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RESEARCH ARTICLE

A PRE- EXPERIMENTAL STUDY TO ASSESS THE EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME ON KNOWLEDGE REGARDING PREMENSTRUAL SYNDROME AND IT'S COPING STRATEGIES AMONG FIRST YEAR NURSING STUDENTS IN SELECTED COLLEGE OF NURSING, DELHI

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Abstract

A study was conducted to assess the effectiveness of structured teaching program on knowledge regarding Premenstrual Syndrome and it's coping strategies among first year nursing students in a selected college of Nursing, Delhi. The objectives of the study were to assess the pre-test knowledge of first year nursing students regarding Premenstrual Syndrome and it's coping strategies, to develop and administer Structured Teaching Programme regarding Premenstrual syndrome and it's coping strategies among first year nursing students, to assess the post test knowledge of first year nursing students regarding Pre-menstrual Syndrome and it's coping strategies and to determine the association of pre- test knowledge of first year nursing students regarding Premenstrual Syndrome and it's coping strategies with socio demographic variables. Conceptual framework for this study was Imogene King's model. Prior to the data collection, a pilot study was conducted and written permission was taken from the samples. The final study was conducted from 30/05/2022 to 04/06/2022. A total of 46 GNM Ist year nursing students were selected for the study using convenient sampling technique. The data analysis was done using descriptive and inferential statistics. The pre-test study result shows that out of 46 nursing students, only 6.52% had good knowledge, 86.95% had average knowledge, 6.52% had poor knowledge regarding Premenstrual Syndrome and it's coping strategies. However, after the administration of the Structured Teaching Programme, the post-test knowledge presented that 45.65% had good knowledge, 52.17% had average knowledge, and only 2.17% had poor knowledge regarding Premenstrual Syndrome and its coping strategies. There was no significant association found between the pre

test knowledge level of first year nursing students and the selected demographic variables at $p < 0.05$ level of significance. The calculated 't' value (0.66) was less than the table value (2.00) at $p < 0.05$ Level of

significance. Hence the study results concluded the structured teaching programme was effective in increasing the knowledge of the first year nursing students regarding Premenstrual Syndrome and its coping strategies.

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..... **Introduction:-**

Premenstrual Syndrome is described as a collection of predictable physical, cognitive, affective, and behavioral symptoms that occur cyclically during the luteal phase of the menstrual cycle and resolve quickly at or within a few days of the onset of menstruation. Severe form of premenstrual syndrome is called Premenstrual Dysphoric Disorder. The typical symptoms of premenstrual syndrome normally involves the symptoms related to mood (mood swings, anxiety, and irritability) and physical conditions – like headache, fatigue, bloating, sleep disturbances, nausea, and breast tenderness. 90% of the women all over the world, experience these symptoms during their child bearing age. Several factors such as hormonal change, diet and lifestyle may cause premenstrual syndrome. PMS affects the daily life of menstruating women of any age; race; and part of world.¹

Today, research on women's health has greatly improved. Premenstrual Syndrome is a common health problem in women in reproductive age and defined as a collection of emotional symptoms, with or without physical symptoms, related to a woman's menstruation cycle. Premenstrual Syndrome is occur during the luteal phase of menses, however, it disappear with menstrual flow, the prevalence of Premenstrual Syndrome has been reported in 20 to 32%² of pre menopausal and 30-40%³ of the reproductive female population.² There are several different symptoms have been associated with Pre-menstrual Syndrome, the symptoms are cyclic and recurrent, these symptoms can change in extent and strength during different cycles. Different etiologies have been suggested for the Premenstrual Syndrome. The abnormal function of hypothalamic-pituitary-adrenal axis (HPA), which leads to defect in adrenal hormone secretion, nutritional defects and environmental factors are the main factors for Premenstrual Syndrome, the endocrine systems is one of the theories for explaining the pathophysiological mechanism of Premenstrual Syndrome.

Background of the study

Premenstrual syndrome (PMS) is used to describe physical, cognitive, affective, and behavioral symptoms that affect young and middle-aged women occurring cyclically during the luteal phase of the menstrual cycle. Despite the considerable prevalence and impact of PMS on individuals, their families and communities that interferes with the development of nations, many professionals are still unaware of it and little attention has been given.⁹ Premenstrual Syndrome affects not only women but also families and societies, as it causes purposeful impairment in efficiency at school/work, impaired relations with friends, colleagues and family members, poor social life activities and home responsibilities. This syndrome in young women is a significant public health problem as increased incidence of depression and anxiety disorders were found in women suffering with Premenstrual Syndrome, which could economically burden the society indirectly in the form absenteeism at work, frequent hospitalization and suicides when it is severe. Moderate to severe symptoms are present of ten in adolescents, 14-88% of adolescent girls are affected, with younger adolescents less likely to have Pre-menstrual Syndrome symptoms than the older adolescents. India has about (27.7%) of the female population in the 15-29 years age-group.¹⁰ This age is a transition phase of life associated with spurt of physical, mental, emotional, and social development. In one's life adolescence is one of the most sensitive and vital period. A large variety of illnesses, such as nutritional deficiency disorders, menstrual disorders, etc. triumph among adolescents.

