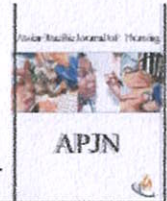


3.3.3. Average number of research papers published per teacher in the Journals notified on UGC -CARE list in the UGC websites /Scopus/Web of science/PubMed during last five years



EFFECTIVENESS OF YOGA TRAINING PROGRAMME ON LEVEL OF STRESS AMONG NEWLY ADMITTED UNDERGRADUATE STUDENT NURSES

Vatchala Devi M*

Indira College of Nursing, Thiruvallur, Tamilnadu, India

ABSTRACT

Stress is the health epidemic of the 21st century and it can affect anyone, at any time. Most of the undergraduate students experience considerable stress due to the demand associated with changes such as leaving home, becoming independent decision makers, and competing against new standards. No person is immune to stress but they can minimize the level of stress by practicing yoga regularly. This pre-experimental study was conducted to assess the effectiveness of the yoga training programme in reducing levels of stress among newly admitted undergraduate student nurses in the selected colleges in Tiruvallur district. A purposive sampling technique was used to select 100 student nurses and their level of stress was measured using the Student Stress Scale. Findings of the study revealed that the pre-test, mean value was 64.93 with S.D 15.65 and post-test mean was 38.4 with S.D 13.03. The calculated 't' value was 19.3 which indicates that it was significant at $p < 0.005$ level between the pre and post-test level of stress. Results of this shows the effectiveness of Yoga Training Programme in reducing the stress. It is recommended to conduct further studies with larger samples, including follow-up measurements.

Key words: Yoga Training Programme, Stress, Undergraduate Student Nurses.

Corresponding Author

Vatchala Devi M

Email:- vatchala.ragavan@gmail.com

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INTRODUCTION

Adolescence is a stage of 'Storms and Stresses'. The period of adolescence is of ultimate important in human's life. The young nursing students are faced with challenging issues involving the identity, puberty, formation and transition from childhood to adulthood. Unmanaged stress can cause nursing adolescents with potentially significant health impacts and higher risk for behavioral problems, suicide and risky sexual behavior, smoking, substance abuse, college dropout, self-harm, and poor eating habits.[1]

WHO reported that 10% of adolescents experience a mental disorder worldwide, but the majority of them do not seek help or receive care. [2] The consequences of not addressing mental health and psychosocial development for children and adolescents extend to adulthood and limit opportunities for leading fulfilling lives.

Worldwide, 10% of children and adolescents experience a mental disorder, but the majority of them does not seek help or receive care. Half of all mental health conditions start by 14 years of age. WHO (2020) reported that one in six people are aged 10-19 years.[3] Mental health conditions account for 16% of the global burden of disease and injury in people aged 10-19 years. Half of all mental health conditions start by 14 years of age but most cases are undetected and untreated. Stress is a major underlying factor in the manifestation of many mental disorders. The prevalence of stress among Indian adolescents varies from 13% to 45%.[4]

Academic stress is very common among nursing students in India causing mental and emotional pressure, tension, or stress that occurs due to the huge syllabus, exams and high demands and expectations set by the Indian parents and teacher to secure more marks in the exams and it can in turn negatively affect academic



performance including impaired judgment, absenteeism self-medication, and addiction to substances like smoking cigarettes and alcohol drinking. Chronic exposure to stressful conditions leads to deterioration of academic performance, loss of memory, poor relationship with peers and family members, and overall dissatisfaction with life. It can also lead to serious health problems like hypertension, heart attack and stroke, diabetes mellitus and obesity, accelerated aging, impaired immune system, suppressed fertility, digestive problem, loss of appetite, increased anxiety, and depression that finally leads to suicide. [5]

The nurse's plays significant role in the health care industry and the student nurses shown increased level of stress compared to other allied health professionals because of the curriculum they undergo gives more emphasis on hands-on-experience in the different health care settings and caring the patients of all groups. Globally, Nursing students are facing major stress and they experience depression, anxiety, barriers in language, strange environments, insomnia and too many written works to be submitted during their course. Yoga, a mind-body practice is found to reduce the level of stress. Several studies report that yoga improves stress management, life satisfaction and quality of life.

Studies have shown that nursing students have high levels of stress mainly because of academic activities and clinical practices [6], and that perceived stress causes more psychological and physical symptoms in nursing students [7]. A consistent yoga practice can have a positive impact on body chemistry, disease prevention, symptom reduction or alleviation, and emotional health. Yoga promotes a strong mind-body connection, which improves overall mood and well-being. According to Lim et al. (2013), there have been many studies that have explored stress among professionals and the results have shown that nurses, in particular, experienced enormous levels of work stress. [8]

The undergraduate years for student nurses is a very vulnerable period wherein stress, depression, and anxiety can interfere with learning, affect academic performance, and degrade clinical practice performance. This could result in a temporary or permanent impediment to their pursuit of a nursing career. [9] Continued stress causes mental disorders, substance abuse, and eating disorder, sleep disorder, and drive the student to suicide. Yoga practice strengthens the mind and body. Hence, the researcher has decided to conduct the study on effectiveness of yoga on stress among student nurses.

OBJECTIVES:

- To assess the pre and post-test level of stress among newly admitted undergraduate student nurses
- To find the effectiveness of yoga training programme on level of stress among newly admitted undergraduate student nurses by comparing pre and post-test scores

- To find out the association between the selected socio-demographic variables and the level of stress among newly admitted undergraduate student nurses

METHODOLOGY

The research approach adopted for this study is evaluative research approach and the design used for this study is pre-experimental one group pre-test and post-test design. [10] The study was conducted among 100 newly admitted nursing students enrolled to pursue their undergraduate nursing programme in Indira College of Nursing at Thiruvallur. All the students who fulfil the inclusion criteria were selected using nonprobability-purposive sampling technique. Student Perceived Stress scale was used as a research tool to elicit level of stress among the students. A letter requesting permission was sent to the Managing Director of Indira Group of Educational Institutions prior to the data collection and the proposal was presented to the Institutional Ethical Review Board members. Study exclusion criteria were as follows: having a health problem that prevents yoga, participating in another therapy group, and not attending in five or more yoga sessions. [11] Each yoga session is composed of 10 minutes of breathing exercises (pranayama) and warming up, 40 minutes of postures (asanas), and 10 minutes of meditation. Asanas practiced includes Tadasana, Padhastana, Ardha-chakrasana, Trikonasana, Shavasana, Bhujangasana, Bhadrasana and Padmasana. It was a ten hours of training programme and the module consisted of general principles of yoga practices (benefits, indication, contraindications, Do's and Don'ts), Prayer meditation. Every session was conducted for 60 minutes with 3 sessions in a week which spread out about 4 weeks from 04.02.2022 to 05.03.2023. The purpose of the study was explained and the questionnaire was distributed to the nursing students and they took around 10-15 minutes to complete the questionnaire. After conducting pretest, yoga training module was introduced and administered about 10 days. Posttest was conducted after 10 days by using the same tool used for the pre-test.

The table 1 showed the distribution of pre-test and post-test score. In the pre-test, majority of 81 (81%) student nurses had severe level of stress, about 19 (19%) student nurses had moderate level of stress and none having mild level of stress. In the post-test, the majority of the student nurses had mild level of stress 97 (97%), whereas only 3 (3%) had moderate level of stress and none had severe level of stress.

The table 2 shows the comparison of pre and post-test level of stress to determine the effectiveness of yoga training programme. It shows that in the pre-test, mean value was 64.93 with S.D 15.65 and post-test mean was 38.4 with S.D 13.03. The calculated t value was 19.3 which indicates that it was significant at $p < 0.005$ level between the pre and post-test level of stress which shows the effectiveness of Yoga Training Programme.

Table.3 illustrates that there is a significant association between post-test level of stress and age, religion, educational status of the parents, occupational status of the

parents, family income and selection of course. There is no significant association between the medium of study with their post-test level of stress.

Table 1: Frequency and percentage distribution of pre and post-test level of stress among newly admitted undergraduate student nurses. N=100

Group	Mild		Moderate		Severe	
	No.	%	No.	%	No.	%
Pre-test	0	0	19	19%	81	81
Post-test	97	97%	3	3%	0	0

Table 2: Comparison of pre and post-test level of stress among newly admitted undergraduate student nurses

Level of stress	Mean	S.D	Calculated Value of "t"	Level of Significance
Pre-test	64.93	15.65	19.3	t= 1.98P<0.005 S***
Post-Test	38.4	13.03		

Table 3: Distribution of newly admitted undergraduate student nurses based on the association between the posttest level stress and their selected demographic variables

Demographic Variables	Mild Stress		Moderate Stress		Chi-square value
	No	%	No	%	
1.Age	0	0	0	0	$\chi^2=20.55$ df=6; S
a)16 Years	25	25	25	25	
b)17 Years	55	55	55	55	
c)18 Years	17	17	17	17	
2.Religion	79	79	02	02	$\chi^2=0.468$ df=6; S
Hindu	16	16	00	00	
Christian	03	03	00	00	
Muslim	00	00	00	00	
others	00	00	00	00	
3.Education of the parents	13	13	01	01	$\chi^2=15.51$ df=8; S
a)Primary Education	36	36	00	00	
b) Secondary Education	32	32	00	00	
c)Higher secondary Education	03	03	00	00	
d)Graduate and above	14	14	01	01	
4.Occupation of the parents	12	12	12	12	$\chi^2=0.08$ df=4; S
Government Sector	86	86	86	86	
5.Family Income	08	08	00	00	$\chi^2=1.138$ df=8; S
Less than 5000	43	43	01	01	
5000-10,000	19	19	01	01	
10,000-20,000	15	15	00	00	
20,000-30,000	13	13	00	00	
6. Selection of Course	62	62	01	01	$\chi^2=0.405$ df=8; S
a) Self-Choice	30	30	01	01	
Parent Choice	01	01	00	00	
Media Influence	02	02	00	00	
Peer group influence	03	03	00	00	
School Influence					



of male and female patients regarding CV.

Methods: The cross sectional study has been conducted among 220 members in and around the communities of Thiruvallur and Chennai. The information has been collected on a pre-tested, pre-structured, well designed scheduled questionnaire prepared to fulfill the objectives of the study. **Inclusion criteria** –Age, above 15 and those who are interested to participate in the study.

Exclusion criteria- 1) those who don't know how to read Tamil, English. 2) Those who are not interested to participate in the study.

Statistical analysis was done using ratio and proportion. For finding significance of knowledge about Corona virus among both genders, chi square test was used.

RESULTS:

Variables		Male (%) N ₁ =118	Female (%) N ₂ =102	Total (%) N=220
Age (years)	15-29	33 (27.97)	27 (26.47)	60 (27.27)
	30 -44	69 (58.47)	59 (57.84)	128 (58.18)
	45-59	13 (11.02)	12 (11.77)	25 (11.36)
	60- 74	03 (02.54)	04 (03.92)	7 (3.18)
Area	Rural	72 (61.02)	60 (58.82)	132 (60.0)
	Urban	46 (38.98)	42 (41.18)	88 (40.0)
Education	Illiterate	31 (26.27)	25 (24.51)	56 (25.45)
	Institutional	82 (69.49)	71 (69.61)	153 (69.55)
	Informal	5 (04.24)	6 (05.88)	11 (5.00)
History of communicable diseases in Family	Yes	46 (38.98)	20 (19.61)	66 (30.00)
	No	72 (61.02)	82 (80.39)	154 (70.00)

Table 1: socio demographic variables.


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Knowledge about CV		Male (%) (N ₁ =118)	Female (%) (N ₂ =102)	Total (%) (N=220)	χ^2 value	P value
Sign and Symptoms	Know	81 (68.64)	67 (65.69)	148 (67.27)	0.104	0.747
	Don't know	37 (31.36)	35 (34.31)	72 (32.73)		
Mode of transmission	Know	79 (66.95)	65 (63.72)	144 (65.45)	0.129	0.719
	Don't know	39 (33.05)	37 (36.27)	76 (34.55)		
how to prevention	Know	81 (68.64)	78 (76.47)	159 (72.27)	0.283	0.595
	Don't know	37 (31.36)	24 (23.53)	61 (27.73)		
Length of Treatment	Know	56 (47.46)	36 (35.29)	92 (41.82)	2.846	0.092
	Don't know	62 (52.54)	66 (64.71)	128 (58.18)		
Mode of treatment	Know	46 (38.98)	34 (33.33)	80 (36.36)	0.530	0.467
	Don't know	72 (61.02)	68 (66.67)	140 (63.64)		
Is treatment free of cost	Know	78 (66.10)	69 (67.65)	147 (66.82)	0.010	0.921
	Don't know	40 (33.90)	33 (32.35)	73 (33.18)		
Seriousness of the disease	Know	56 (47.46)	61 (59.80)	117 (53.18)	2.872	0.090
	Don't know	62 (52.54)	41 (40.20)	103 (46.82)		
Proper place of treatment	Know	58 (49.15)	49 (48.04)	107 (48.64)	0.001	0.976
	Don't know	60 (50.85)	53 (51.96)	113 (51.36)		
Personal protective measures	Know	39 (33.05)	29 (28.43)	68 (30.91)	0.352	0.553
	Don't know	79 (66.95)	73 (71.57)	152 (69.09)		

Table 2: Knowledge regarding Corona Virus .

Mode of transmission of CV	Total (%) N=144	Prevention of CV	Total(%)N=159
Droplets or aerosols	100 (69)	Covering mouth and nose	130 (82)
Airborne transmission	91 (63)	Social distancing	72 (45)
Surface transmission	88 (61)	Hand wash	73 (46)
Fecal-oral	56 (39)	Avoiding crowd's	43 (27)
Pets	6 (4)		
None	2 (1)		

Table 3: Knowledge towards mode of transmission and prevention of CV.

More than 65 of respondents found to have correct knowledge regarding sign and symptom, mode of acquiring CV and mode of preventing CV. 42 members had mentioned the right duration of treatment whereas 58 were unknown of the duration of treatment which shows significant difference ($p=0.024$). 67 respondents know that CV treatment is free of cost at government hospitals, whereas 33 found to be unknown of this and found significant ($p<0.001$). Regarding the seriousness of disease 53 respondents thought CV as very serious and 47 don't know about its seriousness ($p=0.420$).

DISCUSSION

Knowledge about Covid-19

In this study, fairly a good level of knowledge was found regarding sign and symptoms, modes of acquiring Covid-19 and also the modes of prevention of Covid-19. Insignificant difference in knowledge was found between males and females. In this study a majority of respondents defined covid-19 as a curable disease but less knew about the mode of treatment disease, whereas not many respondents were aware of the free charge of Covid-19 diagnosis and treatment.

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Medium of Study						
Tamil	31	31	01	01	$\chi^2=0.305$ df=4;	NS
English	66	66	01	01		
Other language mention	01	01	00	00		

DISCUSSION

This study aimed to compare the pre and post-test level of stress for determining the effectiveness of yoga training programme. The result of the study shows that in the pre-test, mean value was 64.93 with S.D 15.65 and post-test mean was 38.4 with S.D 13.03. The calculated value was 19.3 which indicates that it was significant at $p < 0.005$ level between the pre and post-test level of stress which shows the effectiveness of Yoga Training Programme. This result of the study is consistent with the study conducted by Ruchika Rani et al in 2013, Sukhdeep Kaur1, Amandeep Kaur Bajwa et al in 2018 and Gomathi in 2020 and these studies also found that yoga is an effective mind-body skills technique in reducing the level of stress among student nurses. [12]

IMPLICATIONS

Nursing is a demanding profession and nursing students may experience considerable amount of stress to meet the demands in academic and clinical fields. Yoga is an effective practice to reduce stress and improve physical and mental well-being. Indian Nursing Council demands every Nursing institution to hire part time/full time yoga teacher to teach the faculty and students during co-curricular activities provided in various academic years/semesters. They have also prepared ten hours of yoga modules as per the directions of MOHFW and Ministry of AYUSH. Implementing yoga in the curriculum helps the students to manage with academics and study related stressor.

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CONCLUSION

On conclusion, nursing students are exposed to high levels of stress compared to other students. It is essential to inculcate yoga intervention in the nursing education to meet demands of the profession. This experimental study suggested that daily Yoga practice in the college for a short duration helps to decrease the level of stress among student nurses. The authors suggested that yoga is one of the best strategies for improving the academic performance. The use of yoga techniques can be expanded among other senior college students also. Yoga training was helped to improve the mutual well-being of the students and teachers and also to foster the learning and creativity. Introducing adolescents to this practice may better prepare them for present and future challenges. Hence, there is an urgent need for physical activity, especially regular yoga practices and improving skills in stress management in nursing students is paramount.

RECOMMENDATIONS:

A comparative study on stress management can be conducted using yoga training among interns since it is considered as one of the elective modules to be taken by the Student nurses in their VII and VIII semester. A longitudinal study on the impact of yoga on personality development among student nurses can be conducted since it is also considered as one of the elective modules to be taken by the students. Future research should focus on larger sample sizes, training the students with certified yoga teachers, in-person compulsory yoga instructions at entry and exit level of the student nurses.



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A Study To Assess The Knowledge Of Covid-19 Preventive Techniques By Using Computer Assisted Teaching Among Pregnant Woman In Imch Hospital, Thiruvallur

Ms. R. Rajalaksmi¹, Mrs. T. Beula Juliet², Mrs. P. Kalyani³

¹M.Sc (N), Indira College of Nursing, Thiruvallur, Tamilnadu

²Professor, Indira College of Nursing, Thiruvallur, Tamilnadu

³Assistant professor Indira College of Nursing, Thiruvallur, Tamilnadu

ABSTRACT

Thousands of people have died as a result of the covid-19 pandemic around the world, to slow the spread of the disease; several preventive measures have been suggested. However these preventive measures in the level of knowledge, attitudes, and practice (KAP) among pregnant women has yet to be assessed. Covid-19 may increase the risk of severe disease in pregnant women and poorer neonatal outcome. The psychological consequences of the pandemic may be more perplexing than the clinical ones, its currently unknown how pregnant women are dealing with the global pandemic and its consequences. Expectant mothers and their caregivers must understand all of the facts about COVID-19.

The study assessed the knowledge and awareness of COVID-19 on preventive technique by using computer-assisted teaching among pregnant women in selected hospitals. The quantitative research approach and design used for this study was quasi-experimental study design. This study was conducted among pregnant women. The sample size was 60. The sample was selected by the convenience sampling method. The instrument used for data collection was a structured questionnaire to assess the knowledge regarding COVID-19. Among the study population 28(48.6%) of the participants had moderate knowledge in pre-test 19 (31.67%) of the participants had moderate knowledge in post test .10(16.67%) of the participants had moderate knowledge in post test and 37(61.67%) of the participants had adequate knowledge in post-test. Knowledge and practice median was 9(IQR7 to 11) in pre-operative and knowledge and practice median was 13(IQR12 to 15) in post test. The difference in knowledge and practice score between pre and post-test was statistically significant (P Value <0.001). However, Preventive practices were good among them. Mass education and communication strategies are thus required to improve the knowledge and attitudes of pregnant women towards COVID-19.

INTRODUCTION

The coronavirus (COVID19) infection is a rare infectious disease caused by novel coronavirus 2. The first outbreak occurred in December 2019 in Wuhan, China. On January 30, 2020, the World Health declared it a public health emergency of international concern. India reported the first case of COVID19 on January 30th 2020.

COVID19 is primarily transmitted through respiratory droplets to close contacts of an infected person while coughing, sneezing, or speaking. Another important mode of virus transmission is via fomites and fecal-oral transmission. Fever, dry cough, shortness of breath, fatigue, and anorexia, loss of taste, diarrhoea, and myalgia are all common symptoms. Severe complications, such as pneumonia and acute respiratory distress syndrome, affect nearly 18.5 percent of patients.

Apart from symptomatic and supportive therapy, a few medicines have been suggested to treat COVID19, including favipiravir, hydroxyl chloroquine, remdesivir, ribavirin, etc. Tocilizumab, and plasma therapy. COVID19 is a constantly evolving threat, and Indian health officials have taken massive measures to combat its spread and halt the spread of the disease and its associated mortality. The WHO recommended a series of preventive measures.

However, no evidence of fetomaternal transmission of the disease has been found to date. But recent evidence suggests that the risk of maternal mortality appears to be high in COVID-19 pregnant women with severe disease. Although the impact of COVID-19 on pregnant women is not yet known, there is the need to consider pregnant women as a high-risk population in COVID-19 prevention and control strategies. Most research has focused on therapeutic aspects, while pregnant women's mental health during the COVID-19 has received far less attention. The infection has spread to over 110 countries, including India prompting the world health organization to declare it a 2 pandemic on march 21,2020



globally as of July 13,2020, there have been 1,30,32,918 confirmed cases of COVID-19, including 5,71,660 deaths, reported by WHO

ICMR announced the first confirmed cases of coronavirus disease in Kerala on 30th January 2020, and since then, many confirmed cases have been reported in many states of the country. Pregnant women are also considered a distinct population group due to the unique immune suppression caused by pregnancy. Pregnancy-related immunologic and physiologic changes may put pregnant women at a higher risk of severe illness or death from COVID-19 than the general population. However, little is known about COVID-19 infection during pregnancy.

The case fatality rate in women infected with other coronavirus infections, such as Middle East Respiratory Syndrome and severe acute respiratory syndrome, appeared to be higher in pregnant women than in non-pregnant women.

STATEMENT OF THE PROBLEM

A Study To Assess The Knowledge Of Covid 19 Preventive Techniques By Using Computer Assisted Teaching Among Pregnant Women In Indira Medical College And Hospital, Thiruvallur.

OBJECTIVES

1. To assess the pre-test level of knowledge regarding Covid 19 preventive techniques among pregnant women.
2. To assess the post-test level of knowledge regarding Covid 19 preventive techniques among pregnant women.
3. To assess the effectiveness of computer assisted teaching on Covid 19 preventive techniques among pregnant women
4. To associate the post-test level of knowledge regarding Covid 19 preventive techniques among pregnant women with selected demographic variables.

HYPOTHESIS

H1: There will be a significant difference between pre and post-test levels of knowledge of preventive techniques regarding Covid -19 infection among pregnant women

H2: There will be a significant association between demographic variables and the level of knowledge of preventive techniques regarding Covid -19 infection among pregnant women.

DELIMITATIONS

The study was delimited to the period of six weeks of data collection.

