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A study to evaluate the effectiveness of Jacobson progressive muscle relaxation technique (JPMRT) on relief of premenstrual syndrome (PMS) among girls at selected colleges in Bengaluru

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Abstract
Adolescence is a time when people develop, and females in that reproductive age group have a variety of changes and growing obstacles. As a result of these changes menstruation occurs which is normal and usual process in every adolescent girls. And majority of the girls will suffer with the premenstrual syndrome. The prevalence of PMS is increasing and knowledge about management techniques are lacking among the adolescent girls. A total of 350 adolescence girls were selected for the study and convenient sampling technique is used to allocate the study subjects in experimental one group pretest and posttest group. The knowledge and PMS symptoms was assessed through structured questionnaire and modified PSST tool. The intervention for the study selected was Jacobson's progressive muscle relaxation technique. The results of the study revealed that the pretest mean score 79.44±15.616 after intervention in post-test mean score is 53.73±13.204. Analysis of paired t test was done showed significant difference between pretest and posttest mean score of subjects as the P value is <0.001. findings of paired t test were interpretated that significant difference was found between before and after test scores with paired t value, t (31.319), p = <0.001. Hence, it proved by this study that JPMRT is effective technique in relieving the symptoms of PMS among adolescence girls.

Keywords: JPMRT, PMS, adolescence

Introduction
In this study research scholar has identified the need of creating awareness among pre university college adolescents girls effectiveness of jacobson progressive muscle relaxation technique relief of premenstrual syndrome. Researcher has observed unawareness symptoms of pre menstrual syndrome among adolescent girls through her experience. The research topic chosen is on the basis of the experience in the field of OBG and has been studied by her extensively.

Adolescence are one of the major group comprising in the population. Adolescence is the period where we can see the tremendous changes in the body as well as in mind. Especially the marked growth can be seen in the girls, puberty plays vital role in it. Menstruation is one of the common change that can be seen in every girl's life. But many girls will suffer with the one common major problem prior to the menstruation that is premenstrual syndrome.

Premenstrual syndrome is one of the typical problem which is faced by millions of girl's around the world. Which will present the symptom before onset of menstruation. Few may exhibit the mild symptoms and some may have severe PMS symptoms. The syndrome comprises symptoms like leg cramps, breast tenderness, and headache, sleep disturbance, etc. It is important to have knowledge about the management of premenstrual syndrome. And JPMRT is one of the effective technique to relieve symptoms of PMS.

Health and wellbeing of adolescent girls must be considered as important need and requirement. Adolescent girls develop many unhealthy practices like non prescribed medication. Insufficient exercises, excess usage of medication absenteeism which may lead to social deformity. Nurses must create awareness symptom of premenstrual syndrome among adolescent girls in enhancing the knowledge regarding effectiveness of JPMRT.

Objectives

Primary objectives

1. To find out the incidence of premenstrual syndrome among girls.
2. To assess the pre-existing symptoms of premenstrual syndrome among girls at a selected P U college.
3. To find out the pre-existing knowledge of premenstrual syndrome among girls at a selected P U college.
4. To design and develop interventional technique on premenstrual syndrome and assessment of quality of life.

Secondary objectives

1. To implement Jacobson relaxation technique among girls in terms of reducing the premenstrual syndrome after the interventional technique.
2. To determine the effectiveness of Jacobson relaxation technique among girls to reduce the premenstrual syndrome after the interventional technique.
3. To compare the post test scores with pre-test scores on behavioral outcomes of Jacobson relaxation technique in terms of reducing the premenstrual syndrome among the girls.
4. To evaluate the association of Jacobson relaxation technique on behavioral outcome in reducing the premenstrual syndrome with quality of life among the girls with their selected variables
5. To develop the interventional technique on premenstrual syndrome management with regards to reducing symptoms among girls.

Methodology

A quasi experimental study design was adopted the study was conducted among all the PU university college in Bangalore. The sample size was calculated based on the pilot study findings. A total of 350 girls who fulfilled the inclusion criteria were screened and recruited for the study using a nonprobability purposive sampling technique. The study was approved by the research and ethics committee of the institution. Written informed consent was obtained from the girls who fulfilled the inclusion criteria. Modified PSST was used to collect data. The scale consists of 40 ems that include physical symptoms, psychological symptoms and psycho social symptoms. Each items has two alternative answers which include yes or no. further yes includes mild, moderate and severe categories. Each response carries one mark. The maximum score is 120 and the minimum score is one. The total score ranges from 1 to 120 which is further arbitrarily divided in to three level.

Reliability is calculated by using Karl Pearson s co-efficient of correlation formula. The reliability of modified PSST to determine the knowledge of adolescence girls regarding symptoms of premenstrual syndrome was r=0.82. The values exhibited that there was a high degree of correlation. This indicated that tools were found to be reliable.