Need of the study

The purpose of this study is to identify a population of girls who experience menstrual related mood or behavior difficulty and to describe the symptoms and their relationship with menses. Many menstruating girls usually complain about symptoms of Premenstrual Syndrome that affects with normal activities or interference with interpersonal relationships. Pre-menstrual syndrome are experienced by up to 90% of all girls of reproductive age, which represent

a public health problem in young girls globally. Unlike other psychological conditions that affects women on a daily basis, the burden of Pre-menstrual Syndrome may be misperceived as less severe because it affects only a subset of women during their luteal phase. This huge burden is strongly associated with poor physical health and psychological distress that interfere with work productivity and interfere with relationships. The global incidence of Pre-menstrual Syndrome and pre-menstrual dysphoric disorder is increasing. The majority of women of reproductive age experience physical or emotional symptoms before the onset of menstruation. Among those, some women are so severely affected that it interfere with the mental health, interpersonal relationships and studies.

Problem Statement

A Pre-Experimental Study to Assess the Effectiveness of Structured Teaching Programme on Knowledge Regarding Pre-menstrual Syndrome and its Coping Strategies Among First Year Nursing Students in Selected College of Nursing in Delhi.

Objectives:-

1. To assess the pre-test knowledge of first year nursing students regarding pre-menstrual syndrome and its coping strategies.
2. To develop and administer structured teaching programmes regarding pre-menstrual syndrome and its coping strategies among first year nursing students.
3. To assess the post-test knowledge of first year nursing students regarding pre-menstrual syndrome and its coping strategies.
4. To determine the association of pre-test knowledge of first year nursing students regarding premenstrual syndrome and its coping strategies with selected demographic variable.

Research hypothesis of the study

Hypothesis:

A hypothesis is an assumption statement about the relationship between two or more variables that suggest an answer to the research question.¹⁸

H1: There will be significant difference between the mean pre-test and post-test knowledge score of 1st year nursing students regarding pre-menstrual syndrome and its coping strategies as evident from structured knowledge questionnaire at 0.05 level of significance.

H2: There will be significant association between pre-test knowledge score of 1st year students and demographic variables at 0.05 level of significance regarding pre-menstrual syndrome and its coping strategies.

Null Hypothesis

A null hypothesis is a type of statistical hypothesis that proposes that no statistical significance exist in a set of given observations.¹⁸

H01: There will be no significant difference between the mean pre-test and post-test knowledge score of 1st year nursing students regarding premenstrual syndrome and its coping strategies after administration of structured teaching programme at 0.05 level of significance.

H02: There will be no significant association between pre-test knowledge scores of 1st year nursing students regarding pre-menstrual syndrome and its coping strategies with demographic variables such as age, religion, type of family and dietary pattern at 0.05 level of significance.

Research approach

A quantitative, pre-experimental research approach is considered to be most appropriate.

Research design

A pre-experimental one group pre-test, post-test design is considered the most effective to evaluate the knowledge of first year nursing students regarding Pre-menstrual syndrome and its coping strategies.

Variables under the study

Independent Variables:-

It is the variable that is believed to cause an influence on dependent variable⁴³. It is a condition or characteristic manipulated by the researcher. In this study Independent variable is Structured Teaching Programme on Pre-menstrual Syndrome and its coping strategies.

Dependent Variables:-

It is the behaviour, characteristics or outcome that the researcher is interested in understanding, explaining, predicting or affecting. It is the presumed consequences or effect of the independent variable⁴⁴. In this study, Knowledge of the first year nursing students with regard to Pre-menstrual syndrome and its coping strategies was dependent variable.

Setting of the study

Setting refers to the physical location and condition in which data collection takes place in a study.⁴²

The present study was conducted in St. Stephen's Hospital College of Nursing, Delhi.

Population

Population is the entire aggregation of cases that need a designated set of criteria.⁴²

In this study population consist of GNM 1st year nursing students studying in St. Stephen's Hospital College of Nursing, Delhi.

Sample size and sampling technique

A sample consists of subset of the units which comprise the population.⁴²

Sampling refers to the process of selecting a position of the population to represent the entire population. The process of sampling makes it possible to draw valid inference on generalization on the basis of careful observation of variable within a relatively small position of the population.⁴²

Criteria for sample selection**Inclusion criteria:**

1. The study includes all GNM 1st year nursing students
2. Students who could read and understand English.

Exclusion criteria:

1. Students who were not willing to participate in the study.
2. Students who are unavailable during the time of study.

Sampling technique

Samples were selected using convenient sampling technique.

Sample Size

46 students studying in GNM first year of St. Stephens's Hospital College of Nursing, Delhi were selected for research study.

Description of the tool

The structured knowledge questionnaire was developed to assess the knowledge of GNM Ist year nursing student regarding pre-menstrual syndrome and it's coping strategies.

This structured knowledge questionnaire consists of two sections:-

Section A:- This section consists of questions related to demographic variables of students regarding age, religion, educational status, age of menarche, days of menstrual cycle, no. of days of menstruation.

Section B:- This section consists of Structured knowledge questionnaire related to anatomy of reproductive system and Premenstrual syndrome and its coping strategies so as to assess the knowledge of GNM 1st year nursing students.