RESEARCH METHODOLOGY

The most important aspect of any research study is the methodology, which allows the researcher to create a blueprint for the research. It entails a systematic approach in which the researcher proceeds from identifying the problem to its resolution. This chapter covers the methodology as well as the various steps taken to collect and organise data for the study. Research methods, according to POLIT & BECK (2011), are the techniques used by the researcher to structure a study in order to gather and analyse data relevant to the research question.

This study was designed to assess the effectiveness of computer-assisted teaching on COVID-19 among Pregnant women in selected Hospitals. This chapter presents the methodology adopted by the researcher for the study. It includes the research approach, the setting, population, sampling techniques, selection of tool development and description of the tool, content validity, reliability, data collection procedure and plan for analysis.

3.1 RESEARCH APPROACH The approach chosen for the study was quantitative approach.

3.2 RESEARCH DESIGN The research design used in this study was pre-experimental one group pre-test post-test design was used for this study to assess the knowledge of Covid-19 preventive techniques using computer assisted teaching among pregnant women.

Pre test	Intervention	Post test
O1	X (Computer Assisted Teaching on Covid-19 preventive techniques)	O2

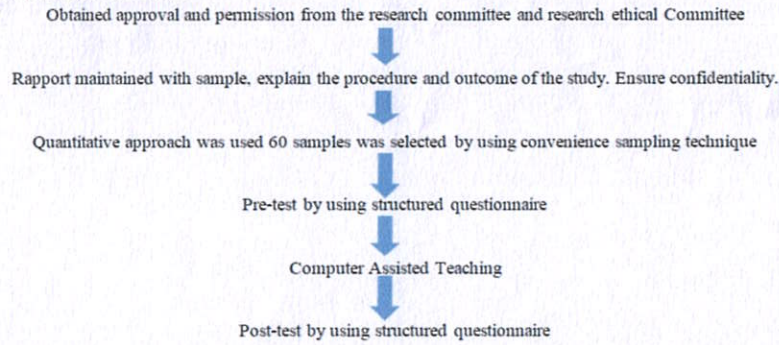
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O1- Collection of demographic data to assess pre-test level of knowledge of covid -19

X - Implementing of Computer Assisted Teaching programme regarding Covid-19 preventive techniques.

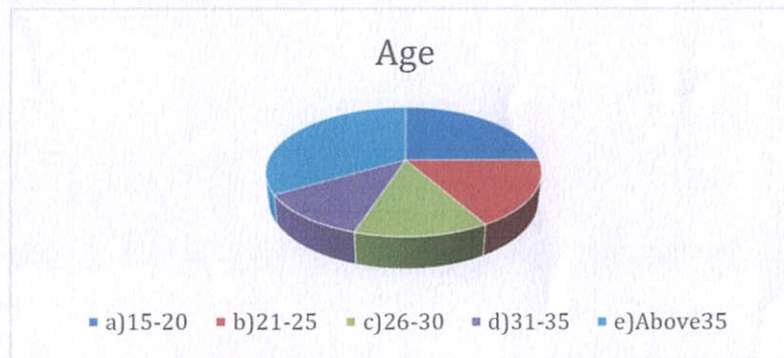
O2 - Assess post test level of knowledge of Covid -19

DATA COLLECTION PROCEDURE



Result

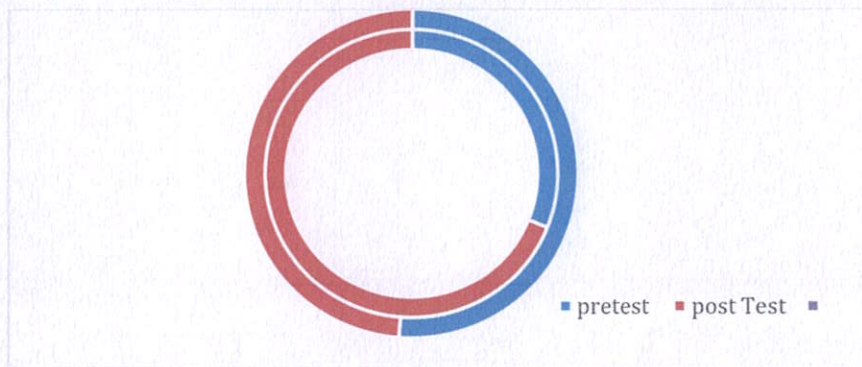
shows that, most of the participants 22 (33.4%) were in the age group of 21-25years, 15(25.0%) were in the age group of 26-30 years, 10(16.7%) were in the age group of 31-35 years, 8(13.3 %) were in the age group of above 35 years, 7(11.7 %) were in the age group of 15-20 years.



COMPARISON OF PRE-TEST AND POST-TEST LEVEL OF KNOWLEDGE REGARDING COVID 19 PREVENTIVE TECHNIQUES AMONG PREGNANT WOMEN.

Effectiveness of computer assisted teaching on level of knowledge score among Pregnant Women.

Knowledge	Mean	Mean Improvement	S.D	't' Value
Pretest	9.3	11.28	2.25	't' = 47.688 p = 0.001S
Post Test	20.58		2.14	



DISCUSSION

This study was conducted to assess the knowledge of Covid 19 preventive techniques by using computer assisted teaching among pregnant women in Indira Medical College & Hospital, Thiruvallur. The findings of the present study are discussed with relevant studies. The first objective of the study was to assess the pre-test level of knowledge regarding Covid 19 preventive techniques among pregnant women. The investigator had an idea to include pregnant women for her topic, as they had just stepped in midwifery.

To check out their knowledge, pretest was conducted using structured questionnaire In pretest, 57 (95%) have inadequate knowledge and 3(5%) have moderate knowledge on Covid 19 preventive techniques. The study findings were supported by the study conducted by Yohannes Fikad, et al., (2020) which aimed to assess COVID-19 preventive measure practices and knowledge of pregnant women in Guraghe Zone hospitals.

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This cross-sectional study was conducted among pregnant women in Guraghe zone hospitals. Systematic random sampling technique was employed to select 403 participants. Data were checked manually for completeness, cleaned, and stored in Epi Data and exported to SPSS for further analysis. Variables which have a P-value less than 0.25 on bivariate analysis were taken to multivariate analysis. A P-value of less than 0.05 and 95% confidence level was used as a cut-off point for presence of association in multivariate analysis. COVID-19 preventive measure practice and knowledge of pregnant women visiting Guraghe Zone hospitals was 76.2% and 54.84%, respectively. Those aged 20–24 (AOR=1.22, 95% CI=1.15–22.24), 25–29 (AOR=1.32, 95% CI=1.20–20.25), and 30–34 (AOR=2.57, 95% CI=2.32–43.38) were more likely to practice COVID-19 preventive measures.

Those residing in urban area (AOR=2.16, 95% CI=1.24–3.77) and perceiving that COVID-19 is worst for people with chronic disease (AOR=5.12, 95% CI=1.73–15.17) were more likely to practice COVID-19 preventive measures. The study concluded that COVID-19 preventive measure practices and knowledge were low. Age, residence, and perception of COVID-19 on chronic disease were independent factors associated with preventive 43 measure practices. Pregnant women aged ≥ 35 need to be counselled on practices of preventing COVID-19 by their healthcare providers.

CONCLUSION

The pregnant women had gained adequate knowledge in the post test in comparison to the pretest. This proves that the video assisted teaching on Covid 19 preventive techniques provided by the investigator was effective among the pregnant women to promote their knowledge. 46 These results reveal that conducting a teaching programme will help the pregnant women to improve their knowledge regarding Covid 19 preventive technique.

ACKNOWLEDGEMENT

I would like to thank all the participants for supporting me to conduct this study. I would like to thank my research guide and clinical guide who helped me throughout the study. I would like to extend my heartfelt thanks for all who has directly or indirectly helped me during my study period

Conflict of interest : There was no conflict of interest

Source of fund : Self

Ethical clearance : The proposed study was conducted after the approval of the dissertation committee of Indira college of nursing and prior permission was obtained from the dean of Indira medical college and hospital. Informed written consent was obtained from participants before starting data collection. Assurance was given to the study participants regarding the confidentiality of the data collected

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Effects of Computer Assisted Teaching on Knowledge and Practice Regarding Blood and Body Fluid Exposure to Staff Nurses

J. Adalin Celia Mirabel¹, P. Kalavathi²

¹Nursing Superintendent, Sooriya Hospital, Chennai, TamilNadu, India

²Associate Professor, Indira College of Nursing, Pandur, Thiruvallur, TamilNadu, India

ABSTRACT

Occupational exposure to blood and body fluids is a serious concern for health care workers and presents a major risk factor for transmission of infectious diseases such as Hepatitis B virus, hepatitis C virus, and human immune deficiency virus. Nurses are the major health care providers in the hospital and they are more potential for exposure to blood and body fluid. The study was conducted to determine the effectiveness of Computer Assisted Teaching on knowledge and practice regarding blood and body fluid exposure among staff nurses in Sooriya hospital in Chennai. The investigator has done an in-depth review of literature which included both theoretical and empirical related studies and statistics which provided a strong foundation for the study, including the basis for the conceptual framework and foundation of the tool and to select the research methodology. Pre-experimental one-group pre-test post-test design which is suitable for the study. The study shows in the pre-test, the mean value was 13.78 with S.D 2.95 and the post-test mean was 20.36 with S.D 1.63. The calculated 't' value was 16.312 which indicates there was significance at $p < 0.0001$ level between the pre and post-test level of practice shows the effectiveness of Computer Assisted Teaching. The overall mean improvement with a 't' value of 11.28 was significant at the $P < 0.001$ level. The findings revealed that there was a statistically highly significant difference in the level of knowledge on blood and body fluid exposure between the pre and post-test scores among staff nurses.

Key words: Effects, Computer Assisted teaching, blood, body fluid

INTRODUCTION

Nurses are an integral component of the health care delivery system. They perform numerous procedures during which they may be exposed to the patient's blood or body fluid. It is observed that accidental exposure is more frequent when nurses neglect safety practices. So nurses should be knowledgeable about all the potential problems caused by occupational blood and body fluid exposure and its preventive measures and Management.

In advancement in medical technology, more and more invasive procedures are carried out and injections are used in sick patients. Occupational exposure to blood and body fluids is a serious concern for health care workers and presents a major risk factor for transmission of infectious diseases such as hepatitis B virus, hepatitis C virus, and human immune deficiency virus.

A person who works in the hospital is potential for exposure to infectious materials, including body substances, contaminated medical devices, and equipment, contaminated environmental surfaces, or contaminated air. Healthcare worker is the singular form of healthcare personnel.

After blood and body fluid exposure, decontamination of the blood splash is very important to avoid the transmission of blood-borne pathogens. Avoiding occupational blood and body fluid exposures is the primary way to prevent the transmission of pathogens in healthcare settings. Immunization and post-exposure management are integral components of a complete program to prevent infection following blood borne pathogen


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STATEMENT OF THE PROBLEM

A study to assess the effectiveness of Computer Assisted Teaching on knowledge and practice regarding blood and body fluid exposure among staff nurses in Sooriya hospital, Chennai, Tamil Nadu.

OBJECTIVES

1. To assess the pre-test level of knowledge & Practice of staff nurses on blood and body fluid exposure.
2. To assess the post-test level of knowledge and practice of staff nurses on blood and body fluid exposure.
3. To assess the effectiveness of computer-assisted teaching on knowledge, and practice among staff nurses.
4. To associate with the Post-test level of knowledge & practice regarding blood and body fluid exposure and selected demographic variable among staff nurses at Sooriya hospital.

Null hypothesis:

NH1: There will be significant effectiveness of computer-assisted teaching on knowledge and practice regarding blood and body fluid exposure.

NH2: There will be significant association between the Post test knowledge & practice regarding blood and body fluid exposure with selected socio demographic variables among staff nurses .

RESEARCH METHODOLOGY

The researcher adopted a Pre-experimental approach in which a pre-test and post-test was used as research design. Convenience sampling technique was adopted for the study. The study was conducted at Sooriya Hospital in Chennai. The targeted population for the study comprises of all staff nurses . Totally 60 Nurses selected for this study. The tool was validated by 5 experts in the field of nursing, 2 medical and 1 biostatistics and their suggestions were incorporated in the study. The reliability of the tool was "0.89" based on Karl Pearson's co-relation co-efficient.

Phase- I Selection of Nurses for the study

The data was collected after obtaining written permission from the Principal & Institutional Ethical Review Board of Indira College of Nursing, and CEO of Sooriya hospital. The Study samples were selected based on the sampling criteria.

Inclusive Criteria

1. Staff nurses who are working in operation theatre, emergency/Causality, ICU, Labour , Medical department, surgical department.
2. Those are willing to participate.
3. Those who are all registered nurses.

Exclusive Criteria

1. Out patient department
2. Diagnostic area
3. Staff Nurses who all are in long leave

The researcher obtained the informed written consent from each staff nurses and proceeded with data collection.

Phase- II Pre test

Collect demographic data of the staff nurses; to assess the pre test level of knowledge and practice on blood and body fluid exposure.

Phase - III :Intervention

The researcher explained about the intervention (computer assisted teaching) to the selected Nurses. Investigator selected 60 samples from which 10samples from each department, Every day 4-5 samples participated in the study.

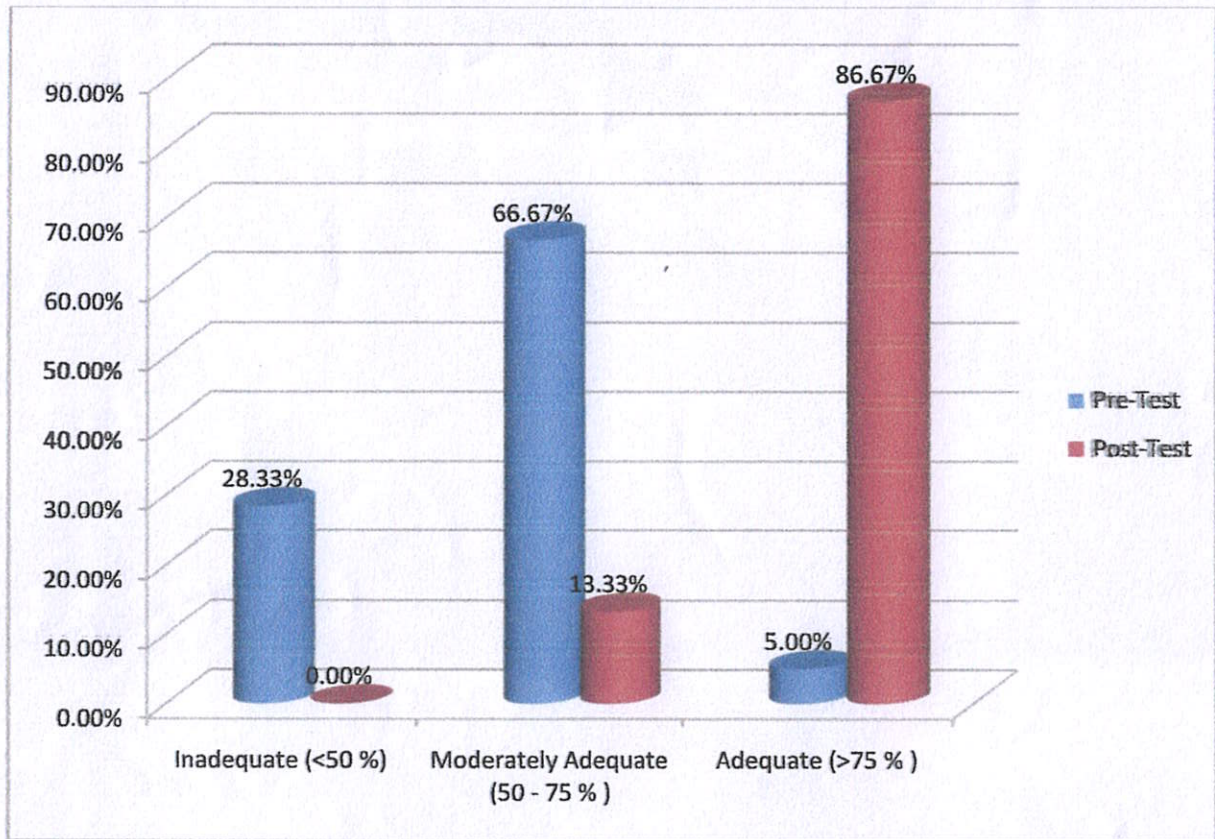
Phase - IV

The post test was conducted in the following 4th week to assess the level of knowledge and practice blood and body fluid exposure.

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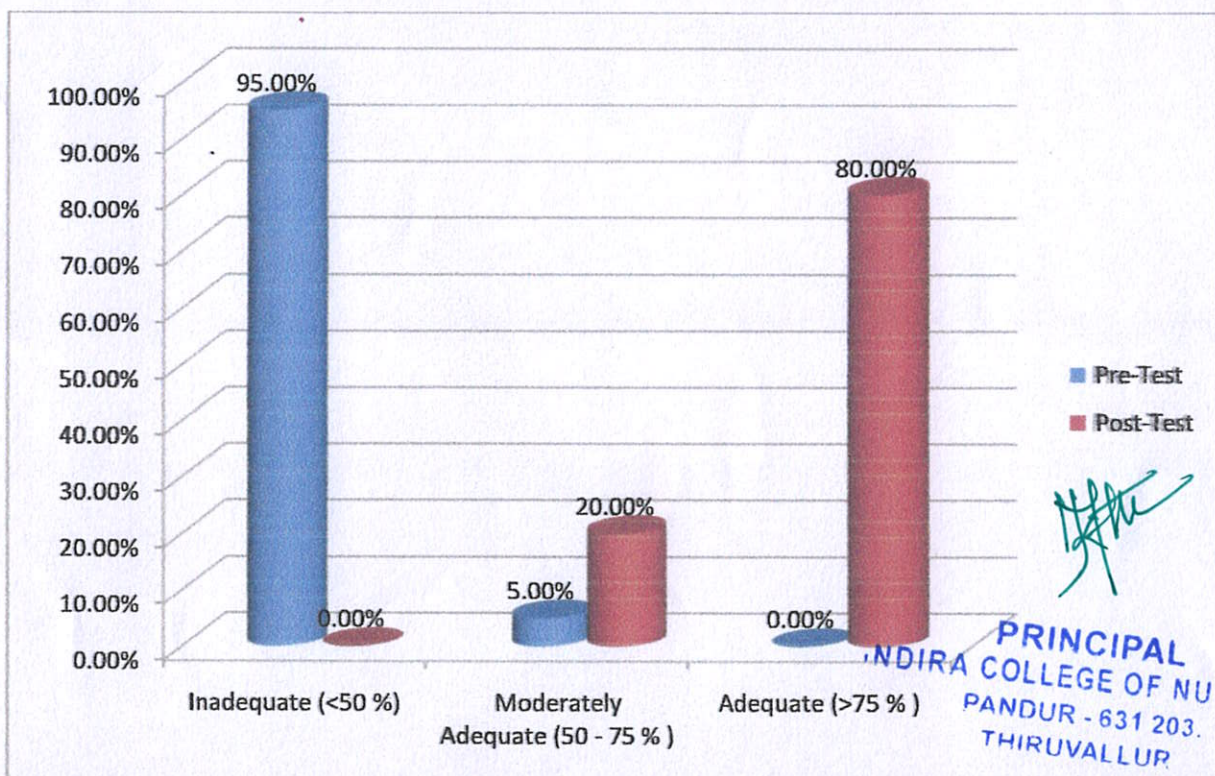
Sec:-1 Distribution of staff nurses Knowledge regarding blood and body fluid exposure

Fig:1. Frequency and percentage distribution of pre and post-test level of knowledge



Sec:II Distribution of staff nurses practice regarding blood and body fluid exposure

Fig: 2 Frequency and percentage distribution of pre and post-test level of practice



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Sec- III: Comparison of Pre-Test and Post-Test Level of Knowledge Regarding Blood and Body Fluid Exposure Amongstaff Nurses

Table 1: Effectiveness of Computer Assisted Teaching on Level of knowledge Score among Staff Nurse.

N = 60

Practice	Mean	S.D	Mean improvement	't' Value
Pre-test	9.3	2.25	11.28	t= 47.688 P=0.001 S***
Post-Test	20.58	2.14		

Section III A: Comparison of Pre-Test and Post-Test Level of Practiceregarding Blood and Body Fluid Exposure Among staff nurses

Table 1.A : Effectiveness of Computer Assisted Teaching on Level of Practice Score among Staff Nurses

N = 60

Practice	Mean	S.D	Mean improvement	't' Value
Pre-test	13.78	2.95	6.58	t= 16.312 P=0.0001 S***
Post-Test	20.36	1.63		

DISCUSSION

The study revealed that among 50 staff nurses, majority of the staff nurses had moderately adequate knowledge (64%) and (36%) had inadequate knowledge on staff nurses. This may be due to lack of awareness regarding self-care management of blood and body fluid exposure and concluded that the staff nurses should be educated on blood and body fluid exposure.

The comparison of pre and post-test level of practice to determining the effectiveness of Computer Assisted Teaching.

It shows in the pre-test , mean value was 9.3 with S.D 2.25 and post-test mean was 20.58 with S.D 2.14.The calculated 't' value was 11.28 which indicates there was significant at $p < 0.001$ level between the pre and post-test level of knowledge shows the effectiveness of Computer Assisted Teaching.

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CONCLUSION

The study was assessed the effectiveness of computer assisted technique on knowledge of blood and body fluid exposure among staff nurses. The over all mean improvement with the 't' value of 11.28 which was significant at $p < 0.001$ level. The findings revealed that there was statistically high significant difference in the level of knowledge on blood and body fluid exposure pretest and post test among nurses. The investigator observed that the study which are of vital concern for nursing practice, nursing education, nursing administration and nursing research.

ACKNOWLEDGEMENT

I would like to thank all the participants for supporting me to conduct this study. I would like to thank my research guide and clinical guide who helped me throughout the study. I would like to extend my heartfelt thanks for all who has directly or indirectly helped me during my study period.

Conflict of interest: There was no conflict of interest.

Source of fund: self


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Ethical Clearance: The proposed study was conducted after the approval of the dissertation committee of Indira college of Nursing and prior permission was obtained from the CEO of Sooriya hospital. Informed written consent was

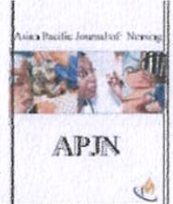


obtained from participants before starting data collection. Assurance was given to the study participants regarding the confidentiality of the data collected.

