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A Correlational Study to Assess the Relationship between Body Mass Index (BMI) and Menstrual Pain and to Evaluate the Effectiveness of Structured Teaching Programme on Care during Menstruation among Selected Adolescent Girls in SGT University

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ABSTRACT: Dysmenorrhea refers to a cyclical lower abdominal or pelvic pain which may radiate to the back or to the thighs, occurring during menstruation. The actual word dysmenorrhea is derived from the Greek word, "dys" meaning difficult, "meno" meaning month, and "rrhea" meaning flow. There are dysmenorrhea divided into primary dysmenorrhea and secondary dysmenorrhea. Primary dysmenorrhea is defined as cramping pain in the lower abdomen occurring at the onset of menstruation in the absence of any identifiable pelvic disease. It is differentiated from secondary dysmenorrhea, which refers to painful menses resulting from an identifiable pelvic pathology like fibroid, adenomyosis, pelvic inflammatory disease etc. Thousands of women within india were over weight and under weight. There is statistically significant relation between low BMI and high BMI with the severity of dysmenorrhea. There was a statistically significant relationship between severity of dysmenorrhea and abnormal BMI (<18.5) and (24.99). The relationship between prevalence of dysmenorrhoea with socio demographic factors such as mean age and parity, lifestyle factors including smoking, alcohol consumption, and stress, physical factor such as Body Mass Index (BMI). Health factor such as infertility, obesity, smoking and alcohol consumption did not show any significant relationship with dysmenorrhoea. Calculation of BMI is achieved by dividing the clients weight in kilograms by height in meter squared & Weight in kg divided by $height^2(m^2)$.

KEYWORDS: Menstrual Pain, Body Mass Index, Adolescent girls, Structured Teaching Programme, Effectiveness.

I.INTRODUCTION

According to the WHO, In current percentage of normal BMI (18.5-$25kg/m^2$) in India among adolescent girls is 62.5% and in China 79.7%, Canada 41.2%, Japan 68.9%, Kuwait 33.3%, Pakistan 54.4%, Singapore 58.4%, America 35.7%, Saudi Arabia 42.1%, South Africa 46.2% among adolescents girls[1].

The WHO considers BMI < 18.5 as underweight and may indicate malnutrition, an eating disorder or other health problems while a BMI > 25 is considered as overweight. Normal BMI ranges from 18.5 to 25. Severely underweight (starvation) is BMI < 16.5. Obese is BMI between 30 and 35, Obese Class 2 is BMI between 35 and 40, and Obese Class 3 is BMI > 40[2].

Dysmenorrhea refers to a cyclical lower abdominal or pelvic pain which may radiate to the back or to the thighs, occurring during menstruation. The actual word dysmenorrhea is derived from the Greek words, "dys" meaning difficult, "meno" meaning month, and "rrhea" meaning flow[3].

Dysmenorrhoea divided into primary dysmenorrhoea and secondary dysmenorrhea. Primary dysmenorrhoea is defined as cramping pain in the lower abdomen occurring at the onset of menstruation in the absence of any identifiable pelvic disease. It is differentiated from secondary dysmenorrhoea, which refers to painful menses resulting from an identifiable pelvic pathology like fibroid, pelvic inflammatory disease etc[4].

II.STATEMENT OF PROBLEM

"A correlational study to assess the relationship between body mass index (BMI) and menstrual pain and to evaluate the effectiveness of structured teaching programme on care during menstruation among selected adolescent girls in SGT university".

OBJECTIVE OF THE STUDY

- To assess level of menstrual pain and measure body mass index (BMI) among selected adolescent girls of SGT university.
- To find out correlation between menstrual pain and body mass index among selected adolescent girls.
- To find out association of menstrual pain and body mass index among adolescent girls with selected variables.
- To develop structured teaching programme for adolescent girls on care during menstruation in selected adolescent girls of SGT university.
- To evaluate the effectiveness of structured teaching programme on care during menstruation among adolescent girls in terms of knowledge in selected adolescent girls of SGT university.

HYPOTHESES

- H_1) :The significant correlation between menstrual pain and Body Mass Index
- H_2) : There will be a significant association of menstrual pain BMI with different socio demographic variables.

