetic effect of Biological activities of 2-(4- [(2-hydroxy benzyl) amino]-phenyl amino-methyl)-phenol derivatives of 60 mg on Alloxan induced rats, Alloxan Vs. A, B, C are significance. & A, B, C - 60 Vs. Glibenclamide is significant. Compared with the 0 hr blood sugar levels compounds A, B, C and Glibenclamide significant reduction in blood sugar levels. Compound A, B & C – 45.4%, 39.1%, 47.9% maximum blood sugar lowering effect at 6 hr and Glibenclamide 30 % at 5hr.

Tables 1, 2 and 3 relived anti-diabetic effect of Biological activities of 2-(4- [(2-hydroxy benzyl) amino]-phenyl amino-methyl)-phenol derivatives. Comparatively, compound C – 60 mg/kg has a higher decreeing activity of sugar and significance with the Alloxan group.

The current research is conducted to assess the anti-diabetic effect of 2-(4-[(2-hydroxy benzyl)amino]-phenyl amino-methyl)-phenol derivatives on the biological function of Alloxan-induced rats. The outcomes of the study reveal compound A, B, and C lowered blood sugar levels significantly as compared to control and Alloxan, Glibenclamide. However, Compound C 60 mg/kg showed significance action highly in decreasing the blood sugar level when to compare to Alloxan. Glibenclamide 20 mg/kg had a significant effect on levels of blood sugar.

The blood sugar levels of Alloxan induced diabetic rats were significantly higher than those of normal untreated rats. In Alloxan induced rats, compounds A, B & C did not develop any hypoglycemic activity.

At a dosage of 20 mg/kg, compound A, B & C had a 38.4 per cent, 35.2 per cent and 44.0 per cent maximum blood sugar control effect in rats caused by Alloxan after 6 hours of therapy. Treatment of Alloxan rats with Glibenclamide at a dosage of 20 mg/kg demonstrated a peak decrease in blood sugar of 30.3 per cent after 5 hours.

After 6 hours of treatment, compound A, B & C produced 43.1 per cent, 40.1 per cent, and 45.6 per cent maximum blood sugar lowering effect in Alloxan induced rats at a dose of 30 mg/kg. Treatment of Alloxan rats with Glibenclamide at a dosage of 20 mg/kg showed a maximum decrease in blood sugar of 29.8 per cent after 5 hours.

At a dose of 60 mg/kg, compound A, B & C produced 45.4 per cent, 39.1 per cent & 47.9 per cent at 6 hours of treatment, respectively, the maximum blood sugar lowering effect in rats induced by Alloxan. Treatment of Alloxan rats with Glibenclamide at a dosage of 20 mg/kg demonstrated a

Table 1: Anti-diabetic effect of Biological activities of 2-(4-[(2-hydroxy benzyl) amino]-phenyl amino-methyl)-phenol derivatives 20 mg/kg b.w on Alloxan induced rats

Time Group	0 hr Mean ± SD	1hr Mean ± SD	2hr Mean ± SD	3hr Mean ± SD	4hr Mean ± SD	5hr Mean ± SD	6hr Mean ± SD	
Normal	108± 2.86	110± 5.57	106± 5.46	105± 4.32	110± 7.09	106± 4.37	108± 5.02	Alloxan vs. A, B, C – 20 mg/kg b.w p.o -*** A, B, C - 20 vs. Gliben-clamide 20 mg/kg b.w p.o -***
Alloxan	271± 2.04	264± 2.59	253± 1.38	253± 2.42	241± 3.27	243± 2.48	248± 11.41	
A – 20 mg/kg p.o	284± 3.1	263± 3.33 (7.4%)	241± 2.45# (15.1%)	204± 4.55# (28.2%)	187± 2.42# (34.2%)	191± 2.64# (32.7%)	175± 2.93# (38.4%)	
B – 20 mg/kg p.o	253± 2.1	249± 2.14 (1.6%)	221± 3.71# (12.6%)	220± 2.32# (13.0%)	201± 3.44# (20.6%)	181± 2.58# (28.5%)	164± 2.73# (35.2%)	
C – 20 mg/kg p.o	273± 2.3	254± 1.55 (7%)	222± 4.36# (18.7%)	186± 1.60# (31.9%)	158± 3.95# (42.1%)	181± 2.59# (33.7%)	153± 2.73# (44.0%)	
Glibencl-amide 20 mg/kg p.o	271± 5.00	242± 2.83 (10.7%)	238± 2.81# (12.2%)	212± 4.51# (21.8%)	199± 4.29# (26.6%)	189± 4.27# (30.3%)	207± 4.387# (23.6%)	