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A STUDY TO ASSESS THE EFFECTIVENESS OF VIDEO ASSISTED TEACHING ON KNOWLEDGE AND PRACTICE REGARDING PARTOGRAPH INTERPRETATION AMONG NURSING STUDENTS IN SELECTED NURSING INSTITUTIONS

Mary Teresa

Indira College of Nursing, Thiruvallur, Tamilnadu, India.

ABSTRACT

Introduction: Partograph is the vital and gold standard tool to monitor the maternal and fetal well-being throughout labour. Nurses play the most significant role to monitor the progress of the labour and help to identify, report and intervene in abnormal labor. **Methodology:** The research approach used for this study was quantitative approach and the research design was pre-experimental one group pre-test and post-test design. 60 nursing students were selected for this study by using purposive sampling technique. Data was collected with the help of Self-administered questionnaire on partograph. Video assisted teaching programme was conducted on partograph interpretation among participants. After 1 week, post test was conducted to evaluate the effectiveness of video assisted teaching programme. **Result:** The study aggregated that the effectiveness of video assisted teaching on level of knowledge. In pre-test mean value was 13.78 with S.D 2.95 were greater than post-test mean value was 20.36 with S.D 1.63. The calculated 't' value was 16.312 which indicates that it was significant at $p < 0.0001$ level. In the regard to the effectiveness of video assisted teaching on level of practice, the pre-test, mean value was 9.3 with S.D 2.25 were greater than post-test mean value was 20.58 with S.D 2.14. The calculated 't' value was 47.688 which indicates that it was significant at $p < 0.001$ level. The relationship between the level of knowledge and practice were found to have positive correlation $r = 0.88$ at the level of $p < 0.05$. **Conclusion:** The video assisting teaching is one of the most effective medium of instruction for imparting knowledge to the nursing students.

Key words: Video assisted teaching Knowledge Practice Partograph Interpretation Nursing Students.

Corresponding Author
Dilli Rani.S

Email:- dilliranis71995@gmail.com

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INTRODUCTION

A partograph is one of the vulnerable appropriate technologies in use for improved monitoring of labour progress. This is through enabling clinicians (Midwives & Doctor) to plot examination findings from their assessment on the partograph. The belief that its use was applied in developed and developing settings led into introduction worldwide. A number of common partograph designs incorporate an "ALERT LINE" and "ACTION LINE". It is critical in prevention maternal and perinatal MORBIDITY and MORTALITY.

Globally, there were an estimated number of 287,000 maternal deaths or a maternal mortality ratio (MMR) of 2020 maternal deaths per 100,000 live births in the year 2021.

Worldwide, 85% (245,000) the majority of maternal death and complication attributable to obstructed and prolonged labour could be prevented by cost-effective and affordable health intervention like the use of partograph.

The paper partograph is the most commonly available labour-monitoring tool, used by health professionals and recommended by WHO for active labour.



The WHO partograph is a graphical representation of measure of fetal well-being and labour progression that facilitates identification of obstetric and fetal complications. Routine use of the paper partograph in low- and middle- income countries are inconsistent, and in many settings, skill birth attendances (SBAs) Complete partograph retrospectively for record keeping purpose only.

OBJECTIVES

- To assess the pre-test and post-test level of knowledge and practice regarding partograph interpretation among nursing students.
- To evaluate the effectiveness of video assisted teaching on knowledge and practice regarding partograph interpretation among nursing students by comparing pre-test and post-test score.
- To correlate the level of knowledge and practice regarding partograph interpretation among nursing students.
- To associate selected demographic variable with the post-test level of knowledge and practice regarding partograph interpretation.

Conceptual Framework:

The conceptual framework used in this study was based on IMOGENE KING'S GOAL ATTAINMENT THEORY.

Methodology:

The research approach used for this study was quantitative approach and the research design was pre-experimental one group pre-test and post-test design for 60 nursing students were selected for this study by using purposive sampling technique. Data was collected with the help of self-administered questionnaire on partograph. Video assisted teaching programme was conducted to the participants. After 1 week post test was conducted to evaluate the effectiveness of video assisted teaching on partograph interpretation.

RESULTS: The following are the results of the study based on the objectives

To Assess the Pre-Test And Post-Test Level Of Knowledge And Practice Regarding Partograph Interpretation Among Nursing Students

The findings of the study revealed in that the pre-test level of knowledge, majority of 40 (66.67%) students had moderately adequate knowledge, about 17 (28.33%) students had Inadequate knowledge and only 3 (5.00%) had adequate knowledge. In the post-test, 52 (86.67%) students had adequate knowledge whereas 8 (13.33%) had

moderately adequate knowledge and none of them had inadequate knowledge regarding partograph interpretation.

In level of practice the pre-test findings show, majority of 57 (95.00%) students had poor practice and about 3 (05.00%) students had average practice. In the post-test 48 (80.00%) students had good practice and 12 (20.00%) had average practice and none of them had poor practice regarding partograph interpretation.

To Evaluate The Effectiveness Of Video Assisted Teaching On Knowledge And Practice Regarding Partograph Interpretation Among Nursing Students By Compare Pre-Test And Post-Test.

The table 4 shows that comparison of pre and post-test level of knowledge to determine the effectiveness of video assisted teaching. Pre-test was conducted for 60 nursing students. On the 2nd days the video assisted teaching programme was conducted to the participants. After that on the 9th day post test was conducted to evaluate the effectiveness of video assisted teaching on partograph interpretation. It shows that the calculated value is greater than the tabulated value The pre-test, mean value was 13.78 with S.D 2.95 and post-test mean was 20.36 with S.D 1.63. The calculated 't' value was 16.312 which indicates that it was significant at $p < 0.0001$ level between the pre and post-test level of knowledge which shows the effectiveness of video assisted teaching among nursing students.

The findings revealed that the comparison of pre and post-test level of practice to determine the effectiveness of video assisted teaching shows that in the pre-test, mean value was 9.3 with S.D 2.25 and in the post-test, mean was 20.58 with S.D 2.14. The calculated 't' value was 47.688 which indicates that it was significant at $p < 0.001$ level between the pre and post-test level of practice.

To Correlate the Level Of Knowledge And Practice Regarding Partograph Interpretation Among Nursing Students

The analysis revealed that there was a positive correlation between the overall mean improvement level of knowledge and practice of the nursing student ($r = 0.88$), which was significant at the level of $P < 0.05$. Hence, there is significant relationship between the overall mean improvement, level of knowledge and practice of nursing student on partograph interpretation

The findings revealed that there was a positive correlation between knowledge and practice ($r = 0.88$) which is significant at the level of $P < 0.05$.

To associate selected demographic variable with the post-test level of knowledge and practice regarding partograph interpretation



Figure 1: To assess the pre-test and post-test level of knowledge regarding partograph interpretation among nursing students.

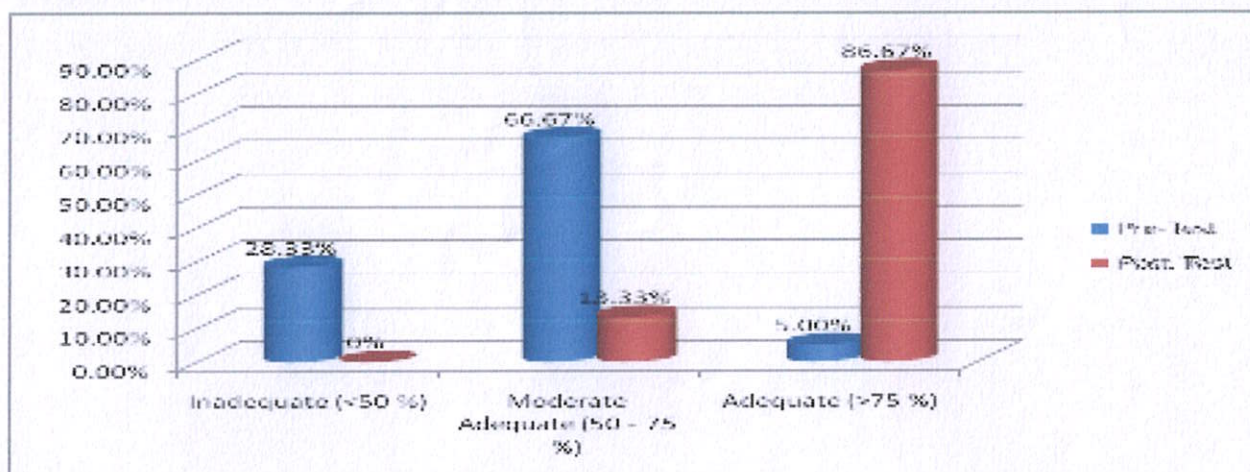


Figure 2: To assess the pre-test and post-test level of practice regarding partograph interpretation among nursing students.

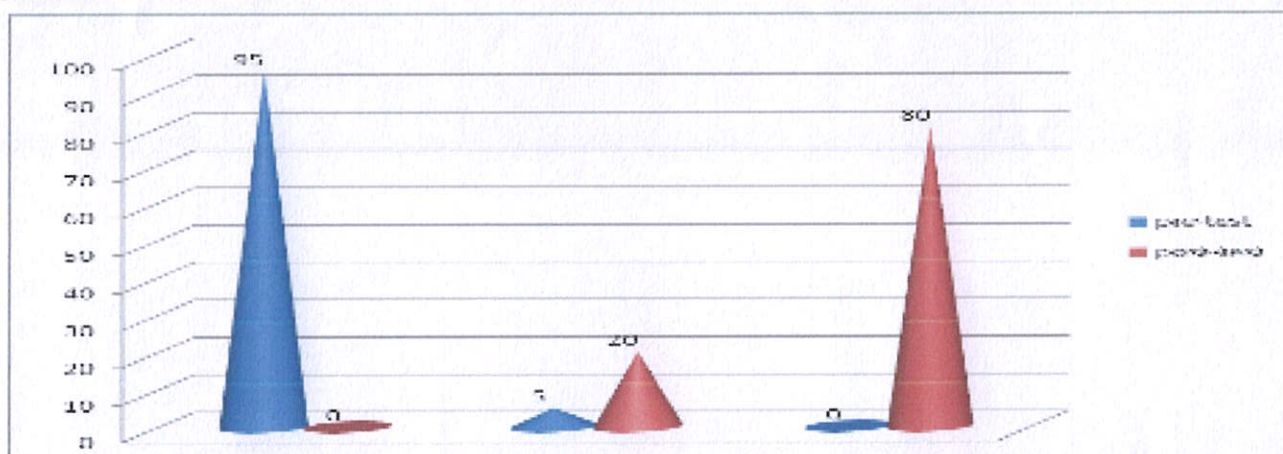


Table 1: To evaluate the effectiveness of video assisted teaching on knowledge regarding partograph interpretation among nursing students by compare pre-test and post-test.

Knowledge	Mean	S.D	Mean improvement	't'Value
Pre-test	13.78	2.95	6.58	t= 16.312P=0.0001 S***
Post-Test	20.36	1.63		

Table 2: To evaluate the effectiveness of video assisted teaching on practice regarding partograph interpretation among nursing students by compare pre-test and post-test.

Practice	Mean	S.D	Mean improvement	't'Value
Pre-test	9.3	2.25	11.28	t= 47.688P=0.001 S****
Post-Test	20.58	2.14		



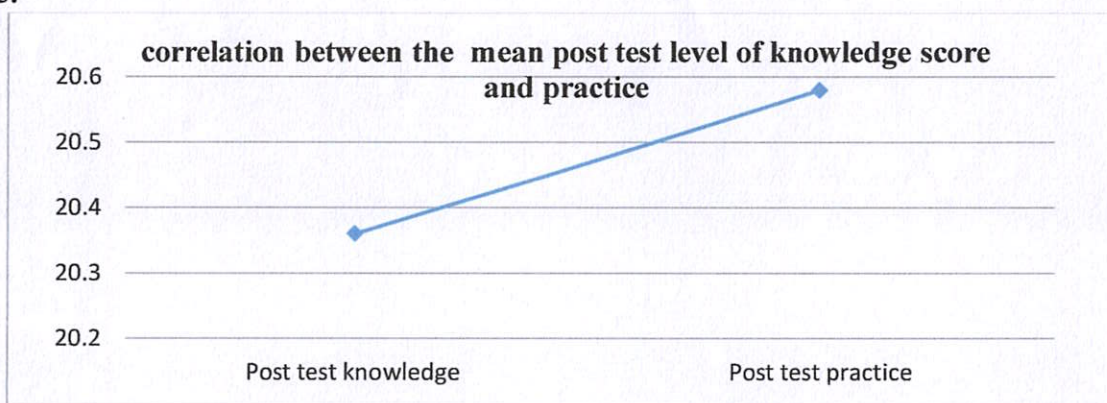
Table 3: To associate selected demographic variable with the post-test level of knowledge regarding partograph interpretation.

Demographic Variables	Moderately Adequate (50–75%)		Adequate (>75%)		Chi-Square Value
	NO	%	NO	%	
3.Religion					χ ² =14.787 df=3 S**
a)Hindu	02	03.3	31	51.7	
b)Muslim	03	05.0	15	25.0	
c)Christian	03	05.0	04	06.7	
d)Others	00	00.0	02	03.3	

Table 04: To associate selected demographic variable with the post-test level of practice regarding partograph interpretation.

Demographic Variables	Moderately Adequate (50–75%)		Adequate (>75%)		Chi-Square Value
	NO	%	NO	%	
4. Level of students					χ ² =27 df=2 S***
a) B.Sc(Nursing)	04	6.66	46	76.66	
b)DGNM(Nursing)	08	13.33	02	3.33	

Figure 03:



CONCLUSION

The study finalized that the effectiveness of Video Assisted Teaching on knowledge and practice regarding partograph interpretation among nursing students. The study findings revealed that there is a significant level of students and the post level of practice and the there is a significant association between religion and the post-test level of knowledge. It shows highly effectiveness of video assisted teaching regarding partograph interpretation.

IMPLICATIONS

The investigator has drawn the following implication from the study, which is of basic consideration in the field of nursing practice, nursing administration, nursing education, and nursing research.

Nursing Practice

This can be facilitated by motivating the nursing student to,

- Educate the nursing student regarding partograph interpretation.

- Community health nurses who are in direct contact with the labouring women must be taught about the partograph, because of the fact that home deliveries are still conducted in our country.
- Develop tool to monitor the knowledge and practice regarding photograph interpretation among nursing students.

Nursing Education

- Partograph is a concept upon which every nursing student should have clear idea. Therefore, this concept must be added in the nursing curriculum to enlighten the future generation.
- Nurse educator should possess theoretical and practical knowledge on partograph interpretation.
- Special courses on partograph interpretation can be organised for the nurse educators, so as to enable them to deliver proper training to the nursing students.


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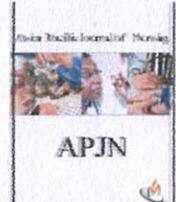
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EFFECTIVENESS OF GUIDED IMAGINARY TECHNIQUE ON STRESS AMONG SENIOR CITIZENS AT SELECTED OLD AGE HOMES IN THIRUVALLUR DISTRICT

Prasana S

Indira College Of Nursing, Thiruvallur, Tamilnadu, India

ABSTRACT

A pre-experimental study one-group pre-test and post-test design was undertaken to assess the effectiveness of guided imaginary technique on stress among senior citizens at selected old age homes in Thiruvallur district. A convenience sampling technique was used to select the 60 senior citizens. A structured standardized DASS questionnaire were used to assess the level of stress. After the intervention of guided imaginary technique among senior citizens in old age homes the effectiveness was assessed by descriptive analysis and inferential statistics the finding of the study revealed that, in the senior citizens, the pre-test stress score having more in stress (70.4%) and less score in depression (58.5%). Overall they having 64.43% of DASS score and the post-test stress score having moderate score in depression (32.4%) and less score in stress (30.0%), the difference between pre-test and post-test stress score was large and it was statically significant by using paired t-test $t=15.76$ at the level of significant ($p=00.001$) which indicated that there is significant difference between stress reduction score among senior citizens. Thus, the guided imaginary technique was significantly effective to decrease the stress among senior citizens with the paired t-test score.

Key words: Guided imaginary, stress, senior citizens..

Corresponding Author
Prasana S

Email:- prasanasathiya09@gmail.com

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INTRODUCTION

Human development refers to the biological and psychological development of the human being through out the lifespan. It consists of the development from infancy, childhood, adolescence, adulthood and old age. Mental health is the important at every stage of human life. It includes our emotional, psychological and social well-being that enable people to cope with the stresses of life.

Old age population suffers both physical as well as mental changes in life stress in older adults, has many causes such as managing chronic illness, losing a spouse, being a care giver or adjusting to changes due to finances, retirement or separation from family and friends, all which contributes to mental health problems in elderly population. stress is more common in older adults. Globally, 15% of the ageing population is suffering from mental disorders and stress is one major mental health

problem influencing a substantial proportion (10-55%) of the old age population. The prevalence of stress among the old age population is moderately increasing and expected to reach double in the next one decade. According to statistics in January 2021, around 28% of senior citizens 50-80 years felt hopeless for several days, more over 44% reporting feeling stressed. The statistics display the percentage of older adults who felt stressed, depressed for several days. There is need to prevent stress in the starting stage itself, there are various techniques are available to relieve stress meditations, guided-imaginary, self-hypnosis, yoga, exercises, music therapy, laughter therapy, relaxation techniques.eg., head to relaxation, and relaxation through aerobic exercises, play with pet, curl up with a good book, work in garden, spend time in nature, watch comedy, go for a walk etc.,

Guided imaginary is a stress management technique, is the use of visualization, words, and/ or music



to evoke positive thinking, feeling relaxed, peaceful and happy. It is the process of using the connection between the body and mind to bring about positive changes in life. These relaxation techniques that involves dwelling on positive mental image or scene into a person's mind. This technique used to reduce stress and anxiety

OBJECTIVES

- To assess the pre-test level & post-test level of stress among senior citizens
- To assess the effectiveness of guided imagery technique among senior citizens by comparing pre-test & post test scores.
- To associate socio-demographic variables with the post-test level of stress on guided imagery technique among senior citizens.

RESEARCH METHODOLOGY

Modified Betty Neumann's Theory was adopted to explain to assess the effectiveness of guided imagery technique on reduction of stress among senior citizen. A pre-experimental one-group pre-test and post-test designs was adopted to accomplish the objectives of the study, a Non-probability convenience sampling technique was used to collect the data with selected old-age homes with the total 60 samples were divided into two groups each group consists of 30 members used to assess the effectiveness of guided imaginary technique on stress in old age with the use of structured DASS stress scale of 42 items were used assess the level of stress and the effectiveness of guided imaginary technique on stress among senior citizens, In addition to the intervention the guided imaginary (beach visualization) image with the help of script and sounds were prepared and administer by the researcher, techniques was demonstrated by step wise to the first group for 15-30 minutes, in the morning for first two weeks and the same was continue to the next 30 members in the same way. The guided imaginary techniques were given to all the 60samples. The post-test was conducted with the same tool after 7 days at the same setting.

RESULTS

Distribution Of Senior Citizens Based On Their Pretest Level And Post Test Level Of Stress Among Senior Citizens.

Table shows each aspect wise pre-test stress scores among senior citizen at selected old age home. They were having more score in stress (70.4%) and less score in depression (58.5%). Over all, they were having 64.43% of DASS score.

Distribution Of Senior Citizens Based On Their Effectiveness Of The Guided Imagery Technique On Stress Among Senior Citizens By Comparing Pre-Test And Post-Test Score.

Considering Depression aspects, in pre-test, senior citizens were having 23.80 score where as in post-test they are having 14.03 score, so the difference is 9.77. This difference between pre-test and post-test was large and it was statistically significant.

Considering Anxiety aspects, in pre-test, senior citizens were having 26.19 score where as in post-test they were having 13.30 score, so the difference was 12.89. This difference between pre-test and post-test was large and it was statistically significant.

Considering Stress aspects, in pre-test, elders were having 28.57 score where as in post-test were having 12.61 score, so the difference was 15.96. This difference between pre-test and post-test was large and it was statistically significant.

Considering overall, in pre-test, senior citizens were having 78.56 score where as in post-test they were having 39.94 score, so the difference is 38.62.

The difference between pre-test and post-test stress score was large and it was statistically significant differences between pre-test and post-test stress was analyzed using paired t-test.



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Table 1: Distribution of pre-test percentage of level of stress among senior citizens N=60

DASS Score on	No.of. question	Mean	SD	Mean Score
Depression	14	23.80	05.45	58.5%
Anxiety	14	26.19	06.04	64.4%
Stress	14	28.57	06.64	70.4%
Total	42	78.56	18.13	64.43%

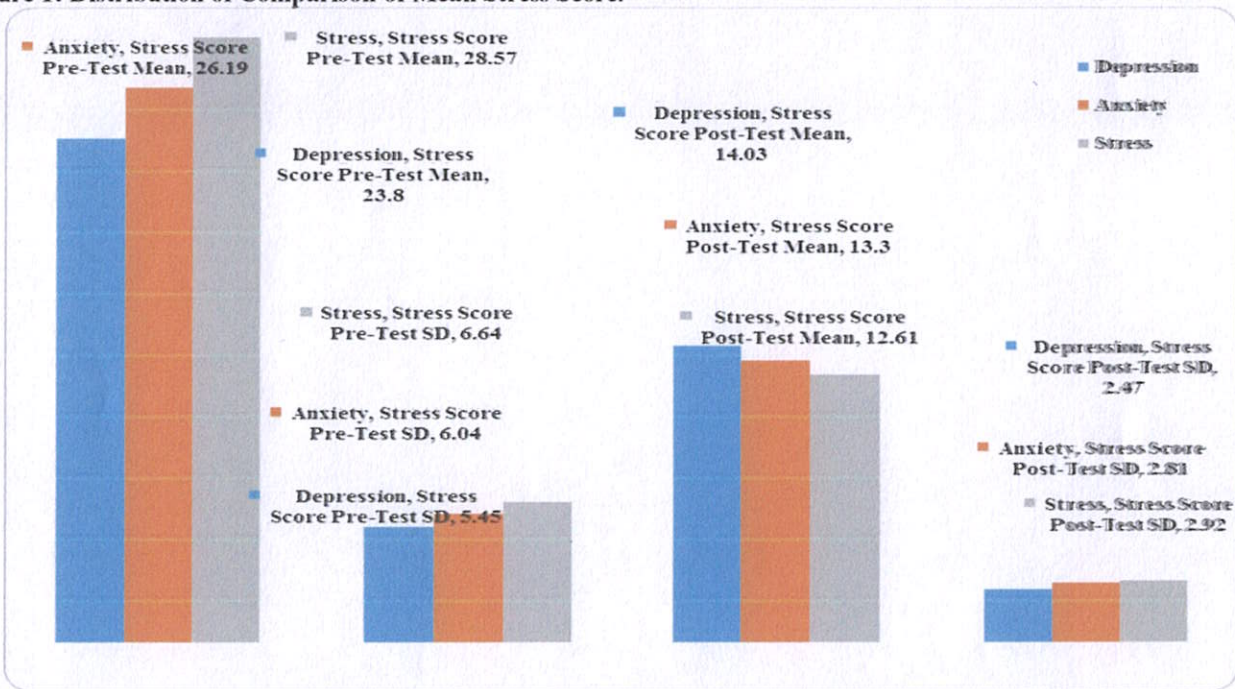
Table 2: Distribution of comparison of mean stress score N=60

DASS Score on	Stress Score				Difference	Paired T-Test
	Pre-Test		Post-Test			
	Mean	SD	Mean	SD		
Depression	23.80	05.45	14.03	02.47	9.77	12.64
Anxiety	26.19	06.04	13.30	02.81	12.89	14.98
Stress	28.57	06.64	12.61	02.92	15.96	17.81

Table 3: Domain wise pretest and posttest percentage of stress score.