III. MATERIALS AND METHODS

Research Approach: Quantitative research approach was used for the present study.
Research Setting: Selected girls students according age group of SGT University Gurugram.
Sample and Sample size: Sample size for the present study was 500.
Sampling Technique: Non-Probability Purposive Sampling Technique was used in the present study.
Description of Tools : The tools include socio-demographic data and structured questionnaire, to assess the knowledge of adolescent girls about Mentrual pain and BMI to measure the height,weight and assess level of pain. Description of the tool for data collection was in D parts

Part A: Developing of demographic variables:
Age, departments, age at menarche, pain during menstruation ,duration of pain, effect of pain, monthly income, family type, place of residence, family history of menstrual pain,having pain.

Part B:
- It will include numerical pain scale to assess menstrual pain.
- The measured pain will categorized according to Allina.
- To assess level of menstrual pain among adolescent girls by using numerical pain sale.
- In this scale, there is self reporting of pain is done and is a 10 point scale the rating is from 0-10.

Part C: Modified Body Mass Index i.e. weight and height for age 17-19 years as per WHO guidelines. It consisted of BMI which are underweight, normal, overweight and Obese .

BMI scale:
- Overweight =25-30
- Normal   =(18.5-25)
- Underweight =(<18.5)
- Obese   =(>30)

Part D: Structured Knowledge Questionnaire: It consisted of 15 MCQs in which the respondent has to choose the correct one. For every correct answer score was 1 and for incorrect score was 0. Maximum possible score was 15 and Minimum score was 0. Structured Questionnaire to assess the knowledge of adolescent girls for Care during menstruation.

IV. RESULTS

SECTION-A:- Distribution table between level of knowledge among pre-test and post test .

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Level of knowledge	Score	Pre-test	%	Post-test	%
Poor	0-6	97	19.4	17	3.4
Average	6-10	357	71.4	384	76.8
Good	more than 10	46	9.2	99	19.8

(FIG.1)

Fig-1 Percentage distribution of pre knowledge score about Menstrual pain and BMI among adolescent girls.

SECTION-II:-
- Assessment of frequency and percentage of menstrual pain and BMI.
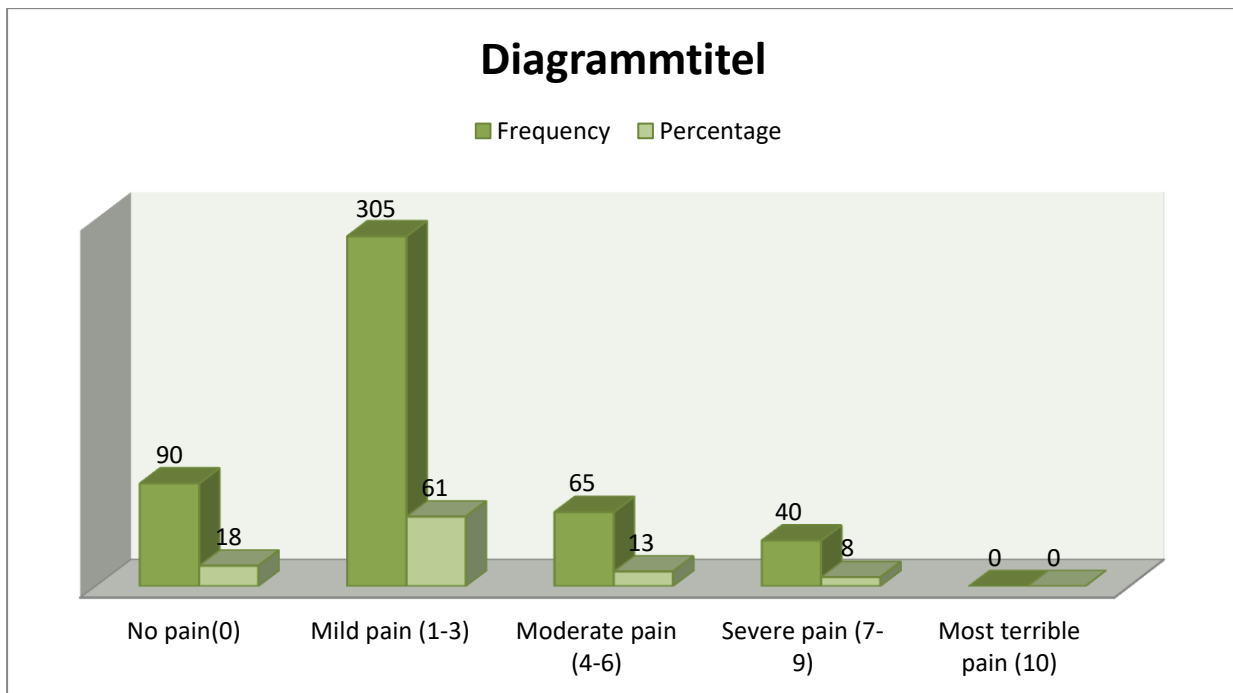- Correlation between menstrual pain and BMI.