ANOVA, followed by the multiple comparison test of Tukey, at < 0.05*, < 0.01**, < 0.001*** level of significance.
< 0.001 compared with the 0 hr blood sugar level.
Percentage (%) of the blood sugar-lowering effect in the respective group, compared with the 0 hr blood sugar level.

Table 2: Anti-diabetic effect of Biological activities of 2-(4-[(2-hydroxy benzyl) amino]-phenyl amino-methyl)-phenol derivatives 30 mg/kg b.w on Alloxan induced rats

Time Group	0 hr Mean ± SD	1hr Mean ± SD	2hr Mean ± SD	3hr Mean ± SD	4hr Mean ± SD	5hr Mean ± SD	6hr Mean ± SD	
Normal	107± 4.46	109± 6.88	106± 5.72	104± 3.92	106± 6.03	107± 3.27	110± 7.41	Alloxan vs. A, B, C – 20 mg/kg b.w p.o -*** A, B, C - 20 vs. Gliben-clamide 20 mg/kg b.w p.o -***
Alloxan	271± 4.34	263± 1.75	252± 2.25	255± 1.21	242± 2.66	243± 2.48	253± 3.21	
A – 30 mg/kg p.o	290± 1.37	251± 0.82 (13.4%)	237± 4.55# (18.3%)	215± 6.03# (25.9%)	202± 7.71# (30.3%)	171± 1.05# (41.0%)	165± 1.75# (43.1%)	
B – 30 mg/kg p.o	265± 0.75	255± 0.89 (3.8%)	212± 3.01# (20%)	184± 2.94# (30.6%)	174± 2.74# (34.3%)	164± 2.25# (38.1%)	158± 3.72# (40.4%)	
C – 30 mg/kg p.o	285± 0.82	249± 1.26 (12.6%)	246± 3.33# (13.7%)	192± 2.66# (32.6%)	187± 4.64# (34.4%)	171± 2.43# (40%)	155± 3.89# (45.6%)	
Glibencl-amide 20 mg/kg p.o	272± 5.47	243± 2.59 (10.7%)	237± 2.10# (12.59%)	212± 3.76# (22.1%)	200± 5.32# (26.5%)	191± 5.54# (29.8%)	207± 4.68# (23.9%)	

ANOVA, followed by the multiple comparison test of Tukey, at 0.05*,0.01**,0.001*** level of significance.
< 0.001 compared with the 0 hr blood sugar level.
Percentage (%) of the blood sugar-lowering effect in the respective group, compared with the 0 hr blood sugar level.

Table 3: Anti-diabetic effect of Biological activities of 2-(4-[(2-hydroxy benzyl) amino]-phenyl amino-methyl)-phenol derivatives 60 mg/kg b.w on Alloxan induced rats