Criteria for Knowledge assessment

Table 1:- Interpretation of scores.

Tool consists of 30 items

KNOWLEDGE LEVEL	SCORE
Good knowledge	21-30
Average knowledge	11-20
Poor knowledge	0-10

Data presented in Table 1 shows the criteria used for assessing the knowledge level among first year nursing students regarding premenstrual syndrome and its coping strategies.

Content validity and reliability of the tool:

Content validity of the tool was confirmed by experts opinions for the relevance of the questionnaire. The experts were asked to give opinion on the relevance of the items content and clarity of the language. Some items were modified based on the suggestion given by the experts. The reliability and internal consistency of the structured knowledge questionnaire administered B.Sc. (Hons.) Nursing 1st year students was calculated using Split half method (Karl Pearson's coefficient of correlation). The value of 'r' (the estimated reliability of entire test) was found to be 0.71. Hence, the tool was found to be reliable.

Pilot study

Pilot study is a trial study carried out before research design is finalized to assist in defining the research questions to test the feasibility, reliability and validity of the proposed study design.⁴²

After obtaining the administrative approval, the pilot study was conducted from 02-05- 2022 to 03-05-2022 among BSc (Hons.) Nursing first year students at St. Stephen's Hospital College of Nursing, Tis Hazari, Delhi. On day 1, pre-test was conducted using the structured knowledge questionnaire on Pre-menstrual Syndrome and its coping strategies for which 25-30 minutes time duration was given to the sample to fill the questionnaire. The tool was found to be clear, understandable and unambiguous. A structured teaching programme on Pre-menstrual Syndrome and its coping strategies was administered to the sample immediately after the pre-test. On 7th day the post – test was conducted among sample using the same structured knowledge questionnaire. It was found feasible to conduct the study. The findings of the pilot study suggested that it was feasible to conduct the final study. No major problem was faced during pilot study.

Final data collection

After obtaining the ethical clearance from the ethical committee of St. Stephen's Hospital College of Nursing, The sample were selected using convenient sampling technique. Self- introduction was given and purpose of the study was explained to first year nursing students. Confidentiality of their response was assured. Formal informed consent was obtained from the sample who met the inclusion criteria. Structured Teaching Programme was conducted on the same day. On day 1, pre-test was conducted using structured knowledge questionnaire on Pre-menstrual syndrome and its coping strategies for which 25-30 minutes time duration was given to the sample to fill the questionnaire. A structured teaching programme on Pre-menstrual syndrome and its coping strategies was administered to the sample immediately after the pre-test, followed by post-test on the 7th day using the same structured knowledge questionnaire.

Data Analysis And Interpretation

The descriptive and inferential statistics was used for analysis of data.

Section A- Findings related to demographic characteristics of sample. Frequency and percentage distribution of demographic characteristics of sample.

Section B- Findings related to level of knowledge related to Premenstrual syndrome and its coping strategies among first year nursing students before and after administration of structured teaching programme.

Comparison of frequency and percentage distribution of pre-test and post-test knowledge level regarding knowledge related to female reproductive system and menstrual cycle among first year nursing students.

Section C- Effectiveness of structured teaching programme on the level of knowledge of first year nursing students on Pre-menstrual syndrome and its coping strategies.

Comparison of pre-test and post-test knowledge scores of first year nursing students regarding Pre-menstrual syndrome and its coping strategies by computing the mean, median, standard deviation and 't' value.

Section D- Chi-square test for association of pre-test knowledge of first year nursing students regarding Pre-menstrual syndrome and its coping strategies with selected demographic variables.

Section-A

Findings related to demographic variables

A total of 46 First year nursing students of St. Stephen's Hospital College of Nursing, Delhi were selected. The demographic characteristics of students were in terms of age, religion, type of family, dietary pattern, educational status, age of menarche, days of menstrual cycle and no. of days of menstruation in a month. Data collected were tabulated and analysed to obtain frequency and percentage distribution.

Table 2(a):- Frequency and Percentage distribution of GNM Ist year nursing students according to their Demographic Variables

N=46.

S.NO.	SELECTED VARIABLES	FREQUENCY (f)	PERCENTAGE (%)
1.	AGE (INYEARS)		
	16-18years	18	39.13%
	19-21 years	27	58.69%
	22-23years	0	0%
	24orabove	1	2.18%
2.	RELIGION		
	Hindu	22	47.82%
	Muslim	1	2.17%

Table 2(b):- Frequency and Percentage distribution of GNM Ist year nursing students according to their Demographic Variables.