Aspects	Frequency	Mean ± SD	Difference	T-Test
Pre-test	60	78.56 ± 18.13	38.62	15.76
Post-test	60	39.94 ± 05.61		P=00.001

Figure 1: Distribution of Comparison of Mean Stress Score.



DISCUSSION

This chapter deals with the discussion of study with appropriate review literature, statistical analysis, and findings of the study based on the objective of the study. The main aim of the study was to evaluate the effectiveness of guided imaginary technique on stress among senior citizens at selected old-age homes in Thiruvallur district.

To assess the pretest level and posttest level of stress among senior citizens.

The findings of the study revealed that pretest score among senior citizen at selected old Age homes, they were having more score in stress 70.4 % and less score in depression 58.5%. Overall, they were having 64.43% DASS Score.

In post-test score among senior citizen at selected old age home they were having more score in depression



32.4 % and less score in stress 30.0 %. Overall, they were having 31.7 % of DASS score.

To assess the effectiveness of guided imaginary technique among senior citizens by comparing pre-test and posttest score.

The comparison of pre-test and post-test scores on the level of stress among senior citizens at selected old-age homes. Guided imaginary technique was demonstrated step wise to the both groups. Post-test was conducted by using structured standardized DASS scale at the end of 1 weeks. It denotes that the guided imaginary technique was effective to reduce the stress.

In stress aspect the pre-test mean value was 28.57 with SD 06.64. And post-test mean value was 12.61 with SD 0.92, so the difference was 15.96. This difference between pre-test and post-test was large and it was statistically significant.

The findings revealed that the difference between pre-test and post-test stress score was large and it was statistically significant differences between pre-test and post-test stress was analyzed using paired t-test $t=15.76$ which indicated there was significant at $p<00.001$. Hence hypothesis H1 is proved. Thus, it becomes evident that the guided imaginary technique is effective to reduce the stress among senior citizens in selected old age homes.

To associate socio demographic variable with the post-test level of stress on guided imaginary technique among senior citizens.

The association between mean level of stress reduction score with demographic variables. The results shows that there is no significant association found between age of study participate, number of children, mode of admission, relaxation activities, duration of stay of study. The results shows that there is no statistically significant association.

CONCLUSION

The study enlightening the importance of this research and given that the reduction in the level of stress among senior citizens was significantly improved.

Implications

- The findings of the study have implications for Nursing Education, Nursing Service, Nursing Administration and Nursing Research, Nursing Education
- This finding can be utilized by nursing students for gaining adequate knowledge and skills to do guided imagery technique and practice these skills with proper training on clinical placement, society and identify the stress level and help them who may at risk.

Nursing Practice

- Nurses are able to use this technique for effective way to deal with stress in clinical and community settings as well.

- All health care personnel such as Nursing educators, staff nurses and other staffs working in the hospital should be encouraged to practice and learn the guided imagery technique.

Nursing Research

- There is a need for extensive and intensive research in this area.
- One of the aims of nursing research is to expand and broaden the scope of nursing findings of this study will provide baseline data about the stress among senior citizens. it can be effectively utilized by emerging researchers. Further nursing research is to be done to encourage the stress management to adopt guided imagery technique.
- The findings of the study to find out the effectiveness of guided imagery technique for stress reduction among senior citizens.

Nursing Administration

- Nursing administrator can arrange In-service education programs and continuing education programs for directing and motivating staff nurses and nursing faculty to improve the knowledge regarding guided imagery technique is effective for all in stress.
- Nurse administrators have the responsibility to motivate the staff nurses and community nurses to provide adequate knowledge and skills on how to provide guided imagery technique for the patients.

Recommendations

- A comparative study can be conducted to assess the effectiveness of guided imagery technique on patients with depression in selected hospital.
- A comparative study can be conducted to assess the stress level among senior citizens between urban and rural community.
- A similar kind of study can be conducted to assess the effectiveness of guided imaginary technique among nurses to overcome from stress.



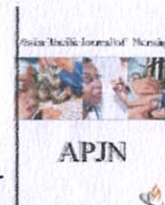
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EFFECTIVENESS OF COMPUTER ASSISTED TEACHING ON SUICIDAL PREVENTION AMONG YOUNGER ADULTS AT SELECTED COLLEGES IN THIRUVALLUR DISTRICT.

Jeniferlisi J*

Indira College of Nursing, Thiruvallur, Tamilnadu, India

ABSTRACT

Introduction: Suicide is the most leading cause death among younger adults. It account for 35 % of recorded death in India. In this study a pre-experimental one group pretest and posttest design was undertaken to assess the effectiveness of computer assisted on suicidal prevention among younger adults at selected nursing colleges in Thiruvallur district. In this study, 60 samples were selected by using non- probability convenience sampling technique. Self administered questions were used to collect the data findings of this study revealed that the paired 't' test value is 8.71. Which is significantly higher than the table value of 4.05 at $p \leq 0.05$ level. Which shows that computer assisted teaching was effective, there is a statistically high significant difference found between pre and post-test level of knowledge regarding suicidal prevention among younger adults.

Key words: Younger adults, Computer assisted teaching, Suicidal prevention.

Corresponding Author

Jeniferlisi J

Email:- jeniferlisi.john@gmail.com

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INTRODUCTION

India has the largest youth population in worldwide. The youth constitute 22 percent of India's population. The word *younger adult* is derived from the Latin word *adultus*, which means "to grow into adulthood" it is a time of moving from the immaturity of childhood into the maturity of adulthood. Worldwide, suicide is among the top five causes of death. Suicide is the fourth leading cause of death in 15- 29 years old globally in 2019.

Younger adult is a stressful developmental period filled with major changes –such as, body changes, changes in thoughts, and changes in feelings, strong feelings of stress, confusion, fear, uncertainty, as well as pressure to succeed, these reasons may influence a teenager's problem solving and decision making abilities. Now a days suicide prevention among adolescents and younger adults is very important and high priority.

Every year over 2 million high school students start colleges. These students are steps into their younger adulthood and taking the next step in their life. The period

in the human lifespan in which full physical and intellectual maturity have been attained.

According to 2021 data from the National Crime Record Bureau, around 13,089 students committed suicide in India. That's one student every hour. Despite of one of the most advanced states in India, Maharashtra had the highest student death, followed by Madhya Pradesh is second and TamilNadu has third highest number of student committed suicide in India around 1,246 students died by suicides.

A college is the place where the younger adult spends almost half of the day. This is especially important if a student notices or has a gut feeling that another student is struggling. Suicide prevention starts with recognizing the warning signs and taking them seriously. Also, nowadays suicidal behaviour becomes common in adolescents and younger adults and number of suicide cases and suicidal attempts increasing gradually providing knowledge of suicide prevention can helps the students to identify and seeking helps to save someone's life.



OBJECTIVES

- To assess the pre-test and post-test level of knowledge on suicidal prevention among younger adults.
- To assess the effectiveness of Computer Assisted Teaching on suicidal prevention among younger adults by comparing their pre-test and post-test scores.
- To associate the selected background variables with the post-test level of knowledge on suicidal prevention among younger adults.

RESEARCH METHODOLOGY

The conceptual framework used in this study was based on J.W.Kenny's Open System Model. The research design selected for this study is pre-experimental one group pretest and posttest design. 60 samples were selected by using convenience sampling technique in Indira College of Nursing in Thiruvallur District. The data was collected by using self-administered questionnaire which consist of 30 multiple choice questions, to assess the level of knowledge before and after intervention. Computer assisted teaching programme was introduced to the participants and implemented for 1 weeks. After 1 weeks, post-test was conducted to evaluate the effectiveness of Computer assisted teaching on knowledge regarding prevention of suicidal prevention among younger adults. The data was analyzed by using descriptive and inferential statistics.

RESULTS

Comparison between the Pre-test and Post-test scores on Knowledge Regarding Suicide Prevention among younger adults

The above figure shows that, during pre-test, 15(25%) younger adults have moderately adequate knowledge, 45(75%) have inadequate knowledge and none of them have adequate knowledge. During post-test, 23(38.33%) younger adults have adequate knowledge, 37(61.67%) have moderately adequate knowledge and none of them have inadequate knowledge regarding prevention of suicide.

Comparison of pre-test and post-test level of knowledge regarding suicidal prevention among younger adults.

The above table 3.1 : shows that the General information related pretest mean score is 1.35+0.75, post test mean score is 2.08+0.70. Pertained to causes, the pre test mean score is 2.7+1.4, post test mean score is 4.16+1.4. Pertained to warning signs, the pretest mean score is 4.45+1.50, post test mean score is 7.27+1.35. In relation to prevention of suicidal behavior, the pretest mean score is 4.1+1.87, post test mean score is 7.68+1.83 which is the mean improvement is 9.31.

The above table 3.2: shows that the mean score during pre-test is 12.6 ± 5.52, and the mean score during

post-test is 21.19 ± 5.28. The paired't' test value is 8.71. Which is significantly higher than the table value of 4.05 at $p \leq 0.05$ level. Hence hypothesis H1 is retained. Thus it becomes evident that the computer assisted teaching effective in improving the knowledge regarding prevention of suicide among younger adults.

Association Of Post-Test Level Of Knowledge Regarding Prevention Of Suicide Among Younger Adults

There is no significant statistical relationship between the post-test score of level of knowledge regarding suicide prevention among younger adults with their selected background variables such as age, gender, religion, place of residency, type of family, paternal qualification, maternal qualification, occupation of parent, parent income per month, history of suicide.



Table 1: Area wise Mean, SD, Mean percentage and differences in mean percentage of pre test and post test knowledge score regarding prevention of Suicide among younger adults. N=60

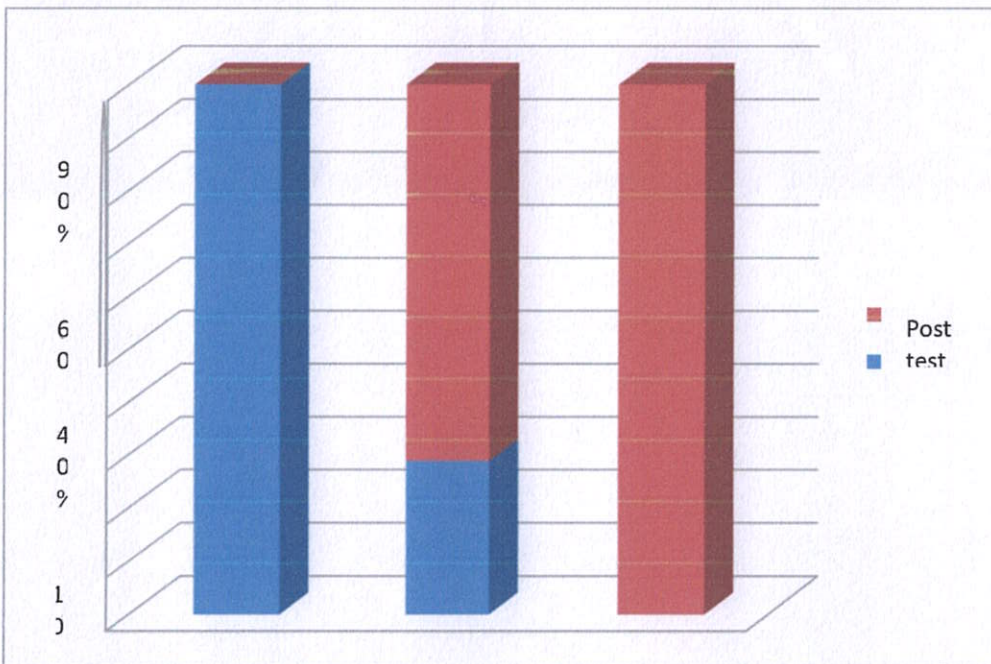
Sl. No.	Area of knowledge	Maximum Computer	pretest		Post test		Difference in Mean % Regarding Prevention Of Suicide
			Assisted Teaching	Mean Knowledge	Mean Knowledge	Mean Knowledge	
1.	General information	3	1.35	0.75	2.08	0.70	9.31
2.	Causes	6	2.7	1.4	4.16	1.4	
3.	Warning signs	11	4.45	1.50	7.27	1.35	
4.	Prevention of Suicidal Behaviour	10	4.1	1.87	7.68	1.83	

Among Younger Adults

Knowledge	Mean	S.D	't' Value	Df	Table value
Pre test	12.6	5.52	8.71	59	4.05
Post test	21.19	5.28			

Significant at $p \leq 0.05$ level

Figure 01:




DISCUSSION

This Chapter deals about the discussion of the study with statistical analysis and the findings of the study based on objectives of the study.

The main aim of the study was to evaluate the effectiveness of Computer assisted teaching on knowledge regarding suicidal prevention among younger adults in Indira College of Nursing at Thiruvallur District. The results of the study was based on statistical analysis.

1. To Assess The Pretest And Posttest Level Of Knowledge On Suicidal Prevention Among Younger Adults.

The level of knowledge regarding suicidal prevention among younger adults was assessed by using self-administered questionnaire. Around 60 samples were collected by using non probability convenience sampling technique. Table II shows that description of pre-test scores on the level of knowledge regarding suicidal prevention among school younger adults. It denotes that 45 (75%) younger adults had


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inadequate level of knowledge, 15 (25%) younger adults had moderate level of knowledge.

2. To Assess The Effectiveness Of Computer Assisted Teaching On Suicidal Prevention Among Younger Adults By Comparing Their Pretest And Posttest Score.

The comparison of pre-test and post-test scores on level of knowledge regarding suicidal prevention among younger adults. Computer assisted teaching was introduced and administered. Post- test was conducted by using self-administered questionnaire at the end of 1 weeks. It denotes that the level of knowledge regarding suicidal prevention among younger adults was found to be improved.

It shows that the mean score during pre-test is 12.6, and the mean score during post-test is 21.19 the paired 't' value is 8.71 which significantly higher than the table value of 4.05 at ($p \leq 0.05$) level. Hence hypothesis H1 is proved. Thus it becomes evident that the computer assisted teaching is effective in improving the knowledge regarding prevention of suicide among younger adults.

3. To Associate The Selected Background Variables With The Posttest Level Of Knowledge On Suicidal Prevention Among Younger Adults.

There is no significant statistical relationship between the post-test score of level of knowledge regarding suicide prevention among younger adults and selected background variables such as age, gender, religion, place of residency, type of family, paternal qualification, maternal qualification, occupation of parent, parent income per month, history of suicide.

CONCLUSION

This study was done to determine the effectiveness of computer assisted teaching on knowledge regarding suicidal prevention among younger adults. The result of the study showed that the mean score during pre-test is 12.6, and the mean score during post-test is 21.19 the paired 't' value is 8.71 which significantly higher than the table value of 4.05 at ($p \leq 0.05$) level. There was a significant improvement in knowledge of younger adults after computer assisted teaching and it suggests that the education for suicidal prevention is need for the younger adults.

RECOMMENDATIONS

- A similar kind of study can be conducted for a larger group to generate the findings for making a more valid generalization.
- A comparative study can be conducted on knowledge of suicidal prevention of younger adults between men and women.

REFERENCE

- A comparative study can be conducted on knowledge of suicidal prevention and suicidal behavior among younger adults between urban and rural community.
- A similar study can be conducted with a control group.



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Effects of Music Therapy on level of Blood Pressure among Hypertensive Clients

J. Shantha Sheela¹, M. Vatchala Devi², P. Kalavathi³

¹Clinical Instructor, Indira College of Nursing, Thiruvallur, TamilNadu, India

²Principal, Indira College of Nursing, Thiruvallur, TamilNadu, India

³Associate Professor, Indira College of Nursing, Thiruvallur, TamilNadu, India

ABSTRACT

Hypertension is a major risk factor for coronary heart disease and ischemic as well as haemorrhagic stroke. In addition to coronary heart diseases and stroke, complications of raised blood pressure include heart failure, peripheral vascular disease, renal impairment, retinal haemorrhage and visual impairment and even death. The study was conducted to evaluate the effects of music therapy on level of blood pressure among 60 hypertensive clients. Quasi-experimental design was adopted and the study participants were selected by using non-probability purposive sampling technique. The intervention of music therapy was given to the experimental group. Pre and post test systolic and diastolic blood pressure level was assessed in both experimental and control groups. The data analysis was done by using descriptive and inferential statistics. In the post test, the systolic blood pressure mean and SD of experimental group were 143.27 and 6.75 and in the control group 149.57 and 7.97. The calculated 't' value was 3.310, which was statistically significant at $p \leq 0.001$. In the post test of diastolic blood pressure, mean and SD of experimental group were 93.40 and 6.83 and in the control group 98.70 and 5.44 respectively. The calculated 't' value was 12.04, which was statistically significant at the $p \leq 0.001$ level. The study showed that the practice of music therapy was an effective method to reduce the blood pressure level.

Key words: Effects, Music Therapy, Level of blood pressure, Hypertensive clients.

INTRODUCTION

Hypertension is called a "silent killer". It is the most common medical problem prompting visits to primary health care providers. Hypertension can damage arteries and blood vessel walls over time. This leads to dangerous complications and even death. Hypertension significantly increases the risk of heart, brain, and kidney diseases, and disease throughout the world. Hypertension is estimated to cause 9.5 million deaths, about 14.8% of the total of all deaths. WHO (2019) estimated that more than 1 billion people were living with hypertension worldwide which is almost 7.5 million deaths in the worldwide population. Raised blood pressure is a major risk factor for coronary heart disease and ischemic heart disease as well as hemorrhagic stroke. In addition to coronary heart diseases and stroke, complications of raised blood pressure include heart failure, peripheral vascular disease, renal impairment, retinal hemorrhage and visual impairment.

Hypertension is preventable by changing diet, increasing physical activity and improving the living environment but, without effective prevention and control programs the incidence of hypertension is likely to continue rising globally. So, the people are in need of cost-effective management in treating, preventing the complications of hypertension and reducing the health care cost.

The investigator has come across a larger number of patients admitted with hypertension and its associated complications during her clinical experience. Hence, music therapy administered by the investigator to reduce the level of blood pressure among hypertensive clients.

Statement of the Problem

A study to assess the effects of music therapy on the level of blood pressure among hypertensive clients in Indira Medical College and Hospitals, Thiruvallur, Tamilnadu.

Objectives

1. To assess the pre and posttest level of blood pressure among hypertensive clients in experimental and control groups.
2. To determine the effectiveness of music therapy on the level of blood pressure among hypertensive clients in the experimental group.

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- To associate the socio-demographic variables with the post test scores level of blood pressure among the hypertensive clients in the control and experimental group.

Null Hypotheses

NH₁: There is no statistically significant change in the level of blood pressure among hypertensive clients those who listening music when compared to those who did not.

NH₂: There is no statistically significant association of the posttest level of blood pressure with the selected demographic variables among hypertensive clients in the experimental and control group.

Delimitation

The study was delimitation to the period of four weeks of data collection.

RESEARCH METHODOLOGY

The researcher adopted a quantitative approach in which a quasi-experimental pre-test and post-test control group was used as research design. Non-probability purposive sampling technique was adopted for the study. The study was conducted at Indira Medical College and Hospital at Thiruvallur. The clients with hypertension between the age group 25 to 60 years were included for the study. Totally 30 patients in the experimental group and 30 patients in the control group were selected for this study. The tool was validated by 6 experts in the field of nursing, medical and biostatistics and their suggestions was incorporated in the study. The reliability of the tool was "0.89" based on Karl Pearson's correlation co-efficient. The level of blood pressure and its interpretation was categorized as per Joint National Committee (2010) & WHO (2010) classification of hypertension.

Systolic Blood Pressure Level	Interpretation
A. < 120 Mm Hg	Normal
B. 120-139 Mm Hg	Prehypertension
C. 140-159 Mm Hg	Stage 1 Hypertension
D. ≥ 160 Mm Hg	Stage 2 Hypertension
A. <80 Mm Hg	Normal
B. 80-89 Mm Hg	Prehypertension
C. 90-99 Mm Hg	Stage 1 Hypertension
D. ≥100 Mm Hg	Stage 2 Hypertension

Method of data collection

Phase- I Selection of clients with Hypertension

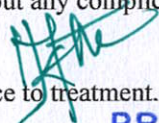
The data was collected after obtaining written permission from the Principal & Institutional Ethical Review Board of Indira College of Nursing, and Dean of Indira Medical College and Hospital, Thiruvallur. The samples were selected based on the sampling criteria.

Inclusive Criteria

- Clients those who are newly and already diagnosed with hypertension without any complications and comorbid illness.
- Male and Female aged above of 25 to 60 yrs
- Those who are taking regular medication (Beta blockers) and has compliance to treatment.

Exclusive Criteria

- Clients those who are not able to follow the instructions of listening music.
- Clients with hearing impairment.


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3. Clients who don't like music.
4. Mentally challenged persons.
5. Clients who are not willing to participate in the study.