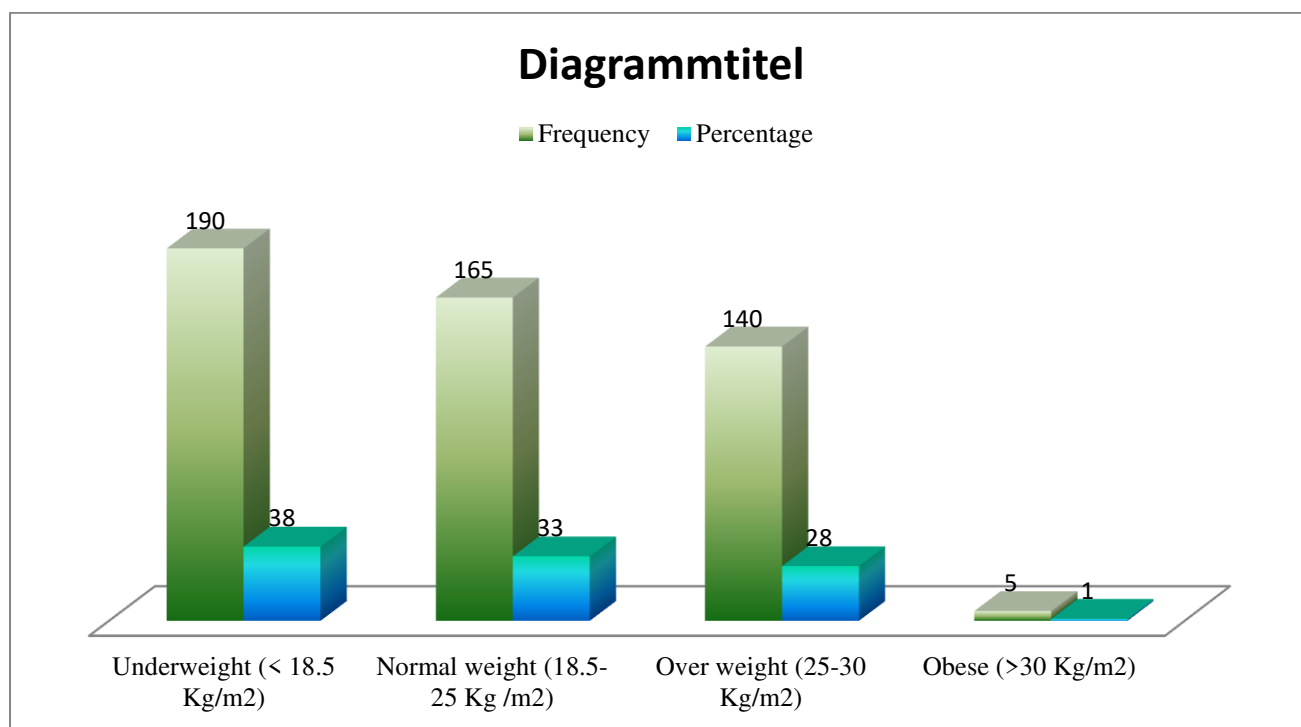Fig.2. Pie-chart showing the frequency and percentage of pain.

Frequency and Percentage of BMI

Fig.3. Pie-chart showing the frequency and percentage of BMI.

Correlation between Menstrual pain and BMI

Correlation	BMI	Menstrual pain	Interpretation	p-value
BMI	1	.800	Strong	.0001
Menstrual pain	.800	1		