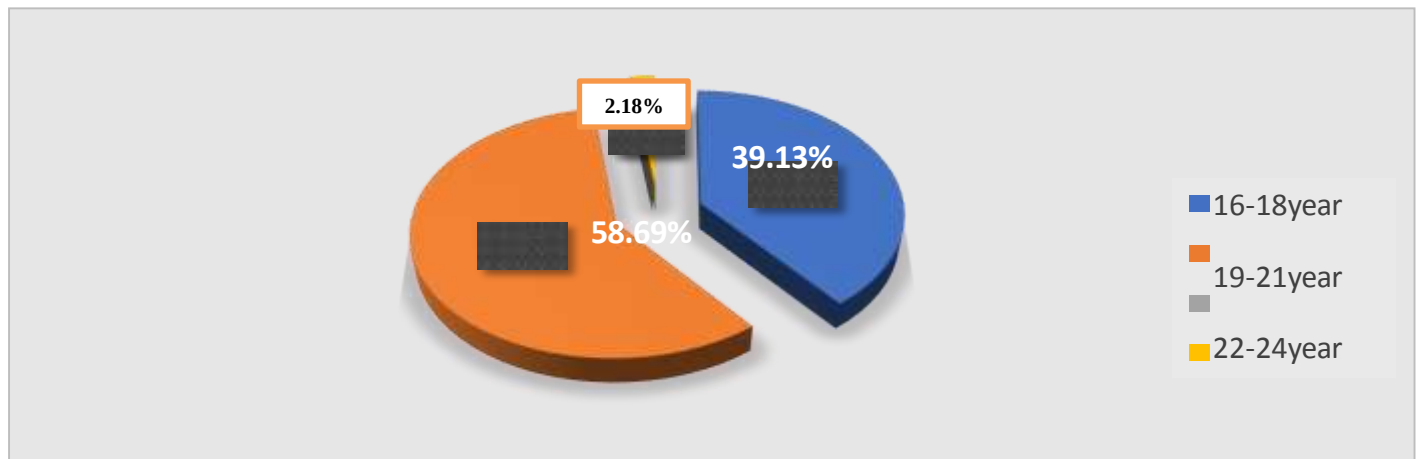
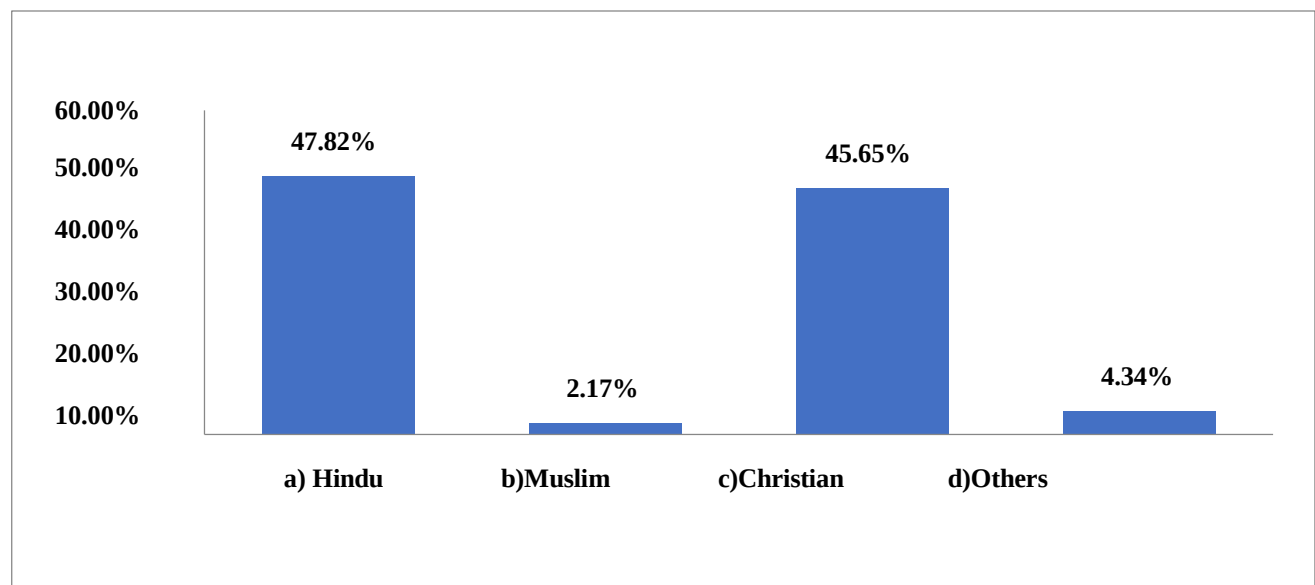
N=46.

S.NO.	SELECTED VARIABLES	FREQUENCY (f)	PERCENTAGE (%)
	Christian	21	45.65%
	Others	2	4.34%
3.	TYPE OF FAMILY		
	Nuclear	32	69.56%
	Joint	14	30.44%
	Extended	0	0%
4.	DIETARY PATTERN		
	vegetarian	14	30.44%
	non-vegetarian	32	69.56%
5.	EDUCATIONAL STATUS		
	Science	3	6.52%
	Commerce	9	19.56%
	Arts	34	73.91%
6.	ONSET OF MENARCHE		
	10-11year	2	4.34%
	12-13 year	14	30.43%
	14-15year	20	43.47%
	16-17 year	10	21.73%

Table2(c):- Frequency and Percentage distribution of GNM 1st year nursing students according to their Demographic Variables.

N=46.

S.NO.	SELECTED VARIABLES	FREQUENCY (f)	PERCENTAGE (%)
7.	DAYS IN CYCLE		
	24-28 days	25	54.34%
	29-32 days	17	36.95%
	33-36 days	1	2.17%
	36 days or more	3	6.52%
8.	NO. OF DAYS OF MENSTRUAL CYCLE		
	1-2 days	0	0
	3-4 days	27	58.65%
	5-6 days	17	36.95%
	More than 7 days	2	4.34%

**Figure 3:-** Pie Chart Depicting Percentage Distribution of First Year Nursing Students According to their Age.**Figure 4:-** Bar Graph Depicting Percentage Distribution of First Year Nursing Students According to their Religions.