The researcher obtained the informed written consent from each client with Hypertension and proceeded with data collection.

Phase- II Pre test

Collect demographic data, assess the level of systolic and diastolic blood pressure of the selected sample.

Phase - III: Intervention

The researcher explained about the intervention (music therapy) to the experimental group. All the participants in the experimental group were verbally encouraged and motivated to listen to the music every day 45 minutes for 21 days. The music therapy package was composed of PGM, melody, classical, semi-classical and jazz. The therapy was administered based on the clients reference and interest. The control group received routine interventions.

Phase – IV

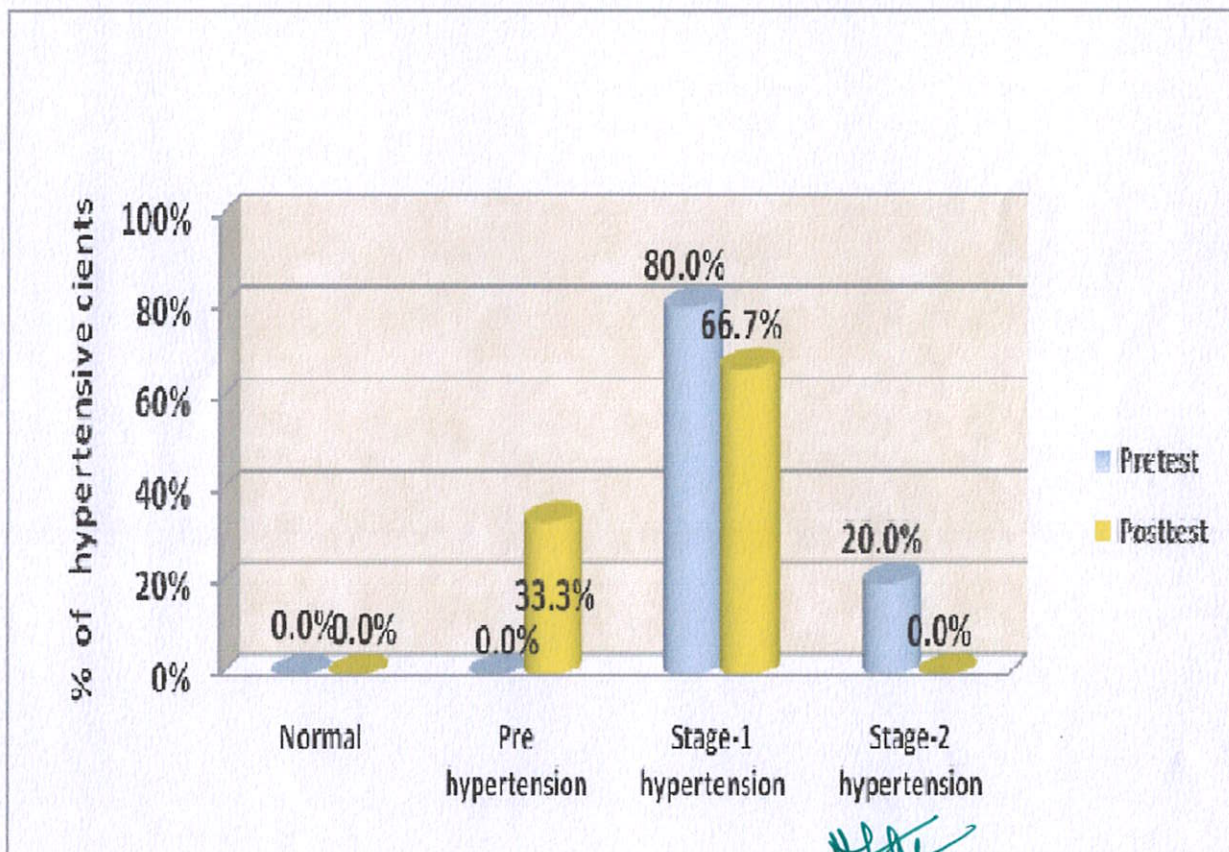
The post test was conducted in the following 4th week to assess the level of systolic and diastolic blood pressure for both the control and experimental group.

RESULT

Sec I: Distribution of Hypertensive Clients based on their Level of blood pressure

Figure:-1.1 Pretest and posttest level of systolic blood pressure among Experimental group

In regard to systolic blood pressure measures among experimental group, fall under



Stage I hypertension in pretest and it declined to 66.7% in the post test.

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Section II : Distribution of Hypertensive Clients in Experimental and Control Group Based on their Pretest and posttest level of diastolic blood pressure

Figure 1.2: Pretest and posttest level of diastolic blood pressure among experimental group

n=30

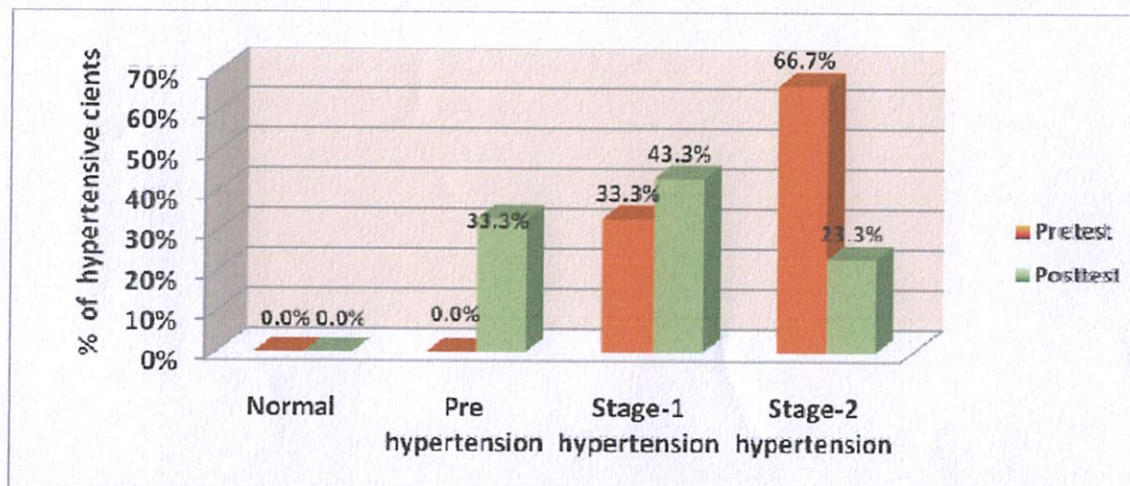


Figure 1.2 depicts that the majority of the client's 66.7% fall under stage II hypertension in pretest and it has been reduced to 23.3% in posttest.

Section 1.3: Distribution of Hypertensive Clients in Experimental Group Based on their Blood Pressure

n=30

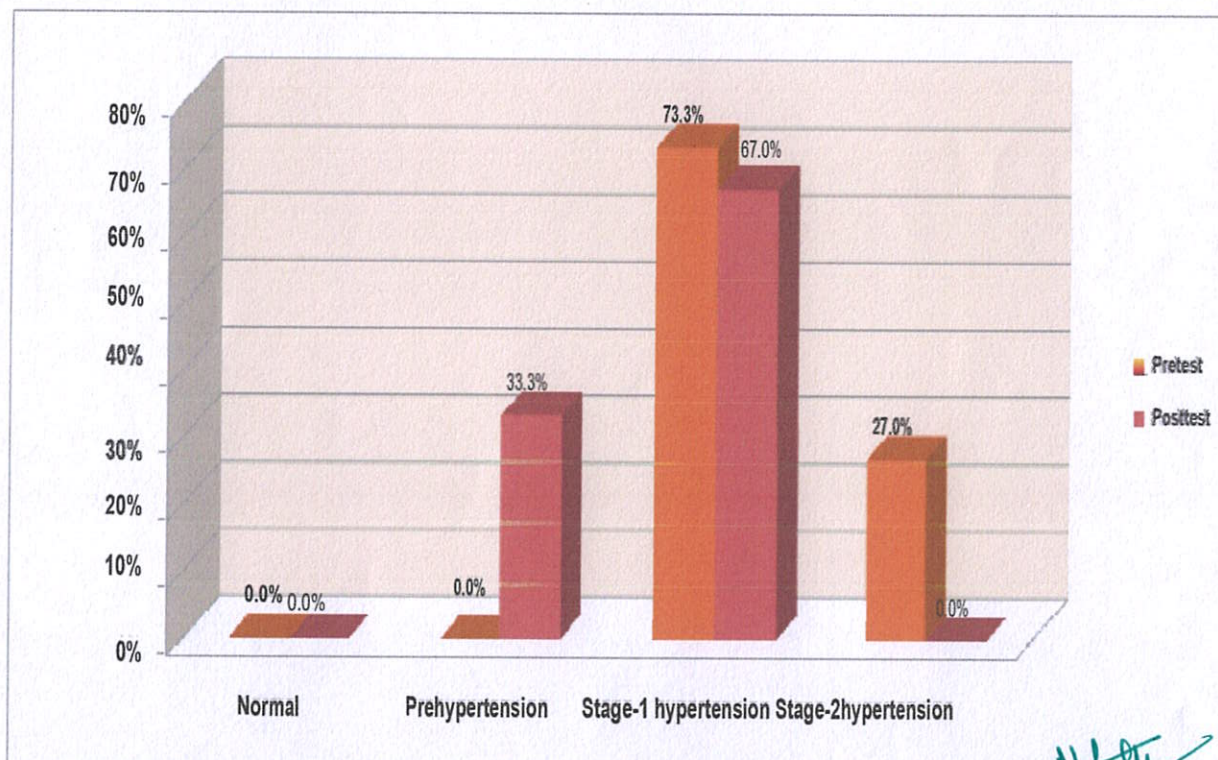


Figure:-1.3 Pretest and posttest level of blood pressure among Experimental group

Figure 1.3 illustrates that the vast majority of the clients fall under stage I hypertension with 73% whereas none of them are fall under normal category neither in pretest nor posttest.

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Section 1.4: Distribution of Hypertensive Clients in Control Group Based on their Level of Blood Pressure

(n=30)

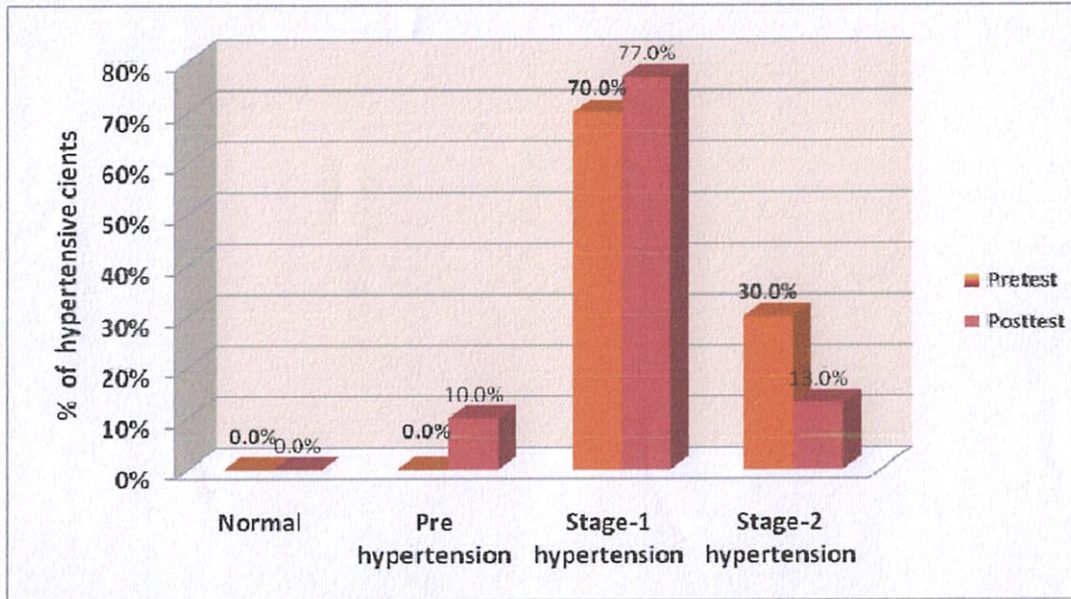


Figure 1.4: Pretest and posttest level of blood pressure among control group

Section 2.1: Comparison of post-test score among hypertensive clients in experimental group and control group.

Table 1: Post-test Mean, Standard Deviation and Mean Difference score among hypertensive clients in experimental group and control group

N=60

Criteria	Experimental group		Control group		Mean Difference	Independent 't' test and 'p' value
	Mean	S.D	Mean	S.D		
SBP	143.27	6.75	149.57	7.97	6.93	t=3.310 p≤0.001 *** significant
DBP	93.40	6.83	98.70	6.00	6.00	t=12.04 p≤0.001 *** significant

* significant at P≤0.05 ** highly significant at P≤0.01 *** very high significant at P≤0.001

DISCUSSION

The study was conducted to evaluate the effects of music therapy on level of blood pressure among clients with hypertension, in this study considering the experimental group in Systolic Blood Pressure (SBP) post test score was 143.27 with standard deviation of 6.75 and the control group post test score was 149.57 with standard deviation of 7.97, The mean difference between experimental and control group post test score was 6.93. The unpaired 't' test value is 3.310 which is significant at p≤0.001 level.

Considering the experimental group Diastolic Blood Pressure (DBP), post test score was 93.40 with standard deviation of 6.83 and the control group post test score was 98.70 with standard deviation of 6.00. The mean difference between experimental and control group post test score was 6.00. The unpaired 't' test value is 12.04 which is significant at p≤0.001 level.

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The post test SBP mean and SD score among experimental group was 143.27 and 6.75 and in the control group was 149.57 and 7.97. The calculated 't' value was 3.310, which was statistically significant at $p < 0.0001$. It shows that music therapy was effective in reducing the level of blood pressure in experimental group among clients with hypertension.

CONCLUSION

The study was conducted that the music therapy on level of blood pressure among hypertensive clients. The comparison of mean and standard deviation of pre and posttest SBP score had the 't' value of 13.98 which was statistically significant at $p \leq 0.001$. Therefore, the investigator felt that the music therapy was effective in reducing the level of blood pressure among the clients with hypertension. The music therapy is one of the best methods of non-pharmacological management and also reduce the cost of health care. The investigator observed that the study which are of vital concern for nursing practice, nursing education, nursing administration and nursing research.

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Conflict of interest: There was no conflict of interest.

Source of fund: self

Ethical Clearance: The proposed study was conducted after the approval of the dissertation committee of Indira college of Nursing and prior permission was obtained from the Dean of Indira medical college and hospital. Informed written consent was obtained from participants before starting data collection. Assurance was given to the study participants regarding the confidentiality of the data collected.

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A CROSS SECTIONAL STUDY TO ASSESS THE KNOWLEDGE, ATTITUDE AND PRACTICE REGARDING COVID-19 AMONG PEOPLE IN SELECTED AREAS OF CHENNAI AND THIRUVALLUR DISTRICT (TAMI NADU)

Dr.D.Sudhakar, M.Sc(N), Ph.D Principal, Indira College of Nursing, Thiruvallur, Tamil Nadu.

ABSTRACT :

Background: The present study was conducted to assess the knowledge, attitude and practice regarding Covid-19 among people in Chennai and Thiruvallur district (Tamil Nadu).

Methods: A cross sectional study conducted among the people at in and out communities of Thiruvallur and Chennai. The size of sample was 220 members. A prior tested questionnaire after taking their verbal consent to participate in study.

Results: Insignificant difference in knowledge about Covid-19 was found between male and female respondents. More than 65% of respondents found to have correct knowledge regarding sign and symptom, mode of acquiring corona and way of preventing corona.

Conclusion: Health education directed towards improve knowledge and bringing a change in attitude and practice among people is needed to create awareness and remove myths about Corona Virus (CV) in groups of people in the community.

Keywords: Corona Virus (CV), Covid-19, Knowledge, Sign and symptoms, Transmission, Prevention.

Introduction:

"In early 2020, after a December 2019 outbreak in China, the World Health Organization identified SARS-CoV-2 as a new type of coronavirus (CV). The outbreak quickly spread around the world". [2020 WebMD, LLC] Most people infected with the COVID-19 virus will

experience mild to moderate respiratory illness and recover without requiring special treatment. Older people, and those with underlying medical problems like cardiovascular disease, diabetes, chronic respiratory disease, and cancer are more likely to develop serious illness.[WHO] The COVID-19 virus spreads primarily through droplets of saliva or discharge from the nose when an infected person coughs or sneezes. The best way to prevent and slow down transmission is be well informed about the COVID-19 virus, the disease it causes and how it spreads. Protect yourself and others from infection by washing your hands or using an alcohol based rub frequently and not touching your face. [WHO] CV is one of the major outbreak in the year 2020 and affecting huge number of population every day, "as on Sep 1 - 3,691,166 confirmed cases, 65,288 deaths, 2,839,882 recovered and 785,996 active cases in India. 25,484,767 confirmed cases, 850,535 deaths and 7,814,640 active cases worldwide" [Times of India]. Thus assessment of knowledge, attitude, and health-seeking practice is essential to plan, implement, and evaluate advocacy, communication, and social mobilization work. Therefore, the objective of this study is to assess the knowledge, attitude, and health-seeking practice and associated factors toward Covid-19, CV.

Objective of the study

1. To assess the knowledge of people regarding the CV.
2. To access the knowledge about mode of transmission of CV.
3. To access the knowledge about Prevention of CV.
4. To compare the knowledge, attitude and practice

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ASSESSMENT OF THE KNOWLEDGE AND ATTITUDES REGARDING BIOMEDICAL WASTE MANAGEMENT AMONG THE HEALTH CARE PROFESSIONALS IN A TERTIARY CARE TEACHING HOSPITAL IN CHENNAI.

Savithri Kanganda Bopaiah¹, Sumetha Suga², Sindhura Myneni^{3*}, Divya Ravikumar³, Ponguzhali Sivagananam¹, Manuel Raj Kumar⁴, Mythili Krishnan⁵, Pandian Balu¹, Narmatha Sundharesan⁶, Kavin Mozhi James¹, Kayalvizhi Kumaravel⁷, Yuvasree Sargunan⁸, Sai Ravi Teja Kamineni⁹, Vishnu Priya V¹⁰, Surapaneni Krishna Mohan¹¹.

¹Department of Medical Surgical Nursing, Panimalar College of Nursing, Varadharajapuram, Poonamallee, Chennai – 600 123, Tamil Nadu, INDIA.

²Department of Microbiology, Panimalar Medical College Hospital & Research Institute, Varadharajapuram, Poonamallee, Chennai – 600 123, Tamil Nadu, INDIA.

³Department of Obstetrics & Gynaecology, Panimalar Medical College Hospital & Research Institute, Varadharajapuram, Poonamallee, Chennai – 600 123, Tamil Nadu, INDIA.

⁴Hospital Infection Control Nurse, Panimalar Medical College Hospital & Research Institute, Varadharajapuram, Poonamallee, Chennai – 600 123, Tamil Nadu, INDIA.

⁵Department of Community Health Nursing, Panimalar College of Nursing, Varadharajapuram, Poonamallee, Chennai – 600 123, Tamil Nadu, INDIA.

⁶Department of Child Health Nursing, Panimalar College of Nursing, Varadharajapuram, Poonamallee, Chennai – 600 123, Tamil Nadu, INDIA.

⁷Department of Mental Health Nursing, Panimalar College of Nursing, Varadharajapuram, Poonamallee, Chennai – 600 123, Tamil Nadu, INDIA.

⁸Department of Computer Science, Panimalar Institute of Technology, Varadharajapuram, Poonamallee, Chennai – 600 123, Tamil Nadu, INDIA.

⁹Department of Tuberculosis & Respiratory Diseases, Panimalar Medical College Hospital & Research Institute, Varadharajapuram, Poonamallee, Chennai – 600 123, Tamil Nadu, INDIA.

¹⁰Department of Biochemistry, Saveetha Dental College & Hospital, Saveetha Institute of Medical & Technical Sciences (SIMATS), Saveetha University, Velappanchavadi, Chennai – 600 077, Tamil Nadu, INDIA.

¹¹Department of Biochemistry, Panimalar Medical College Hospital & Research Institute, Varadharajapuram, Poonamallee, Chennai – 600 123, Tamil Nadu, INDIA.

*Correspondence author Dr. Sindhura Myneni,

Senior Resident, Department of Obstetrics & Gynaecology, Panimalar Medical College Hospital & Research Institute, Varadharajapuram, Poonamallee, Chennai – 600 123, Tamil Nadu, India.

E-mail: sindhuramyneni15@gmail.com

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Abstract

Background: Biomedical waste (BMW) segregation, collection, and disposal have become a significant concern for both the medical and general community. When considering the segregation and transportation part, biomedical waste management is an upcoming worldwide problem. This study was conducted to assess the knowledge and attitude regarding biomedical waste management among health care professionals working at various levels in tertiary care hospital.

Methods: Through random sampling technique, a descriptive cross-sectional study was executed among 183 health care professionals working in tertiary care hospitals in Chennai. A semi-structured questionnaire was administered. The data was tabulated and interpretation was done.

Results: Among 183 respondents, 52.2 % had adequate knowledge, 39.3% had moderately adequate knowledge, and 90.7% had a favourable attitude on biomedical waste management. Knowledge and attitude were having positive correlation. The association of demographic variables with participant's knowledge and attitude was highly significant at $p < 0.001$ level. **Conclusion:** The healthcare professionals demonstrated to have good knowledge and favourable attitude. The need for various and vigorous training programs regarding BMW management are highly prescribed to all hospital staffs. It is essential to handle the generated waste in a reliable way in order to prevent environmental contaminations.

Keywords: Biomedical waste, knowledge, attitude, health care professionals

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INTRODUCTION

Bio-medical waste means any waste, which is generated during the diagnosis, treatment, or immunization of human beings or animals, or in research activities pertaining to or in the production or testing of biological (BMW management rules,

2016). Healthcare facilities generate an enormous amount of non-hazardous and unsafe infectious wastes. Disposable medical devices and items generate biomedical waste beyond one's expectation. Bio-medical waste collection and proper disposal has become a major concern for both the medical and general

community. It is estimated that annually about 0.33 million tones of hospital waste is generated in India and, the waste generation rate ranges from 0.5 to 2.0 kg per bed per day or is expected to develop at 8-10% annually (Waste management, WHO,1999 ; Tanmay & Parul, 2018). The waste produced within the course of healthcare activities carries a better potential for transmitting infection and injury due to disposed sharp materials than other forms of waste. Inadequate and inappropriate knowledge of handling healthcare waste may have serious health consequences and a major impact on the environment. However, lack of awareness has led to the hospitals becoming a hub of spreading disease instead of working towards eradicating them. As India is producing enormous amount of waste annually, inadequate expertise and low alertness level among the health providers will be a hardship in managing BMW. Various researches have shown that rigidly enforced administration is needed over BMW management as it is a legal exercise along with added responsibilities. The medical waste segregation, collection, and proper disposal is a significant area of concern in waste management (Teshiwal & Fatuma, 2018).