Since the p-value is greater than .75 level of significance, the values are significant and there was a strong correlation between menstrual pain and body mass index (BMI).
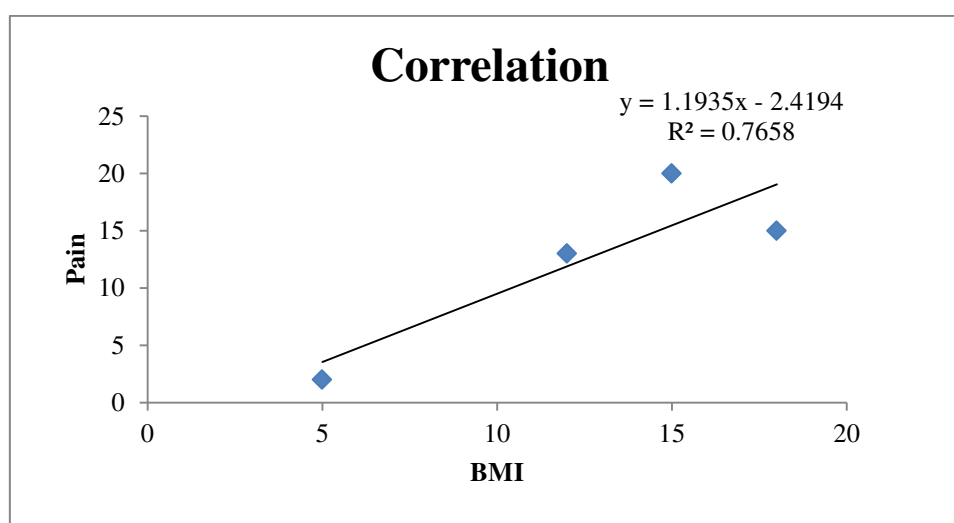

Fig.4. shows the association between BMI and menstrual pain among selected adolescent girls IN SGT university.
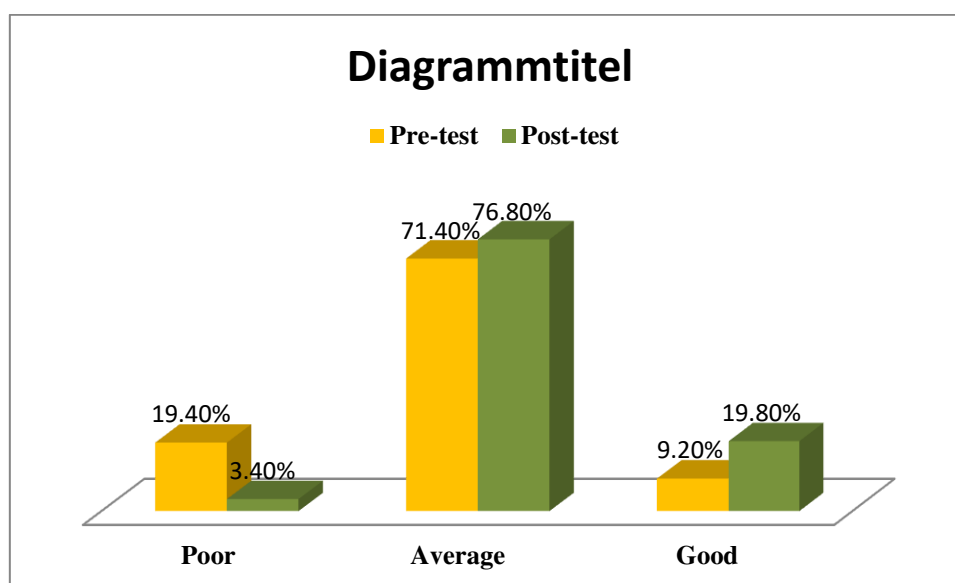
Pre & Post-test knowledge level

Fig.12. shows pre and post-test knowledge level of nursing students about menstrual pain.

V. DISCUSSION

Total sample of 500 adolescent girls were selected by using purposive sampling technique from recognized departments of SGT University like department of nursing, department behavioral science, department of agriculture, department of engineering, department of physical science etc. Before collection of final data were taken informed consent from adolescent girls. Therefore the data of the final study was collected and analyzed by using descriptive and inferential statistics. Calculation of frequency, percentage, mean, standard deviation, chi-square, t-test was done. The data has been presented in the form of table, bars and pie diagrams. The prevalence of dysmenorrhea was 82%, with mild dysmenorrhea in 61%, with moderate dysmenorrhea in 13%, and with severe dysmenorrhea in 8%. Which was found as significant at p value <0.05.

VI. CONCLUSION

After the detailed analysis, this study leads to following conclusion that the prevalence of BMI was underweight 38%, normal 33%, overweight 28% and obese 1%.The 9.2% adolescent girls had good knowledge, poor knowledge 19.4% and 71.4% adolescent girls had average knowledge in pre test. The 19.8% adolescent girls had good knowledge, Poor knowledge 3.4% and 76.8% adolescent girls had average knowledge in post test regarding care during menstruation. Our study establishes a positive correlation between dysmenorrheal in adolescents and low & high BMI reflecting their poor and junk dietary intake. In this study demographic variables such as general education was 0.001 showing highly association with knowledge at the level of significance of p<0.05 level of significance. Hence, it was proven that research hypothesis was accepted.

CONFLICT OF INTEREST:-Nil.

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