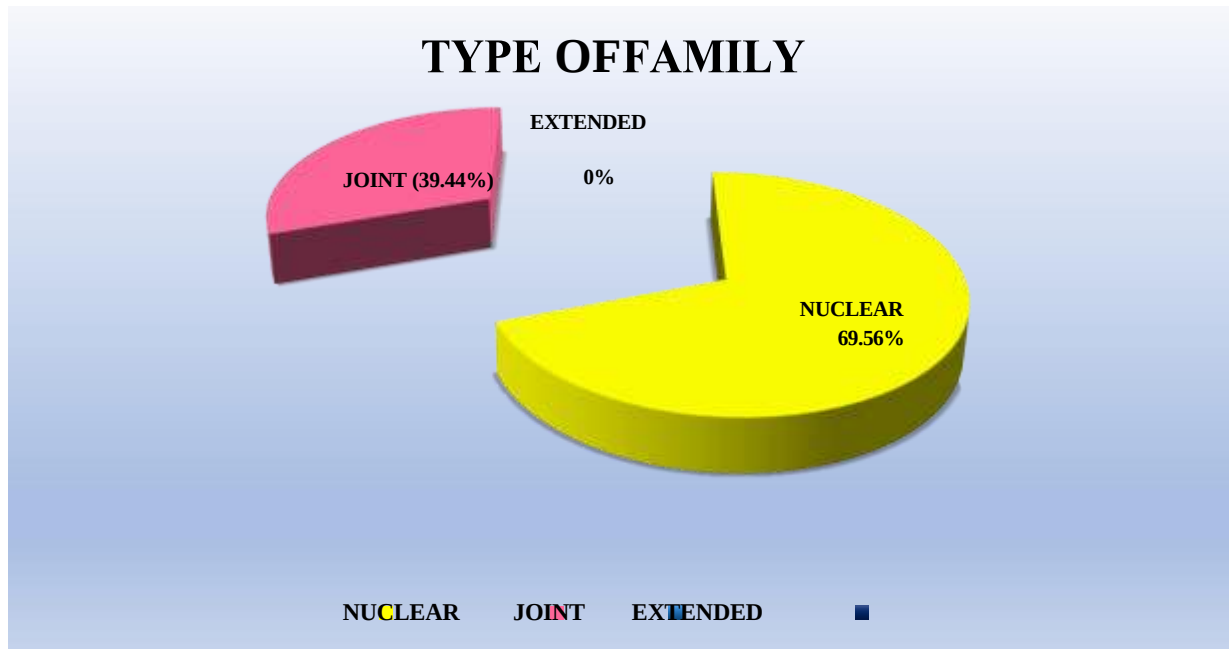


Figure 5:- Pie Chart Depicting Percentage Distribution of First Year Nursing Students According to the Type of Family.

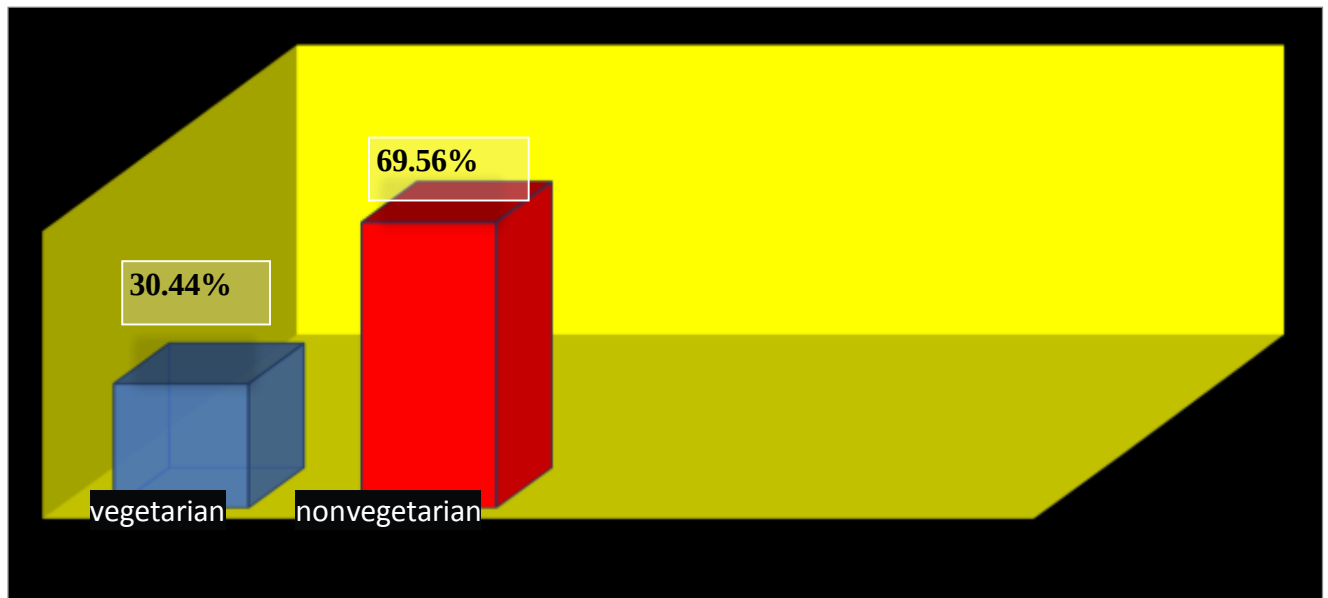


Figure 6:- Bar Graph Depicting thePercentage Distribution of FirstYear Nursing Students According to their Dietary Pattern.