At the world level, nearly 16-84% has not abided to the norms and regulations of hospital waste management. Improper handling and disposal of BMW have led to the spread of nosocomial infections among the health-care providers and further most will lead to community spread, if not handled as per the protocol. Most of the healthcare workers had unsatisfactory practices on disposing of biomedical waste as the management of BMW starts from the point of generation (Soyam & Prabhakar, 2017).

Illegitimate and inappropriate handling of medical waste is a management issue as the matter of rules and regulations are growing with the advancing medical field. However, research on this escalating critical issue has been very limited; there is a grave need for creating awareness and knowledge improvement on this issue for future planning and policymaking. There is considerable uncertainty in BMW management even after strict rules and policies. Hence more research and data are needed to get a reliable picture on BMW management knowledge and awareness among health providers (Mathur & Dwivedi, 2011). The long-run training of the healthcare workers is planned and necessary steps are often taken to make sure proper and effective management of biomedical waste. Therefore the research was undertaken with the target to investigate the knowledge and attitude, so the gaps are identified in the active management of medical waste among the health care providers.

MATERIALS AND METHODS:

Study participants:

A Cross-sectional study was conducted in Panimalar Medical College Hospital & research Institute, Varadharajapuram, Poonamallee, Chennai, Tamil Nadu, India. A random sample of

183 health care professions working in tertiary hospitals in Chennai, Tamil Nadu, India. Those participants who were above 18 years of age and who are willing to give their consent to participate in this study were included. Informed consent was obtained from all the participants.

Ethical Clearance:

The study protocol was approved by the Institutional Review Board (IRB) of the Panimalar Medical College Hospital & Research Institute, Chennai (Panimalar Medical College Hospital & Research Institute IRB #1/2020/012) and conformed to the requirements of the Declaration of Helsinki (as revised in Seoul 2008).

Data collection tools:

A structured self-administered questionnaire on knowledge and a Likert scaled attitude questionnaire were used to collect the data. The questionnaire was designed through a review of available literature, national, and international BMW management guidelines. The rationality and authenticity of the questionnaire was tested.

Methods of measurement (Scoring):

The questionnaire consisted of three sections

Demographic data section

It consists of details of the participants such as age, gender, education, profession, and experience. No scoring was given

Knowledge section:

This consisted of 23 questions with 2 options, either "1" or "0" for the correct and the incorrect response, respectively. The total knowledge score for each study participant was computed, and the possible score could range from 0 to 23. Knowledge scores below, above, and equal to the mean score were assigned for inadequate, moderately adequate and adequate knowledge, respectively.-

Attitude section

It comprised of 19 statements which was scaled by 5 point Likert scale. Options for the provided positive statements were "Strongly Disagree," "Disagree," "Neutral," "Agree," and "Strongly Agree" and was given score from 1 to 5, respectively. The scores were reversely coded as 5, 4, 3, 2, and 1, for negatively phrased questions. Then, the composite score for each study participant was computed, which could range from 19 to 95. Attitude scores below the mean, above, and equal to mean score were assigned for unfavourable, moderately favourable and favourable attitude.


Data management and analysis:

Data were entered into Epi-data 3.1 software and then exported to SPSS (Statistical Package for Social Sciences) version 20 for analysis. Descriptive statistics were calculated through cross-tabulation.

RESULTS

Table1: Demographic related factors for Biomedical waste management (BMWM) (n=183)

Variables	Frequency	Percentage %
Age		
< = 20 Years	20	10.9
21 - 25 Years	71	38.9
> 25 Years	92	50.2


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Gender		
Male	47	25.7
Female	136	74.3
Educational Qualification		
Diploma	31	16.9
Undergraduate	87	47.6
Post Graduate	65	35.5
Profession		
Medicine	6	3.3
Nursing	155	84.7
Allied Health Sciences	22	12
Experience		
Less than 6 Months	47	25.7
6 months - 2 Years	21	11.5
2 - 6 Years	48	26.2
7 - 10 Years	33	18.2
More than 10 Years	34	18.4

Table 1: Demographic variables : Age group of >25years had the highest score of 50.2%. In the Gender aspect, 74.3% of the participants were females, Educational qualification section had undergraduates of 47.5%, among the participants, nursing staffs participated was 84.7% and the participants having working experience of 2-6 years were 26.2%.

Knowledge assessment:

Approximately 93% of the participants were aware that the most important aspect of BMW Management is segregation, and 80% were aware of the purpose of incineration and microwaving in the field of BMW management. 92.3% were familiar with W.H.O classification of biomedical waste.90% had knowledge about sterilization methods that kills all microorganisms, but only 56.8% answered accurately on liquid waste(Table 2).

Considering the overall level of knowledge of the 183 participants, 52.2% of individuals had adequate knowledge, 39.3% had moderately adequate knowledge, and only 5.5% had inadequate knowledge on BMW. The mean value of the knowledge among the study participants was 17.28 ±2.964 (Table 4)

Attitude assessment:

90.7% of the majority individuals had favorable attitude score on BMW management. The mean value of the attitude in the study was 81.28±7.405 (Table 4). In addition, 73.2% of the professionals strongly agreed that BMW management is a teamwork and 71.6% of them believed proper BMW disposal is important to prevent infection transmission (Table 3).

Knowledge and Attitude correlation:

Table 5 showed the positive correlation between K-A and A-K (Spearman rank correlation) at 0.01 level. (n = 183) r=0.459(p<0.01).

Association of demographic variables with knowledge and attitude

Table 6 showed that there was a statistically significant association between knowledge with age, gender, education, profession, experience at p<0.01 and there was a statistically significant association between attitude with age, gender, education, profession, and experience at p<0.01.



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Table 2: Correct responses for questions on Knowledge regarding Biomedical Waste Management

Variables	Medicine (n=6)	Nursing (n=155)	Allied Health Sciences (n=22)	Total (n=183)
Types of wastes according to WHO classification	6(100%)	148(95.5%)	15 (68.2%)	169(92.3%)
Bio-Medical Waste is generated during treatment of the disease	6(100.0%)	137(88.4%)	13(59.1%)	156(85.2%)
Undergone any training programme on Biomedical Waste?	1(16.7%)	101(65.2%)	12(54.5%)	114(62.3%)
BMW's do not transmit any infectious diseases	6(100.0%)	93(60.0%)	15(68.2%)	114(62.3%)
Important aspects of BMW management are segregation.	6(100.0%)	147(94.8%)	17(77.3%)	170(92.9%)
Bags used for collection of waste should be non chlorinated color coded bags	4(66.7%)	125(80.6%)	13(59.1%)	142(77.6%)
Mortuary is a minor source of BMW	4(66.7%)	77(49.7%)	14(63.6%)	95(51.9%)
Infectious waste should be put into yellow bin	6(100.0%)	134(86.5%)	15(68.2%)	155(84.7%)
Plastic wastes should not be put into a red bin.	4(66.7%)	96(61.9%)	13(59.1%)	113(61.7%)
Sharps should be kept in puncture proof white container.	6(100.0%)	125(80.6%)	13(59.1%)	144(78.7%)
Needle must be re-capped before disposal.	2(33.3%)	69(44.5%)	11(50.0%)	82(44.8%)
Sterilization kills all microorganisms	5(83.3%)	145(93.5%)	13(59.1%)	163(89.1%)
HIV may be transmitted through BMW's	5(83.3%)	128(82.6%)	14(63.6%)	147(80.3%)
HBV do not transmit through BMW	5(83.3%)	93(60.0%)	12(54.5%)	110(60.1%)
Collection, transportation & storage are the steps involved in waste management before the final treatment	6(100.0%)	141(91.0%)	14(63.6%)	161(88.0%)
Incineration is appropriate for animal waste, dressing material, human waste, and lab waste.	6(100.0%)	124(80.0%)	16(72.7%)	146(79.8%)
Microwaving is a process which uses microwave radiation to heat and destroy microorganism	6(100.0%)	127(81.9%)	14(63.6%)	147(80.3%)
Definition of Autoclaving	6(100.0%)	131(84.5%)	17(77.3%)	154(84.2%)
Sodium hypochloride solution is available for chemical disinfection?	6(100.0%)	131(84.5%)	17(77.3%)	154(84.2%)


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Liquid waste (cat.8) and liquid chemical waste (cat-10) does not require any container.	3(50.0%)	87(56.1%)	14(63.6%)	104(56.8%)
Haemophilus influenzae vaccine must be taken after needle stick injury	5(83.3%)	59(38.1%)	6(27.3%)	70(38.3%)
An authorization is required for Biomedical Waste disposal from Pollution Control Board	6(100.0%)	129(83.2%)	16(72.7%)	151(82.5%)
BMWM record maintenance is mandatory	5(83.3%)	137(88.4%)	17(77.3%)	159(86.9%)

Table 3: Number of positive responses for questions on attitude regarding Biomedical Waste Management

Variables	Medicine (n=6)	Nursing (n=155)	Allied Health Sciences (n=22)	Total(n=183)
General and biomedical wastes are different.	6(100%)	101(65.2%)	13(59.1%)	120(65.6%)
Bio-Medical Waste management is a Team-work	6(100%)	117(75.5%)	11(50.0%)	134(73.2%)
Personal protective equipment is necessary while handling waste	5(83.3%)	105(67.7%)	7(31.8%)	117(63.9%)
Occupational safety measures of the waste handlers are must.	5(83.3%)	85(54.8%)	9(40.9%)	99(54.1%)
General public's health can be adversely affected by biomedical waste	6(100.0%)	56(36.1%)	10(45.5%)	72(39.3%)
Biomedical waste must be kept separately from other waste.	6(100.0%)	90(58.1%)	8(36.4%)	104(56.8%)
Follow color coding bags for waste disposal	6(100.0%)	110(71.0%)	11(50.0%)	127(69.4%)
Labeling is important before transporting waste.	5(83.3%)	106(68.4%)	10(45.5%)	121(66.1%)
Post exposure prophylaxis should be initiated as soon as possible	6(100.0%)	98(63.2%)	7(31.8%)	111(60.7%)
Proper BMW disposal is important to prevent infection transmission	6(100.0%)	113(72.9%)	12(54.5%)	131(71.6%)
Safe management of BMW leads to financial burden to the hospital	1(16.7%)	9(5.8%)	2(9.1%)	12(6.6%)
Wearing personal protective equipment helps to reduce the risk of infection	6(100%)	106(68.4%)	10(45.5%)	122(66.7%)
Tie up with authorized company required for proper disposal of BMW	6(100%)	76(49.0%)	12(54.5%)	94(51.4%)
Regular training program should be conducted on BMW	5(83.3%)	91(58.7%)	10(45.5%)	106(57.9%)
BMW management will be effective if segregation done at the place of waste generation	5(83.3%)	87(56.1%)	11(50.0%)	103(56.3%)
Improperly managed BMWs may lead to	6(100%)	104(67.1%)	16(72.7%)	126(68.9%)

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hospital acquired infection				
Proper BMW handling is a difficult task	3(50%)	38(24.5%)	6(27.3%)	47(25.7%)
Frequency of health check-ups and training for healthcare workers is essential	5(83.3%)	91(58.7%)	12(54.5%)	108(59.0%)
A separate and dedicated vehicle is required for the transportation of BMW	6(100%)	96(61.9%)	11(50.0%)	113(61.7%)

Table 4: knowledge and attitude levels of the healthcare professionals (n=183)

Variables	Levels	Frequency	Percentage	Mean	SD
knowledge of healthcare professionals	Inadequate	10	5.5 %	17.28	2.964
	Moderately adequate	72	39.3%		
	Adequate	101	55.2%		
Attitude of healthcare Professionals	Moderately favorable	17	9.3%	81.28	7.405
	Favorable	166	90.7%		

Table 5 - Correlation between knowledge and attitude (n =183)

Spearman's rank correlation		Knowledge on BMWM	Attitude on BMWM
Knowledge on BMW Management	Correlation Coefficient	1	0.459**
	Sig. (2-tailed)		
Attitude on BMW Management	Correlation Coefficient	0.459**	1
	Sig. (2-tailed)		

** At P< 0.01 level (2-tailed), the correlation is significant.

Table 6: Association of demographic variables with the level of knowledge and attitude among participants

Demographic Variables		Inadequate	Moderately Adequate	Adequate	Chi-Square Test,	Moderately favourable	Favo rable	Chi-Square Test,
Age	≤ 20 Yrs	0 0.00%	9 45.00%	11 55.00%	$\chi^2 = 2.405$ Df=4 P=0.662 (S)	0 0.00%	20 100.00%	$\chi^2 = 2.348$ Df=2 P=0.309 (S)
	21 - 25 Yrs	3 4.20%	29 40.80%	39 54.90%		7 9.90%	64 90.10%	

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	>25 Yrs	7 7.60%	34 37.00%	51 55.40%		10 10.90%	82 89.10%	
Gender	Female	5 3.70%	52 38.20%	79 58.10%	$\chi^2 = 4.069$ Df=2 P=0.131 (S)	11 8.10%	125 91.90%	$\chi^2 = 0.907$ Df=1 P=0.341 (S)
	Male	5 10.60%	20 42.60%	22 46.80%		6 12.80%	41 87.20%	
Education	Diploma	1 3.20%	9 29.00%	21 67.70%	$\chi^2 = 3.397$ Df=4 P=0.494 (S)	4 12.90%	27 87.10%	$\chi^2 = 0.640$ Df=2 P=0.726 (S)
	Graduate	5 5.70%	39 44.80%	43 49.40%		7 8.00%	80 92.00%	
	Post Graduate	4 6.20%	24 36.90%	37 56.90%		6 9.20%	59 90.80%	
Profession	Medicine	0 0.00%	1 16.70%	5 83.30%	$\chi^2 = 10.897$ Df=4 P=0.028 (S)	0 0.00%	6 100.00%	$\chi^2 = 2.829$ Df=2 P=0.243 (S)
	Nursing	6 3.90%	61 39.40%	88 56.80%		13 8.40%	142 91.60%	
	Allied Health science	4 18.20%	10 45.50%	8 36.40%		4 18.20%	18 81.80%	
Experience	< 6 months	0 0.00%	20 42.60%	27 57.40%	$\chi^2 = 12.960$ Df=8 P=0.113 (s)	4 8.5%	43 91.5%	$\chi^2 = 5.822$ Df=4 P=0.213 (s)
	6 months- 2 years	1 4.80%	8 38.10%	12 57.10%		0 0.00%	21 100.0%	
	2-6years	2 4.20%	18 37.50%	28 58.30%		5 10.4%	43 89.6%	
	7-10 years	5 15.20%	16 48.50%	12 36.40%		6 18.2%	27 81.8%	
	> 10 years	2 5.90%	10 29.40%	22 64.70%		2 5.90%	32 94.10%	

S- significant; Df – Degrees of freedom.

DISCUSSION:

Health care division produces an enormous measure of biomedical waste which conveys the high capability of disease spreading through improper disposal. It is evaluated that 10-

25% of health care waste is infectious in nature (Singh, Gupta & Reema, 2014). For a successful waste administration, the waste have to be overseen at each progression point from collection to disposing through various methods (Dumka & Khanduri, 2018). Every health care worker is relied upon to have appropriate

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information, disposition, and practice for biomedical waste administration. Consequently, the current study was led to evaluate knowledge and attitude of BMW management among healthcare workers in tertiary care hospital and have thrown light that adequate knowledge and positive attitude will help to prevent the adverse effects caused by inappropriate waste management (Pandit, Mehta, Kartha, & Choudhary, 2005).

In our study, 55.2% had adequate knowledge and 39.3% had moderate knowledge on BMW among the health care personals which was less when compared to other studies (Soyam & Prabhakar, 2017; Mathur & Dwivedi, 2011). 92.3% knew about the types of biomedical wastes and 85.2% knew that it is generated during the treatment of the disease. 62.3% of the participants have undergone BMW management training, surprisingly the same percentage of participants have opined that biomedical waste does not transmit infectious disease which was supported by the studies done by Chudasama rajesh and Das (Chudasama, Rangoonwala, Sheth, Misra, & Kadri AM, 2013; Das & Biswas, 2016). Adequate knowledge is vital for appropriate BMW management practice, many influencing factors such as education, profession, series of courses attended, and behaviourism plays a major role in the outcome of the results.

Regarding the segregation of waste which is an important step in the management of BMW, 92.3% answered correctly which is higher when compared to other studies (Tanmay & Parul, 2018; Basu, Das, & Pal, 2012; Madhavi, Reddy & Ravikumar, 2013; Karnaker & Datta, 2016). When asked about color coding of BMW management, 69.4% had given accurate answers, which is higher than the studies conducted by various researchers (Dumka & Khanduri, 2018; Kumar, 2019; Deo, Tak, & Munde, 2006; Pandey & Sanjiv, 2016). Generally it was observed that there was reduced knowledge on color coding of BMW among the hospital workers, which throws light on the need for frequent training and practical sessions.

Among the hospital workers only 44.8% had awareness about the negative impact of recapping the needle. The result was supported by the study done by Wajiha Raza et al which showed 38% and it was in contrast with Anupriya et al's study. Awareness on recapping of the needle must be increased through proper education, as it is one of the major risk factor for needle stick injuries. (Wajiha & Waqas, 2008; Asaithambi & Subramanian, 2015). In our study 80.3% opined that HIV may be transmitted through BMW which was high when compared to Das et al study (41.4%), 60.1% of the participants have thought that hepatitis B cannot be transmitted through BMW, and 38.8% of the participants had inadequate knowledge on post exposure prophylaxis similar to the participants of Yonatan et al study (Das & Biswas, 2016; Yonatan & Kelemu, 2013). Needlestick injury and exposure to blood and body fluids while collecting BMW may lead to the transmission of HIV, Hepatitis B, and C virus. Post exposure prophylaxis protocol must be followed immediately by the person exposed to a needle stick injury. Knowledge on post exposure prophylaxis must be improved by conducting teaching sessions and by displaying the PEP protocol flow chart in the staff's work stations.

In our study, 82.5% of the participants believed that authorization from the pollution control board is a must for BMW management, which was higher when compared to the study conducted by Amit Dumka et al (Dumka & Khanduri, 2018). 86.9% of them agreed that record maintenance is mandatory for BMW management which was slightly higher, when compared to the other studies (Chudasama & Rangoonwala, 2013; Yonatan & Kelemu, 2013).

The overall favourable attitude score was 90.7% which was higher than the study led by Singh et al (Singh & Reema, 2014). However, in the attitude section, 65.6% have shown fair attitude

towards segregation of generated hazardous waste from general waste. Such awareness was higher when compared with Pullishery F et al study which showed only 4-6% (Pullishery & Panchmal, 2016). 73.2% of the professionals opined that biomedical waste management is administrative teamwork which involves the active participation of workers from class I to class IV levels and the result appeared differently in relation to the investigation conducted by Naresh et al and Malini et al which was less than 40% (Naresh & Vivek, 2015; Malini & Eswar, 2015).

63.9% and 54.1% have opined that Personal protective equipment and Occupational safety measures are necessary while handling waste. 56.8% have given a positive response for the statement that BMW must be kept separately. 39.3% have accepted that the health of the general public can be adversely affected by biomedical waste which was higher in contrast with the other similar studies. (Das & Biswas, 2016; Dumka & Khanduri, 2018).

It was accepted that labelling and colour coding protocol must be followed while transporting BMW by almost 66% of the study participants which was higher than Amit Dumka et al study which showed 25% (Dumka & Khanduri, 2018). 60.7% opined that PEP must be initiated immediately and 66.7% approved that PPE will reduce the risk of transmission. 67% of the participants believed that biomedical waste management is a financial burden to the hospital, which was equivalent to the study done by Sanjeev et al and Kulkarni et al (Sanjeev & Suneesh, 2014; Kulkarni & Rajhans, 2016).

In our study, 57.9% responded positively for the regular training program which was low when compared with Amit Dumka et al study result of 90%. 68.9% accepted that improper management of BMW may lead to Hospital-acquired infection. 61.7% have answered that separate vehicle is required for the BMW transportation which is higher than the result of the study done by Amit Dumka et al and Chudasama Rajesh et al (Dumka & Khanduri, 2018; Chudasama, Rangoonwala, Sheth, & Misra, 2013).


The knowledge and attitude of the health care providers had positive correlation as elaborated in table 5 through spearman's rank coefficient at $p < 0.01$ level; ($n = 183$) $r = 0.459$ ($p < 0.01$). This explains that there will be a significant increase in the level of attitude when knowledge level increases. The association of knowledge and attitude with the age, gender, profession, educational status, and experience of the professionals were statistically highly significant as shown in table 6 which was calculated by using chi square test. Among the 155 nurses who participated, 91.6% had favourable attitude and 56.8% had adequate knowledge. 92% of the undergraduate had a favourable attitude. In experience-wise, 94.1% has favourable attitude among the participants having more than 10 years of experience and 64.7% of them had adequate knowledge which was statistically significant.

CONCLUSION:

In the current study, participants had adequate knowledge and positive attitude in handling hospital waste. The health care professionals having good knowledge must be motivated and to be given practical tutoring. The need for the comprehensive training programs regarding BMW management is highly recommended to all hospital staff. Successful administration of BMW is not just a lawful need yet in addition a social obligation. Strict supervision and observation should be followed day by day regarding hospital waste management activities.

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A Cross Sectional Study on Knowledge and Attitude Regarding Medication Errors among Paramedical Healthcare Workers in a Tertiary Care Hospital.