Time Group	0 hr Mean ± SD	1hr Mean ± SD	2hr Mean ± SD	3hr Mean ± SD	4hr Mean ± SD	5hr Mean ± SD	6hr Mean ± SD	
Normal	107± 4.37	109± 5.55	104± 5.75	104± .97	106± 6.34	108± 3.25	106± 6.00	Alloxan vs. A, B, C – 20 mg/kg b.w p.o -*** A, B, C - 20 vs. Gliben-clamide 20 mg/kg b.w p.o -***
Alloxan	270± 3.33	264± 1.64	250± 3.67	253± 5.75	245± 4.77	243± 2.48	253± 2.86	
A – 60 mg/kg p.o	273± 3.31	256± 5.10 (6.2%)	210± 1.03# (23.1%)	181± 0.82# (33.7%)	163± 2.93# (40.3%)	151± 3.33# (44.7%)	149± 2.51# (45.4%)	
B – 60 mg/kg p.o	266± 8.05	252± 4.18# (5.3%)	218± 1.64# (18.0%)	210± 9.11# (21.1%)	179± 5.75# (32.7%)	160± 2.90# (39.8%)	162± 2.58# (39.1%)	
C – 60 mg/kg p.o	265± 1.17	237± 3.44 (10.6%)	183± 2.00# (30.9%)	147± 2.42# (44.5%)	145± 3.62# (45.3%)	143± 2.53# (46%)	138± 0.89# (47.9%)	
Glibencl-amide 20 mg/kg p.o	273± 5.06	243± 2.80 (11.0%)	237± 2.14# (13.2%)	212± 4.05# (22.3%)	200± 5.60# (26.7%)	191± 5.78# (30.0%)	206± 4.67# (24.5%)	

ANOVA, followed by the multiple comparison test of Tukey, at 0.05*,0.01**,0.001*** level of significance.
*< 0.001 compared with the 0 hr blood sugar level.
Percentage (%) of the blood sugar-lowering effect in the respective group, compared with the 0 hr blood sugar level.

maximum decrease in blood sugar of 29.8 per cent after 5 hours.

Sirasanagandla et al. revealed significant anti-diabetic activity of oral administration to streptozotocin (STZ) induced rats of 2-(4-[(2-hydroxy benzyl) amino]-phenyl amino-methyl)-phenol at 30 mg/kg dose after diabetes mellitus induced by STZ. Thirty-day care of STZ rats with HBPMP 30 mg/kg resulted in a substantial reduction in their fasting blood sugar (FBS) amounts (Sirasanagandla *et al.*, 2013).

Wang N et al. reported a more powerful insulin enhancement effect on type 2 diabetes mellitus in dB / dB mice it was demonstrated by the vanadyl complex of p-hydroxyl aminophenol derivatives, i.e. vanadyl complex effectively lowered the blood sugar levels, increased glucose tolerance and alleviated stress in type 2 diabetes mellitus in dB / dB mice (Wang *et al.*, 2015).

The novel vanadium compound Bis ((5-hydroxy-4-oxo-4Hpyran- 2-yl) methyl benzoatato) oxovanadium (IV) (BBOV) was synthesised by Wei YB et al. BBOV treatment in STZ induced diabetic rats restored blood glucose levels to standard and increased glucose tolerance (Wei and Yang, 2012).

Mahalingam Gayathri et al. examined the anti-diabetic activity of 2-Hydroxy 4-methoxy benzoic acid (HMBA) isolated from the roots of Hemidemus indicus (H. indicus) for its anti-diabetic activity in streptozoticin (STZ)-induced diabetic rats. The levels of plasma insulin, glycosylated haemoglobin, and liver glycogen were also restored during the administration of HMBA (Gayathri and Kannabiran, 2009).

Beelders, T et al., reported that the extracted benzophenone glucosides of Cyclopia genistoides were tested for their alpha-glucosidase inhibitory activity against an enzyme mixture obtained from rat intestinal acetone powder. A strong dose-response was shown by α-glucosidase inhibitory activity of benzophenones, with higher actions at higher levels of concentration recorded (Beelders *et al.*, 2016). Inference benzophenone has anti-diabetic activity.

CONCLUSION

The present self-funded study concludes that Biological activities of 2-(4- [(2-hydroxy benzyl) amino]-phenyl amino-methyl)-phenol derivatives in Alloxan induced diabetic rats, compound A, B & C significantly decreed blood sugar levels. However, compound C has highly significant blood sugar-lowering activity at 60 mg dose when compared to the control group. Further extensive pre-clinical research should be done to evaluate the safety

and efficacy of compound C use as an anti-diabetic agent.

Conflict of Interest

In this research, the authors note that they have no conflict of interest.

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