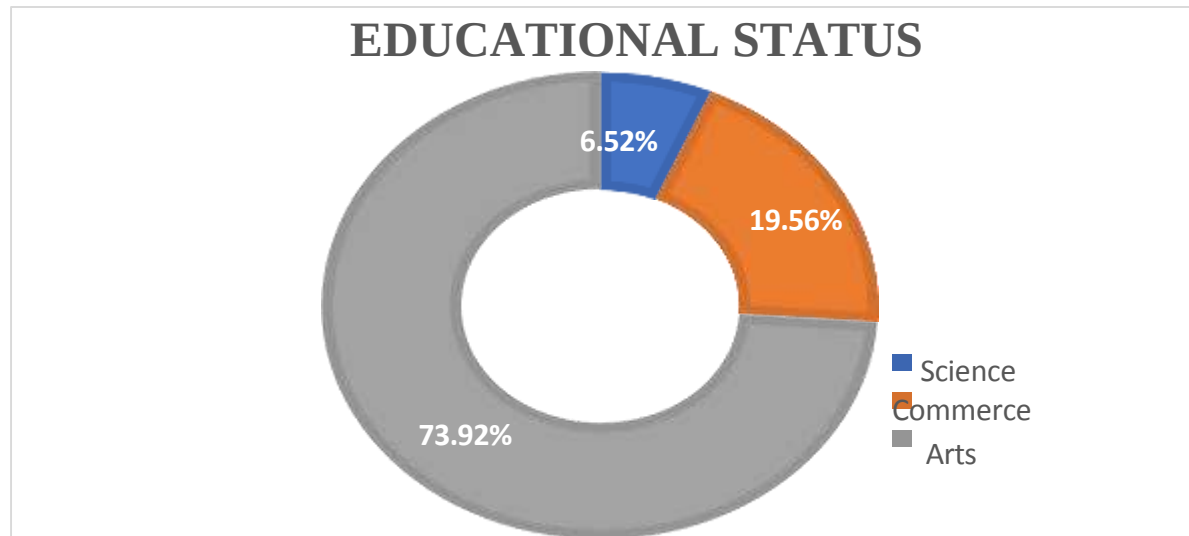


Figure 7:- Pie Chart Depicting Percentage Distribution of First Year Nursing Students According to Educational Status.

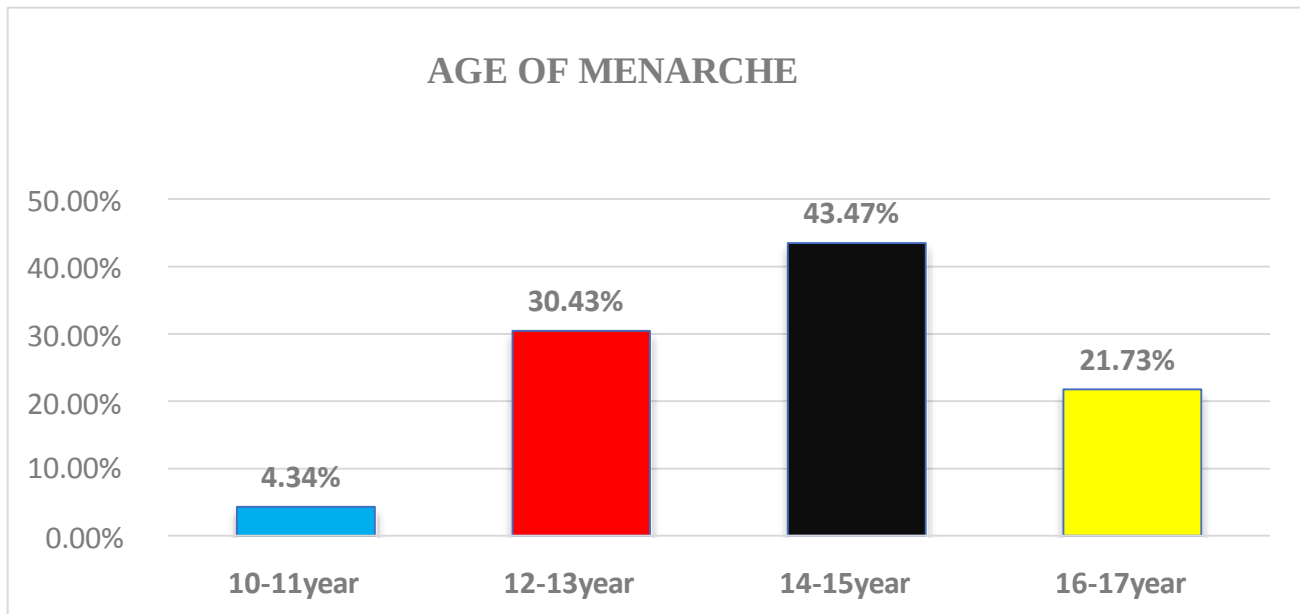


Figure 8:- Bar Diagram Depicting Percentage Distribution According To Age Of Menarche.