^[1] Mythili Krishnan, ^[2] Krishnan V, ^[3] Sindhura Myneni, ^[4] Divya Ravikumar, ^[5] Poonguzhali Sivagananam, ^[6] Sumetha Suga, ^[7] Sai Ravi Teja Kamineni, ^[8] Rejili Grace Joy Manickaraj, ^[9] Savithri Kanganda Bopaiah, ^[10] Narmatha Sundharesan, ^[11] Vishnu Priya V, ^[12] Surapaneni Krishna Mohan

^[1] Department of Community Health Nursing, Panimalar College of Nursing, Varadharajapuram, Poonamallee, Chennai – 600 123, Tamil Nadu, INDIA.

^[2] Department of Pharmacology, Panimalar Medical College Hospital & Research Institute, Varadharajapuram, Poonamallee, Chennai – 600 123, Tamil Nadu, INDIA.

^{[3][4]} Department of Obstetrics & Gynaecology, Panimalar Medical College Hospital & Research Institute, Varadharajapuram, Poonamallee, Chennai – 600 123, Tamil Nadu, INDIA.

^{[5][8]} Department of Medical Surgical Nursing, Panimalar College of Nursing, Varadharajapuram, Poonamallee, Chennai – 600 123, Tamil Nadu, INDIA.

^[6] Department of Microbiology, Panimalar Medical College Hospital & Research Institute, Varadharajapuram, Poonamallee, Chennai – 600 123, Tamil Nadu, INDIA.

^[7] Department of Mental Health Nursing, Panimalar College of Nursing, Varadharajapuram, Poonamallee, Chennai – 600 123, Tamil Nadu, INDIA.

^[9] Department of Tuberculosis & Respiratory Diseases, Panimalar Medical College Hospital & Research Institute, Varadharajapuram, Poonamallee, Chennai – 600 123, Tamil Nadu, INDIA.

^[10] Department of Child Health Nursing, Panimalar College of Nursing, Varadharajapuram, Poonamallee, Chennai – 600 123, Tamil Nadu, INDIA.

^[11] Department of Biochemistry, Saveetha Dental College & Hospital, Saveetha Institute of Medical & Technical Sciences (SIMATS), Saveetha University, Velappanchavadi, Chennai – 600 077, Tamil Nadu, INDIA.

^[12] Department of Biochemistry, Panimalar Medical College Hospital & Research Institute, Varadharajapuram, Poonamallee, Chennai – 600 123, Tamil Nadu, INDIA.

^[2] doctorkrishforyou@gmail.com

Abstract

Back ground: Medication error is a universal health concern. This study was conducted to assess the knowledge and attitude regarding medication errors among the health care professionals in a tertiary hospital. **Materials and methods:** This is a cross-sectional study conducted among 172 paramedical health care workers working in tertiary hospitals across Chennai. A semi-structured questionnaire was developed by the researchers to explore the knowledge and attitudes on medication errors. Data was collected and analysed.

Results: Out of (172) participants, majority (87.2%) of them were females and 12.8% were males. Among them majority (89.5%) were nursing professionals. Nearly half (48.3%) of them has experience for less than 6 months. Out of the total study participants, 79.1% of members had adequate knowledge, 18.6% members had moderate

knowledge and 2.3% members had inadequate knowledge. Among 172 study participants 78% had adequate attitude, 20% had moderate attitude and 2% had inadequate attitude. **Conclusion:** Patient safety is a common goal for every health care provider. Hence it is important to reduce the incidence of medication errors. Majority of the health care workers in our study had adequate knowledge and attitude regarding medication errors. These findings can be used in designing various programs to promote medication error recognition and reduce or eliminate barriers in reporting medication errors.

Keywords - Knowledge, Attitude, Medication errors, Health care, Patient Safety, Tertiary Care.

1. Introduction

Medication errors are the most common mistakes affecting patient care which increases mortality rates, length of hospital stay, and related costs.¹ Medication error is one of the major concerns of the nursing professionals internationally. Medication errors are defined as "Any preventable event that might cause or lead to inappropriate usage of medication or harm to the patient where the medication is in the control of the health-care professionals, patients, or consumers".² A systematic approach determining the underlying factors is necessary for the safety of both patients and the staff regarding medication errors.³ Medication error is a failure which leads to inappropriate medication use or harm to the patient.⁴ There are various types of medication errors such as prescribing, improper dose, omission, deteriorated drug, wrong drug preparation, wrong time, wrong dosage, unauthorized drug, wrong administration, technique, monitoring and compliance error.⁵ Out of these prescription errors contribute for around 70% of total medication errors.⁶ Even though medication errors are caused by all the members of health care system, nursing medication errors are the most common.⁷ The reported reason for this is that nurses perform most of the medical orders and spends nearly 40% of their time to administer medicines.⁸ Even in countries like USA the prevalence of medication errors is high which is approximately 1 lakh medication errors reported since 2000.² Developing countries are still lacking good health care facilities shortage of adequate number of healthcare personnels. Therefore, there are high chances of medication errors through the entire field of prescribing, dispensing and administering. It is therefore a challenging issue for the healthcare systems as these errors posture a great risk for the patient safety which can be minimized if patients are monitored in correct time. Hence, this study was conducted to knowledge and attitude regarding medication errors among the health care professionals in a tertiary hospital.

Materials And Methods:

A crosssectional descriptive study was conducted in Panimalar Medical College Hospital & Research Institute, Chennai for a period of four weeks from April 2020 to May 2020. Self-administered questionnaire was designed based on literature review which comprised of 34 questions including demographic data, knowledge of medication errors, availability of reporting systems in hospitals, knowledge of national reporting system, attitudes toward error reporting, and causes of common medication errors. The consent was obtained from each participant after explaining the study in detail. A total of 172 participants were responded for which data was collected by asking the respondents to fill the questionnaire according to their view and not allowed to consult opinions of others on any question by providing comfortable place for respondents to sit and answer the questionnaire. Confidentiality and anonymity were maintained during and after data collection. Data was analysed with descriptive and inferential statistics. Descriptive

statistics were applied for data variables. Correlation between medication error versus knowledge and medication error versus attitude was analysed using chi-square statistics. Data was analysed by using statistical analysis package for social sciences (SPSS) 17.0 for windows. The study protocol was approved by the Institutional Review Board (IRB) of the Panimalar Medical College Hospital & Research Institute, Chennai (Panimalar Medical College Hospital & Research Institute IRB #1/2020/009) and conformed to the requirements of the Declaration of Helsinki (as revised in Seoul 2008).

Results:

Table 1: Showing socio demographic variables

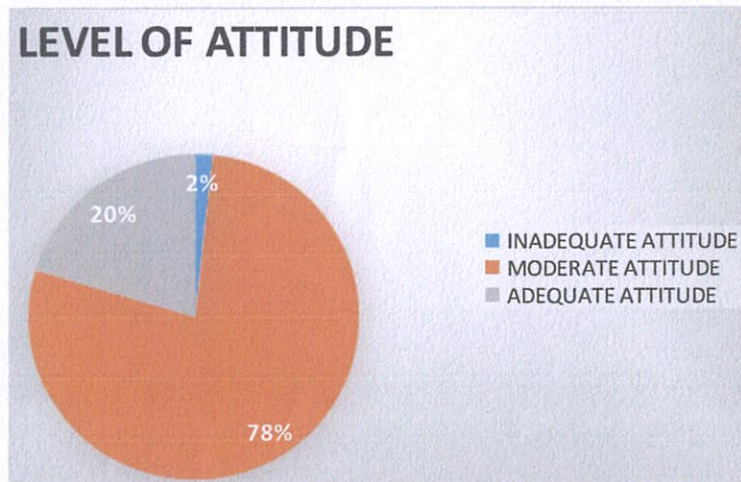
VARIABLE	n	(%)
GENDER		
Female	150	(87.2)
Male	22	(12.8)
DEPARTMENT		
Nursing	154	(89.5)
Pharmacy	15	(8.7)
Allied Health Science	2	(1.2)
Dentistry	1	(6)
QUALIFICATION LEVEL		
Diploma	76	(44.2)
Undergraduate	65	(37.8)
Post graduate	31	(18.0)
WORK EXPERIENCE IN SPECIALITY		
<6 Months	83	(48.3)

6 Months - 2 Years	29	(16.9)
2 - 6 Years	37	(21.5)
7 - 10 Years	9	(5.2)
> 10 Years	14	(8.1)

Table : 2 Showing the level of knowledge

LEVEL OF KNOWLEDGE	FREQUENCY	PERCENTAGE
Inadequate Knowledge	4	2.3
Moderate Knowledge	32	18.6
Adequate Knowledge	136	79.1

Figure: 1 Showing level of attitude towards medication errors



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Table 3: Knowledge regarding reporting of medication errors.

STATEMENT	STRONGLY DISAGREE		DISAGREE		NETURAL		AGREE		STRONGLY AGREE	
	n	%	n	%	n	%	n	%	n	%
I would report a medication error if patient if prescribed an inadequate dose.	4	2.3	15	8.7	17	9.9	67	39.0	69	40.1
I would report an error where medication was prevented from reaching the patient	1	6	12	7.0	15	8.7	84	48.8	60	34.9
I would report a medication error if a patient does not receive a medication as prescribed	7	4.1	23	13.4	14	8.1	61	35.5	67	39.0


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I believe that i	1	1.2	3	1.7	16	9.3	77	44.8	74	43.0
have good										
knowledge of										
when a										
medication										
error should										
be reported										

Out of (172) participants, majority (87.2%) of them were females and 12.8% were males. Among them majority (89.5%) were nursing professionals. Nearly half(48.3%) of them has experience for less than 6months(Table 1). Out of the total study participants, 79.1% of members had adequate knowledge, 18.6% members had moderate knowledge and 2.3% members had inadequate knowledge(Table 2). Among 172 study participants 78% had adequate attitude, 20% had moderate attitude and 2% had inadequate attitude(Figure 1).

40.1% expressed that they would report a medication error if patient prescribed an inadequate dose and also 34.9% reported that they would report an error where medication was prevented from reaching the patient. 39% stated that they will report if a patient does not receive a medication as prescribed and also 43% believed that they have good knowledge on when a medication error should be reported(Table 3). 40.7% expressed that medication errors do not need to be reported if detected before reaching the patient, 45.3% reported that Information when reporting a medication error will be confidential. 40.1% disagreed that reporting medication error caused by someone else is not their responsibility and also 45.3% preferred to educate people who make medication errors rather than reporting the errors. 41.9% disagreed that they don't hesitate before deciding to report a medication error(Table 4). There is a positive correlation between knowledge and attitude ($r=0.290$) which was statistically significant.

Discussion

Medication error is the result of individual negligence which leads to various disasters. This study was conducted to assess the knowledge and attitude towards medication errors. Among the 172 study participants, majority of the responders were females which is in similarity with Alsulami et al study.⁹ In our present study 79.1% of the study participants had adequate knowledge, 18.6% had moderate knowledge and 2.3% had inadequate knowledge which is in comparison with other studies.^{8,10} In our study 78% of health care workers had adequate attitude, 20% had moderate attitude and 2% had inadequate attitude which is low when compared with the Alsulami et al⁹ study which is 90% towards medication error reporting. There is no significant association between medication error and demographic variables such as age, gender, profession, education status, clinical experience in our present study which is similar to the study conducted by Mohanty S. et.al.¹¹ Highly significant association was reported between knowledge and selected clinical variables like average number of patients per day and any in-service education attended on medication error in other studies which was not done in our study.⁸ Establishing medication errors reporting system will not reduce the incidence of medication errors. Even after establishing the medication error reporting system there is a challenge for eliminating the under reporting of medication errors.¹² There are numerous factors responsible for the under reporting of medication errors which include fear of

adverse consequences, tarnishing of reputation, overburden of work.^{13,14} There are various factors which increases reporting of medication errors like health-care team committed to patient safety; encouraging reporting of near misses; providing timely feedback and follow up actions and improvements to avoid future errors; and having a multidisciplinary approach to reporting.^{15,16} Balanced assessment of awareness amongst health-care professionals may hinge the pathway for establishing a system which will help in monitoring and controlling the occurrence of medication errors.

CONCLUSION :-

Patient safety is a common goal for every health care provider. Hence it is important to reduce the incidence of medication errors. Majority of the health care workers in our study had adequate knowledge regarding medication errors. These findings can be used in designing various programs to promote medication error recognition and reduce or eliminate barriers in reporting medication errors. It is important to conduct quality assurance programs in all health care settings regarding medication administration and medication errors, to assure patient safety.

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Conflict of Interest: None


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**A STUDY TO ASSESS THE KNOWLEDGE REGARDING COVID-19 (TRANSMISSION, MANAGEMENT & PREVENTION) AMONG B.SC NURSING STUDENTS, THIRUVALLUR DISTRICT, TAMIL NADU.*****Dr. D. Sudhakar, M.sc(N), Ph. D**

Principal, Indira College of Nursing, Thiruvallur, Tamil Nadu.

***Corresponding Author: Dr. D. Sudhakar**

Principal, Indira College of Nursing, Thiruvallur, Tamil Nadu.

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ABSTRACT

In an effort to mitigate the outbreak of COVID-19, many countries have imposed drastic lockdown, movement control or shelter in place orders on their residents. The nationwide (India) corona virus cases has crossed 1.9 lakh. The total cases in the country stood at 1,90,535 including 5,394 deaths, according to data from the Union Health Ministry(NDTV NEWS- June 1 2020)(4). In such pandemic situation the knowledge regarding the disease to manage and prevent the further spread plays a vital role in most populated country. This study helps to know the knowledge level of Nursing students regarding transmission, management and prevention of Covid-19. **Research approach:** Non experimental qualitative Research design, **Research design** Descriptive survey design, **Setting of this study:** The study was conducted at Indira College of Nursing, Thiruvallur, Tamil Nadu, **Sample size:** The total sample size was 30, **Sample technique:** Convenient sampling technique was used for this study. **Results:** Among 30 samples 7(23.4%) showed good knowledge, 18(60%) had average knowledge and 5 (16.6%) fair knowledge regarding Covid-19.

KEYWORDS: covid 19 Corona virus, Pandemic, Middle East Respiratory Syndrome (MERS), Severe Acute Respiratory Syndrome (SARS).

INTRODUCTION

On December 31, the Government in Wuhan, China, confirmed that health authorities were treating dozens of cases. Days later, researchers in China identified a new virus that had infected dozens of people in Asia^[1] India announced a complete lock down for 21 days beginning midnight of 24 March 2020 as an all-out measure to tackle the spread of the novel corona virus disease COVID-19^[2] Corona viruses are a large family of viruses that are known to cause illness ranging from the common cold to more severe diseases such as Middle East Respiratory Syndrome (MERS) and Severe Acute Respiratory Syndrome (SARS). A novel corona virus (CoV) is a new strain of corona virus that has not been previously identified in humans. The COVID-19 virus spreads primarily through droplets of saliva or discharge from the nose when an infected person coughs or sneezes. Most people infected with the COVID-19 virus will experience mild to moderate respiratory illness and recover without requiring special treatment. The best way to prevent and slow down transmission is be well informed about the COVID-19 virus, the disease it causes and how it spreads. Protect yourself and others from infection by washing your hands or using an alcohol based rub frequently and not touching your face (WHO).^[3]

OBJECTIVES

- To assess the knowledge regarding Corona virus transmission, management and prevention among Nursing college students.
- To assess the demographic data of the sample.

METHODOLOGY

Research approach: Non experimental quantitative research design. Research design: Descriptive survey design. Setting of this study: The study was conducted at Indira College of Nursing. Sample size: The total sample size is 30. Sample technique: Convenient sampling technique was used for this study. Research tool technique -Tool consists of two parts: Part-1: It consists of structured questionnaire with questions related to the demographic data of the students. Demographic data includes age, sex, religion, educational status, residential area of the students. Part- 2: It consists of 25 structured interview questionnaires which we used to assess the knowledge of the nursing students regarding corona virus transmission, management and prevention.

The Score Was Categorized As

- Good - more than 75%
- Average - 51 – 75%

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Fair - less than 50%

Data Analysis and Interpretations

Reveals that among 30 sample, 27(90%) are between age of 17 and 20 years, 3(10%) are between 21 and 23 years. regarding residential area 6(20%) are from community area, 6(20%) are from town, 16(53%) from city and 2(7%) from villages. About the usage of face masks

26(87%) are using disposal masks (surgical masks), 1(3%) use some cloth masks, 1(3%) use N95 masks and 2(7%) are using hand kerchiefs. Regarding hand hygiene 5(17%) use soap and water, 9(31%) use hand sanitizers, 8(26%) use plain water to wash hands and 8(26%) of them use germ sprays. Regarding attending covid 19 online classes/conferences, 23(77%) says yes and 7(23%) say no.

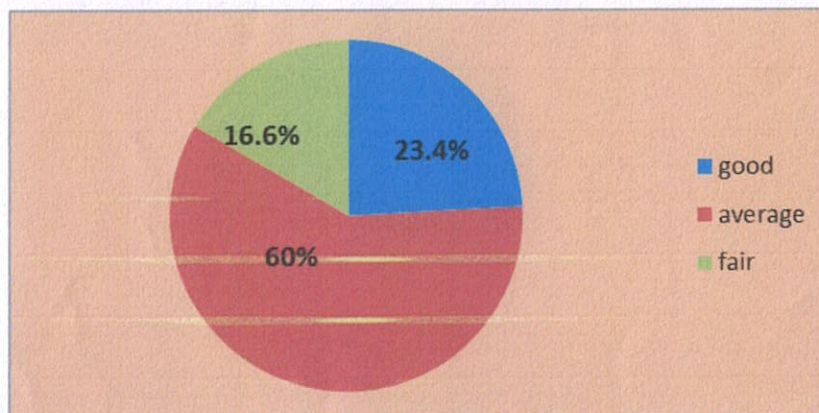


Fig. 1: Percentage Distribution of Knowledge.

The above figure represents the percentage distribution of knowledge

- 7(23.4%) have good knowledge
- Majority of them, 18(60%) have average knowledge
- 5(16.6%) have fair knowledge regarding corona virus transmission, management and prevention.

Major findings of the study

Among 30 samples 7(23.4%) have good knowledge, 18(60%) has average knowledge and 5 (16.6%) has fair knowledge regarding corona virus transmission, management and prevention.

Recommendation

1. A study can be replicated using a large sample for a longer duration to generalize and validate the findings.
2. A study can be conducted for nurses, doctors, or health care workers and among general public.

DISCUSSION

The aim of the study is to assess the knowledge among B.Sc. (N) students regarding corona virus transmission, management and prevention. The sample size 30 was selected. Questionnaire was distributed to the students in order to assess their knowledge regarding corona virus transmission, management and prevention.

1. The first objective is to know the demographic data of B.Sc. (N) students of Indira College of Nursing. Among 30 sample, of them 27(90%) are between 17 to 20 and 3(10%) are between 21 to 23 years of age. Gender wise 4 (13%) are male 26(87%) are female. 9(30%) are studying 1st year, 9(30%) are studying 2nd year and 12(40%) are studying 3rd year.

2. The second objective was to assess the knowledge regarding corona virus transmission, management and prevention by using questionnaire. Among 30 samples 7(23.4%) have good knowledge, 18(60%) had average knowledge and 5 (16.6%) has fair knowledge.

CONCLUSION

The knowledge of BSC nursing students regarding corona virus transmission, management and prevention was overall good.

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Assessment of Knowledge and Perceived Practice on Using Eco-Friendly Toys among Mothers of Under Five Children

Sharadha Ramesh¹, M.Vatchala Devi²

¹Director cum Professor, Symbiosis College of Nursing, Symbiosis College of Nursing, Symbiosis International University, Pune, Maharashtra, India, ²Vice principal cum Professor, HOD-Child Health Nursing, Indira College of Nursing, Pandur, Thiruvallur, Tamilnadu, India

Abstract

Introduction: Plastic is one of the most toxic substances in the world and there are several hazards of plastic usage. Plastic is a non-biodegradable product and do not decompose by biological actions of microbes. It takes about 1,000 years for plastic products to break down. They remain in the same state in the environment as we throw them whereas e-friendly are environmentally safe because the materials used to create the toys are natural, biodegradable and also recyclable.

Objectives of the Study: 1.To assess the level of knowledge on using ecofriendly toys among mothers of under five children. 2.To assess the perceived practice on using ecofriendly toys among mothers of under five children.3.To determine the correlation between knowledge and perceived practice on using ecofriendly toys among mothers of under five children. 4.To find the association between socio-demographic variables and the level of knowledge and perceived practice on using ecofriendly toys among mothers of under five children.

Methodology: Survey study was conducted among 60 mothers with underfive children at MK Pet, Tiruttani. Non probability convenience sampling technique was used to select the samples. Informed consent was obtained from all mothers, and made them be aware that information used only for research purpose. Structured interview schedule was conducted to elicit information from the participants.

Result: The inferences made are: Majority 40 (67%) had inadequate knowledge, 19 (31%) had moderate knowledge whereas least number 1 (2%) had adequate knowledge on using on ecofriendly toys whereas 24 (40%) had fair perceived practice, 23(38%) had poor perceived practice and only 13(22%) had good perceived practice on using ecofriendly toys. There was a significant positive correlation between the mean score of knowledge 381 with S.D 6.35 and the mean score of perceived practice 724 with S.D 12. The calculated Karl Pearson's coefficient of correlation $r=0.07$ was positively significant with low correlation at $p < 0.05^*$ level. there was significant association established with the type of family and mothers educational status at the level of $P < 0.05^*$ level. There was no statistically significant association found with the demographic variables of age of the mother, religion, education, number of children, occupation, monthly income with $P < 0.05^*$ level. The analysis revealed that there was significant association established with the religion and number of children variable at the level of $P < 0.05^*$ level. There was no statistically significant association found with the demographic variables of age, education, monthly income, type of family, number of children with $P < 0.05^*$ level.

Key Words: Assessment, Knowledge, Perceived Practice, Eco-friendly toys, Mothers of Under Five Children

Introduction

Play is a child's business and way of life. It is a legitimate right of childhood, representing a crucial

aspect of children's physical, intellectual and social development. All experts agree that children learn by playing and toys are the instruments that allow them to discover the world they live in. Ever since they are born,


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toys motivate babies to use their feet and hands in order to discover forms, colours and sounds. Once babies know how to sit and crawl, toys incite them to be on the move. If their favourite toy is out of reach, the baby will use its muscles to try and grab it. Toys boost children's creativity and they help them express their emotions (internal and external). Toys also motivate kids to take initiative, learn to negotiate and teaches them how to get better organized. Toys also promote children's cognitive development by stimulating their concentration and memory skills (board games) and giving them the ability to solve problems creatively, which is key to their future autonomy (playing with building blocks). The Indian toy industry has shown tremendous growth and expansion potential in the domestic market that is estimated at about US \$850 million and it generated 0.5 percent of the global market. Only 20% of the Indian market is served by Indian toy manufacturers while the rest is served by imported toys from different countries mainly from China and Italy.^(1,2,3)

We are living in a plastic planet. Plastics participate in human life from birth to death, and from waking to sleep, in objects of daily and specialised use alike. Plastic is a non-biodegradable product and do not decompose by biological actions of microbes. It takes about 1,000 years for plastic products to break down. They remain in the same state in the environment as we throw them. This, in turn, pollutes the land, sea and the atmosphere and one among them is plastic.