Section- B

Findings Related To Knowledge Regarding Pre- Menstrual Syndrome and Its Coping Strategies

Table 3:- Frequency And Percentage Distribution of pre-test and post-test Knowledge Scores regarding Pre-menstrual Syndrome and it's coping strategies among 1st Year Nursing Students.

N=46

LEVEL OF KNOWLEDGE	RANGE OF SCORES	FREQUENCY (PRE-TEST)	FREQUENCY (POST-TEST)	PERCENTAGE (PRE-TEST)	PERCENTAGE (POST-TEST)

GOOD KNOWLEDGE	21-30	3	21	6.52%	45.65%
AVERAGE KNOWLEDGE	11-20	40	24	86.95%	52.17%
POOR KNOWLEDGE	0-10	3	1	6.52%	2.17%

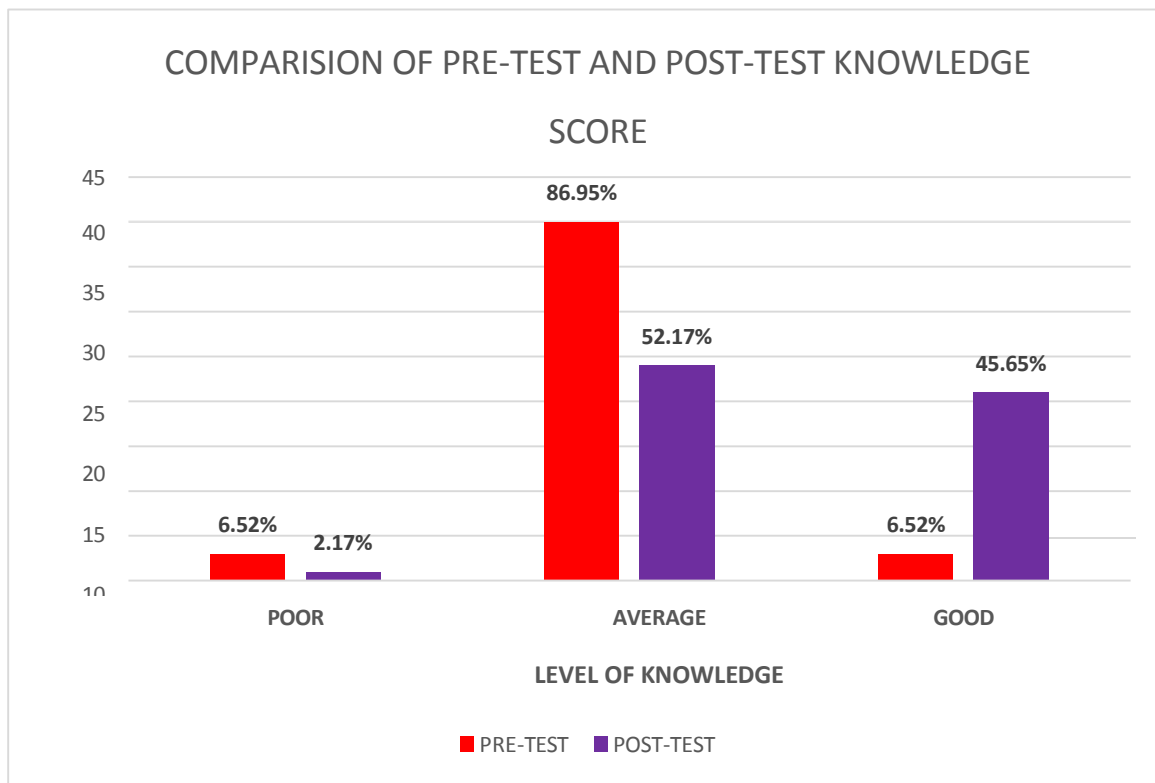


Figure 09:- Bar Graph Showing Comparison Between Pre-Test And Post-Test Knowledge Score.

Section- C

Findings Related To Effectiveness Of Structured Teaching Programme On Knowledge Regarding Pre-Menstrual Syndrome And It's Coping Strategies Among Ist Year Nursing Students

Table 4:- Mean, Median, Standard Deviation of Pre-Test and Post-Test Knowledge Score of Ist year nursing students where Maximum score-30 and Minimum score- 0

TEST	MAX. SCORE	SCORE RANGE	MEAN	MEAN DIFFERENCE	MEDIAN	STANDARD DEVIATION	t-VALUE	
							Calculated t value	Tablet value
PRE-TEST	0-30	5-22	16.13	3.73	17	2.8994	4.99*	2.00
POST-TEST	0-30	8-25	19.86		20	5.25		

*significant at $p < 0.05$ level

Section-D

Findings Showing Association of Pre-Test Knowledge score of subjects with selected Demographic Variables

Table 5:- Association between Pre-Test Knowledge of 1st Year Nursing Students regarding Pre-menstrual Syndrome and It's Coping Strategies and demographic variables.

N=46

S.NO.	SELECTED VARIABLES	FREQUENCY			df	CHI SQUARE VALUE	TABLE VALUE (p)
		GOOD	AVERAGE	POOR			
1	AGE IN YEARS						
	16-18years	3	14	1	6	3.1478 ^{NS}	12.59
	19-21 years	0	25	2			
	22-23years	0	0	0			
	24orabove	0	1	0			
2	RELIGION						
	Hindu	1	20	2	6	4.03348 ^{NS}	12.59
	Muslim	0	1	0			
	Christian	0	17	1			
	Others	0	2	0			
3	TYPE OF FAMILY						
	Nuclear	2	28	2	6	0.4278 ^{NS}	5.99
	Joint	1	12	1			
	Extended	0	0	0			
4	DIETARY PATTERNS						
	Vegetarian	0	14	1	2	1.3351 ^{NS}	5.99
	Non-vegetarian	3	26	2			
5	EDUCATIONAL STATUS						
	Science	0	1	0	4	3.78824 ^{NS}	9.49
	Commerce	2	9	0			
	Arts	1	30	3			
6	ONSETOFMENARCHE						
	10-11year	0	0	1	6	10.2343 ^{NS}	12.59
	12-13 year	2	9	1			
	14-15year	1	22	1			
	16-17 year	0	9	0			
7	DAYS IN CYCLE						
	24-28days	1	22	1	6	6.0440 ^{NS}	12.59
	29-32days	1	15	2			
	33-36days	0	1	0			
	36days ormore	1	2	0			
8	NO.OF DAYS OFMENSTRUAL CYCLE						
	1-2days	0	0	0	6	7.0645 ^{NS}	12.59
	3-4days	0	25	1			
	5-6days	3	14	1			
	morethan7 days	0	1	1			

Major findings of the study

1. Majority of the Ist year nursing students i.e. 27 (58.69%) were in the age group of 19-21years, 18 (39.13%) were in the age group of 16-18 years and 1(2.18%) was in the age group of more than 24 years.
2. Majority of the Ist year nursing students i.e. 22 (47.82%) are Hindu, 21(45.64%) are Christian, 2(4.34 %) are others and 1(2.17%) are Muslims.
3. Majority of the Ist year nursing students i.e. 32(69.56%) belongs to nuclear family and 14(30.44%) belongs to

- joint family more than half of the subjects i.e. 32(69.56%) are non-vegetarian and 14(30.44%) are vegetarian.
4. More than half of the Ist year nursing students i.e. 34(73.91%) belongs to arts stream, 9(19.56%) belongs to commerce stream and 3(6.53%) belongs to science stream.
 5. Among the Ist year nursing students 20(43.47%) had menarche at the age of 14-15 year, 14 (30.44%) had menarche at the age of 12-13 year, 10 (21.74%) had menarche at the age of 16-17 year and 2(4.34%) had menarche at the age of 10-11 year.
 6. More than half of Ist year nursing students i.e. 25(54.34%) has menstrual cycle of 24-28 days, 17(36.95%) has menstrual cycle of 29-32 days, 3(6.52%) has menstrual cycle of more than 36 days and 1(2.18%) has menstrual cycle of 33-36 days.
 7. More than half of Ist year nursing students i.e. 27(58.69%) have 3-4 days of menstruation, 17(36.95%) have 5-6 days of menstruation and 2(4.34%) have more than 7 days of menstruation.

Findings related to assessment of knowledge regarding premenstrual syndrome and it's coping strategies among first year nursing students.

1. With respect to knowledge, out of 46, 24(52.1%) had average knowledge, 21(45.65%) had good knowledge and 1(2.7%) had below average knowledge regarding pre-menstrual syndrome and it's coping strategies.
2. The mean pre-test knowledge score of the first year nursing students regarding pre-menstrual syndrome and it's coping strategies was 16.13, median 17 and standard deviation 2.8994, the mean post-test knowledge score of the first year nursing students regarding premenstrual syndrome and it's coping strategies was 19.86, median 20 and standard deviation 5.25, mean difference of pre-test and post-test was 3.73 at 0.05 level of significance.
3. The calculated 't' value 4.99 was greater than the table value 2.66 at p<0.05 level of significance. Findings related to association between knowledge of children and socio-demographic variables.
4. There is no significant association found between the pre-test knowledge of first year nursing student and the selected demographic data.

Implications of the study

The findings of the study had further indication for Nursing Profession which is discussed below:

1. Nursing Education
2. Nursing Practice
3. Nursing Administration
4. Nursing Research

Limitations

1. This study is restricted to small sample size.
2. Findings based on the written responses of the samples.
3. Only one settings, broad generalization cannot be made.

Recommendations:-

1. A similar study can be replicated on a large sample to help validate and generalize the findings to the given population of a region or a part of the country.
2. A follow up study can be conducted to evaluate the effectiveness of Structured Teaching Programme regarding pre-menstrual syndrome and its coping strategies among nursing students.

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