Here comes the question of safety. Toy safety is the practice of ensuring that toys, especially those made for children, are safe, usually through the application of set safety standards. In India also there is a move to make toys that meet global standards. But a large population lives in rural areas where toys which are sold are health hazard and injure the child in one way or the other. Choking is the number one reason for accidents, but chemicals such as lead can also cause developmental problems like behavioural disorders and sickness. Exposure to lead can affect almost every organ and system in the human body, especially the central nervous system. Lead is especially toxic to the brains of young children.⁽²⁾

Indian markets are today flooded with Chinese toys which do not conform to any quality standards. Who and how should this be regulated? In many countries, commercial toys must be able to pass safety tests in order to be sold. It is time that we have a framework to protect the children and ensure that the toys available in

the market are safe.

Eco-friendly products may seem to be more expensive, but long-term they are actually more cost efficient. Eco-friendly products tend to last much longer. These products are typically made from recycled materials and are sturdy, withstanding most drops, kicks, and dishwashers. Eco-friendly products may have a larger sticker price, but since they last longer, it is an investment that will pay off.

Plastics, for example, are known to have BPA, lead, and other harmful chemicals that can cause many different illnesses and diseases in both children and adults. For children, it can cause premature puberty, diabetes, stunted growth, and autoimmune disorders. Using eco-friendly products improves quality of life in terms of mortality, age, diseases, and illnesses. They ensure the safety of families and the planet.⁽⁵⁾

Most of the children play with low-quality plastic toys which are highly dangerous. Plastic toys contain chemicals such as polyvinylchloride, phthalates, polystyrene, polyester and acrylic which are absorbed by the human body. They also alter hormone secretion. Hence, plastics are found to be highly carcinogenic and can be blamed for the growing incidence of childhood cancers as well as attention deficit hyperactivity disorder and learning disability. As health care providers, it is our prime responsibility to educate parents on the dangers associated with the use of plastic toys. So the researcher felt there is a need to conduct study on knowledge and perceived practice on using ecofriendly toys among mothers who is considered as primary care providers.⁽⁷⁾

Statement of the Problem

"A descriptive study to assess the knowledge and perceived practice on using ecofriendly toys among mothers of under five children at MK Pet, Tiruttani".

Objectives of the Study

- To assess the level of knowledge on using ecofriendly toys among mothers of under five children.
- To assess the perceived practice on using ecofriendly toys among mothers of under five children.
- To determine the correlation between knowledge and perceived practice on using ecofriendly toys among mothers of under five children.


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- To find the association between socio-demographic variables and the level of knowledge and perceived practice on using ecofriendly toys among mothers of under five children.

Null Hypotheses

- **NH₁:** There is no significant relationship between level of knowledge and perceived practice on using ecofriendly toys among mothers of under five children.
- **NH₂:** There is no significant association between socio-demographic variables and the levels of knowledge on using ecofriendly toys among mothers of under five children.
- **NH₃:** There is no significant association between socio-demographic variables and the levels of perceived practice on using ecofriendly toys among mothers of under five children.

Assumptions

- Mothers of under five children may have inadequate knowledge on importance of providing ecofriendly toys to their wards.
- Mothers of under five children may have poor perceived practice in buying ecofriendly toys in day to day life
- Mothers of under five children may not have adequate understanding on impact of using plastics on the child as well as soil.
- Plastic toys impair child's IQ level and it is a potent carcinogen.
- Indian parents and toy sellers have very less awareness about all types of toys and brands.
- It is difficult for the parents to differentiate among Indian and foreign toys for buyers.
- Money is not playing the major factor, choice of parent and child matters more. Many places, especially in rural areas, it is seriously difficult because they are not even aware of what is toxic and what is brand.
- Very less people were concerned about the toxics. Foreign Toy Industry is technology focused but toxics and attracts parents as well as children.

Delimitations

- The study was delimited to 1 weeks only.
- The study was delimited to under five mothers who were residing in MK Pet, Tiruttani.
- The study was delimited to under five mothers who are available at the time of data collection.
- The study focused only on perceived practice and the actual practice was not measured directly using observational check list in the mothers' natural settings.

Projected Outcome

- This study will help the under five mothers to gain adequate knowledge and awareness on importance of ecofriendly toys.
- This study helps to alarm the mothers on ill-effects of buying plastic toys
- This study help for the future reference for generating evidence based instructions on current scenario in using ecofriendly toys.
- This study may stimulate mothers converting from perceived practice into actual practice i.e., motivate them to go green (buying ecofriendly toys).
- Specific R&D for development of innovative and novelty toys and games will be set up to offer new green products as per fast changing needs/requirements of the domestic as well as export markets for toys.
- There will be a need to have a check over toxics available in toys.
- Advertisements will be telecasted to create awareness about toxics in toys and its ill effect.
- Strict laws will be formulated and executed if any toxic is found in toys.

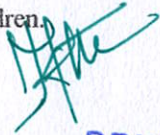
Methodology

Research Approach

Quantitative research approach was adopted for this study to accomplish the objectives of the study.

Research Design

In this study, Non-experimental descriptive survey design was used.


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Variables

Background Variables:

Mothers age in year, religion, type of family, monthly income in rupees, educational status of the mother, occupation of the mother, age of the child, number of child, number of plastic toys purchased in last one year, number of eco-friendly toys purchased in last one year, and how much spent for the toy.

Independent Variables:

The independent variable for the study was using eco-friendly toys

Dependent Variables:

The independent variables of the study were knowledge and perceived practice on eco-friendly toys.

SETTING OF THE STUDY

The investigator conducted the study in MK Pet urban area adopted by GRT College of Nursing, Tiruttani.

POPULATION OF THE STUDY

Target population

This is the population that the investigator had chosen to study and make generalization. The target population for the study was all the mothers with under five age children.

Accessible Population

The accessible population was all the mothers of under five age children who were living in in MK Pet, Tiruttani.

SAMPLE AND SAMPLE SIZE

In the present study, the mothers of under five aged who fulfilled the inclusive criteria were the samples.

SAMPLE SIZE

The sample size was 60.

CRITERIA FOR SAMPLE SELECTION

Inclusive criteria:

- The mothers who were having under five age children

- The mothers who were willing to participate.
- The mothers who were residing in the selected urban area.

Exclusive criteria:

- The mothers who were not co-operative
- The mothers who were underwent educational programme on ecofriendly toys.

SAMPLING TECHNIQUES

Non probability convenience sampling technique was used to select the samples.

DEVELOPMENT AND DESCRIPTION OF THE TOOL

The instrument was developed and compiled by the investigator with the guidance of experts and review of literature. The data collection questionnaire used in the present study had the following components:

Section A: Assessment of background variables

- **Demographic variables of the mother:** This included study participants age, religion, type of family, monthly income in rupees, educational status of the mother, and occupation of the mother.

- **Demographic variable of the child:** This included age of the child, and number of child

- **Ecofriendly toys related factor variables:** This included number of plastic toys purchased in last one year, number of eco-friendly toys purchased in last one year, and how much spent for the toy.

Section B: Structured Questions on Knowledge of Using Ecofriendly Toys

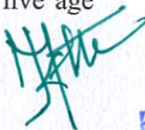
Section C: Structured Checklist on Perceived Practice of Using Ecofriendly Toys

CONTENT VALIDITY

Content validity of instrument was done by the panel of experts in the fields of Child Health Nursing, Nursing Research and Statistics. The experts' suggestions were incorporated in designing the final tool for this study.

PILOT STUDY

Formal permission was obtained from the Head


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of the Research Chairperson and Research Advisory Committee at GRT College of Nursing, Tiruttani. Individual permission was obtained from the mothers of under five children. Pilot study was conducted in urban area at Tiruttani which was excluded from the main study. Brief introduction about the investigators and study was given. The confidentiality of the responses and the identity was assured. Pilot study was done on 6 samples. The pilot study aided the investigators to check the feasibility of conducting the main study in order to determine the statistical analysis and to assess the time required for data collection.

Reliability

Reliability of the tool was measured during pilot study using Karl's Pearson coefficient of correlation test retest method for knowledge and inter rater method for perceived practice. The reliability r value were 0.78 for knowledge and 0.86 for practice. These values were very high thus making it a reliable tool for assessing the knowledge and perceived practice on ecofriendly toys among mothers of under five age children.

DATA COLLECTION PROCEDURE:

A descriptive survey study was conducted among mothers of under five children at MK Pet, Tiruttani after obtaining written permission from the head of the institution and Research Advisory Committee in GRT College of Nursing and Health Centre at MK Pet. The subjects were selected using convenience sampling technique. The data collection period was month. Data was collected from the mothers who were available in the time of study and accepted to participate in the study. Informed consent was obtained from all mothers, and made them be aware that information used only for research purpose. Structured interview schedule was conducted to elicit information from the participants. Explained the study participant's rights to withdraw or withhold the information. Participants are provided with investigators contact information.

DATA ANALYSIS AND INTERPRETATION

DEMOGRAPHIC DATA

I. Frequency and percentage distribution of demographic of mothers of under five children

- With respect to the age of 27 (45%) were in the age group of 21-25 years, 26 (33%) were in the age group of 26-30 Years, 7 (12) were in the age group of

18-20 years and rest 6 (10%) were in the age group of 31 Years and above.

- In related to the religion dominantly 46 (77%) were Hindu, 10 (17%) were Muslim, 4 (6%) were Christians and none of them belonged to other community.

- In accordance with the educational status, secondary school education 20 (33%), primary education 17 (28%), graduate 14 (23%) and illiterate 9 (16%).

- In concern with occupational data most of them were home maker 40 (67%), 9 (15%) were private employee, 6 (10%) were daily wages and rest 5 (8%) were Government employee.

- Regarding the monthly income 22 (37%) were between 10001-15000, 6(27%) were getting below Rs.5000; 14 (23%) were Rs.50001-10,000; 8 (13%) were getting monthly income of above Rs.15000.

In related to type of family 35 (58%) were lives in nuclear family and rest 22 (37%) were belongs to joint family and only 3(5%) of the samples lives in an extended family.

In related to number of the children 27 (45%) were having one child, 24 (40) were having two children, 06 (10%) were having 3 children and 3 (5%) were having more than 4 children at home.


II. Frequency and percentage distribution of demographic of under five children

No=60

frequency percentage distribution of demographic and clinical variables of under five children. With regard to age of the child, majority of them 25(42%) belong to 1-2 years; 17(28%) are between 3-4 years; 12(20%) of them are above 5 years and 6(10%) are infants.

With regard to number of toys purchased in last one year, 21(34%) of the parents purchased only one toy of their wards; 19(32%) of them purchased 3 toys; 10(17%) of the parent purchased 4 toys and only 10(17%) of them purchased 5 and above toys for their children.

In concerned with the number of ecofriendly toys purchased in last one year, 25(42%) of them purchased 2 toys; 19(32%) were purchased 3 toys; 7(11%) were purchased 4 toys; and only 9(15%) were purchased 5 and above toys for their children.



In accordance with the amount spent on toys, majority of the parents 22(36%) were spend Rs.50-100; 14(23%) were spend between 10-50 rupees; 15(25%) were spend between 100-300 rupees and only 8(13%) spend Rs.300 and above.

III. Frequency and percentage distribution of Mothers of under five children based on their level of knowledge on using ecofriendly toys

No=60

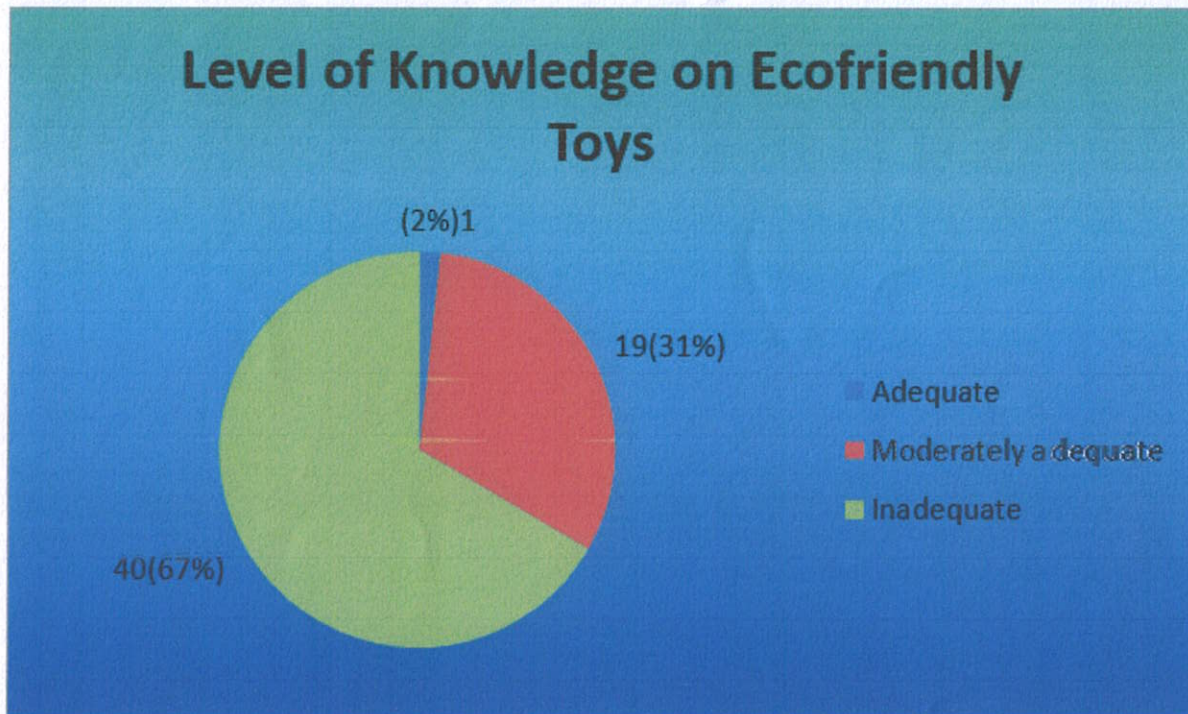


Figure 1:level of knowledge on using ecofriendly toys among mothers of under-five children.

The above figure 1 illustrates level of knowledge on using ecofriendly toys among mothers of underfive children.

The mothers of underfive children distributed as majority 40 (67%) had inadequate knowledge, 19 (31%) had moderate knowledge whereas least number 1 (2%) had adequate knowledge on using on ecofriendly toys.

IV. Frequency and percentage distribution of Mothers of under five children based on their level of perceived practice on using ecofriendly toys

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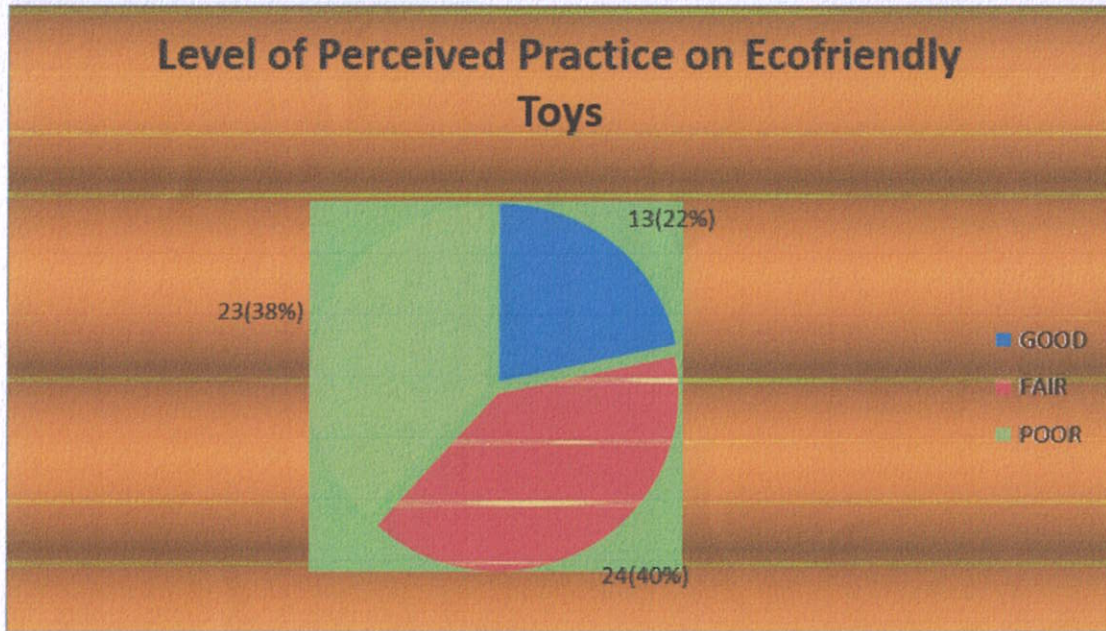


Fig 2: Distribution of Mothers of under five children based on their level of perceived practice on using ecofriendly toys

The inferences made are, the mothers of under five children distributed as 24 (40%) had fair perceived practice, 23 (38%) had poor perceived practice and only 13 (22%) had good perceived practice on using ecofriendly toys.

V. Distribution of mothers based on their correlation between level of knowledge and perceived practice on using ecofriendly toys

Variables	Mean	Standard Deviation	r-value
Knowledge	381	6.35	r=0.07 p = 0.05 S***
Perceived Practice	724	12	

Significant at $p < 0.05^*$

The inferences made are

There was a significant positive correlation between the mean score of knowledge 381 with S.D 6.35 and the mean score of perceived practice 724 with S.D 12. The calculated Karl Pearson's coefficient of correlation $r=0.07$ was positively significant with low correlation at $p < 0.05^*$ level.

VI. Distribution of mothers based on their association between socio-demographic variables and the level of knowledge on using ecofriendly toys

Association of level of knowledge regarding importance of play needs among parents of under five children with their selected demographic variables.

The analysis revealed that there was significant association established with the type of family and mothers educational status at the level of $P < 0.05^*$ level. There was no statistically significant association found with the demographic variables of age of the mother, religion, education, number of children, occupation, monthly income with $P < 0.05^*$ level.

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VII. Distribution of mothers based on their association between socio-demographic variables and the level of perceived practice on using ecofriendly toys

Depicts association between the levels of perceived practice regarding importance

Of using ecofriendly toys among mothers of under five children with their selected demographic variables.

The analysis revealed that there was significant association established with the religion and number of children variable at the level of $P < 0.05^*$ level. There was no statistically significant association found with the demographic variables of age, education, monthly income, type of family, number of children with $P < 0.05^*$ level.

Conclusion

Play and childhood is inseparable. Play is any child's business and it is their way of life which brings comprehensive development. Age-specific toys are used to comfort the child from the time of birth. Most of the children play with low-quality plastic toys which are highly dangerous. Young infant with too thing stage bite and suck on a lead-painted toy put them at risk of lead poisoning. Plastic toys contain chemicals such as polyvinylchloride, phthalates, polystyrene, polyester and acrylic are absorbed by human bodies and also alter hormones secretion. Hence, plastics are found to be highly carcinogen and it is evident that growing incidence of childhood cancers as well as attention deficit hyperactivity disorder and learning disability. As health care providers, it is our prime responsibility to educate parents on dangers associated with the usage of plastic toys. Eco friendly toys are environmentally safe because the materials used to create the toys are natural, biodegradable and also recyclable. We should create an awareness and make sure that every toys used by the children are eco-friendly, chemical free and safe.

Implications

The findings of the study has implications in different branches of nursing profession, i.e. urning practice, nursing service, nursing education, nursing administration and nursing research.

Nursing practice

- The nurse role is to select the play materials according to age group of children with safety measures.

- The nurse practitioners can utilize ecofriendly play therapy to assist children in enhancing intellectual development and problem solving skills.

- The nurse can educate the children as well as their family regarding hazards of using plastic toys and its later effect on the child.

Nursing education

- Conference, workshops and seminars can be held for nurses to impart update their knowledge and positive practice towards using ecofriendly play articles.

- Nursing educator to update their knowledge and skills of providing ecofriendly play needs in various healthcare settings such as pediatric ward, ICDS and Centres should be given.

Nursing administration

- Nursing personal should be prepared to take a leadership role in educating parents regarding importance of play needs as well as ecofriendly toys. They should include their interest in educating parents during disseminate information about importance of play needs.

- The administrator can encourage the nurse for conducting research in various aspects regarding importance of ecofriendly toys

- The administrator can organize conference, workshop and seminar for nurses working in the pediatric ward

- The administrator should support the staff to conduct programmes on importance of ecofriendly toys.

Nursing research

- There should be more scope for research in this area to improve parents knowledge on importance of ecofriendly play needs. There is a need for extensive research regarding education techniques in order to improve the parents knowledge and in turn help bringing in positive and good practice regarding importance of using ecofriendly toys among mothers of under five children.

- The study will be useful for further reference.

- The results of the study encourage the parents to select suitable play materials according to age group of the children.

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- Encourage the nurses for conducting research in various aspects regarding importance of ecofriendly toys.

Recommendations

The study recommends the following

- A similar study may be conducted with large number of sample in different settings
- A comparative study can be conducted between rural and urban parents.
- A true experimental study with experimental and control group can be conducted.
- A similar study can be conducted through video teaching.
- A similar study can be conducted to assess practice on important of ecofriendly toys in their daily life.

Limitations

The study has the following limitations

- Sample taken was only 60 mothers of under five children.
- Study was limited to assess the knowledge and perceived practice regarding importance of ecofriendly toys need among mothers of under five children.
- Duration of data collection was 1 week.
- The study assessed only parents of under five children.

Conflict of Interest – Nil

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Ethical Clearance – Ethical approval of the study taken from Symbiosis College of nursing ethical committee. Informed consent was taken from the

participants . Informed the responders regarding the data collection procedure. The collected data was used only for research purpose and kept confidential.

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