Girls in the study took 20-30mins to fill the instrument. After the assessment for the severity of premenstrual syndrome a structured teaching on the Jacobson progressive muscle relaxation technique was given using power point presentation, groups comprising 30-45 girls in each session on the same day of assessment. They were then reassessed for the severity of the PMS of JPMRT after a period of 6 days, using the same tool. Frequency distributions were used to describe demographic variables. Paired t test was used to compare the severity of symptoms in regard to the pretest and posttest list scores. The chi-square list were used to determine the difference in between PMS and demographic variables respectively with level of statistical significance $p<0.05$

Data Collection

The data were collected for 1 month from the adolescence girls who fulfilled the inclusion and exclusion criteria. An informed written consent were obtained from the each study subjects. By using convenient sampling technique the study subjects were selected and finalized.

For the data collection the tool is used under the study for assessing the knowledge structured questionnaire and modified PSST to assess the symptoms and severity of the study. The data collected were represented using descriptive and inferential statistics. Comparison between pretest and posttest was done by using independent sample t-test. The association of premenstrual symptoms and sociodemographic data was assessed using chi-square test.

Results and Discussion

Demographic variables Information related to demographic data were collected using proforma which was prepared by the research scholar. Data analysis was carried out. Frequency and percentage distribution of subjects was done and it was planned and arranged under the following headings – Age- Majority 215 (61.4%) subjects were aged between 18-21 years. Religion- among 350 participants, 141(40.3%) samples were Christian. Language known- 253 (72.3%) samples were aware of English language. Type of family- 234 (66.9%) samples belonged to nuclear family. Mothers' education- 135 (38.6%) subjects mothers had their educational level was up to high school. Fathers' education- 139 (39.7%) subjects' fathers' educational level was up to higher secondary. Mothers' occupation- 114 (32.6%) participants' mothers were government employee. Fathers' occupation- 157 (44.9%) subjects' fathers were government employee. Family income per month- 144 (41.1%) participants had their family income per month was Rs. 5001-15000. Types of diet- 127 (36.3%) samples were having mixed type of diet. Bad habits- 293 (83.7%) samples were having other types of habits. Do you exercise- Among 350 subjects, 225 (64.3%) subjects were exercising intermediately once or twice a week. Weight- A total of 350 subjects, 172(49.1%) subject's weight between 36-40 kg. Source of information – 186 (53.1%) samples had their source of information from mass media.

Part – B Gynecological data of participants

The third objective of the study is to find out the pre-existing knowledge of premenstrual syndrome among girls at a selected P U college. Age of attainment of first menstrual syndrome - A total of 350 subjects, 149 (42.6%) participants age attainment of first menstrual period was between 12-14 years. Menstrual cycle with duration- Among 350 subjects, 180 (51.4%) subject's menstrual cycle with duration was 3-5 days. History of PMS in family- Majority 262 (74.9%) subjects had history of PMS in their family. Pain intensity- Majority 178 (50.9%) subjects were having mild pain during PMS. Previous knowledge on progressive muscle relaxation. Majority 209 (59.7%) subjects were not having any previous knowledge on JPMRT.

How many days you have PMS- Among 350 subjects, 233 (66.6%) subjects were having PMS between 1-3 days. How many pads changed/day- Majority 177 (50.6%) subjects were changing less than 4 pads/day.

Data was collected using modified PSST to assess the symptoms of premenstrual syndrome. To find the significance of difference between pretest and posttest mean scores, paired t test was computed. The pretest mean score 79.44±15.616 after intervention in post-test mean score is 53.73±13.204. Analysis of paired t test was done showed significant difference between pretest and posttest mean score of subjects as the P value is <0.001. findings of paired t test were interpretated that significant difference was found between before and after test scores with paired t value, t (31.319), p = <0.001.

The study findings revealed the pretest mean score 79.44±15.616 after intervention in post-test mean score is 53.73±13.204. Analysis of paired t test was done showed significant difference between pretest and posttest mean score of subjects as the P value is <0.001. findings of paired t test were interpretated that significant difference was found between before and after test scores with paired t value, t (31.319), p = <0.001. The pretest mean score 49.52±5.881 after intervention in first post-test mean score is 72.42±5.126 and in post-test two mean score is 68.70±3.528.

Association between posttest premenstrual scores of adolescent girls and their selected socio demographic variables after intervention. Chi-square test was computed to find the association. As per the research findings, it is shown that after test scores of adolescent girls regarding PMS and their socio demographic variables are not associated with each other. The calculated chi square values for post-test score of adolescent girls regarding PMS and their demographic variables depicts no significant association and P value >0.01.

Table 1: Frequency and percentage of severity of premenstrual syndrome among girls before the intervention
n=350

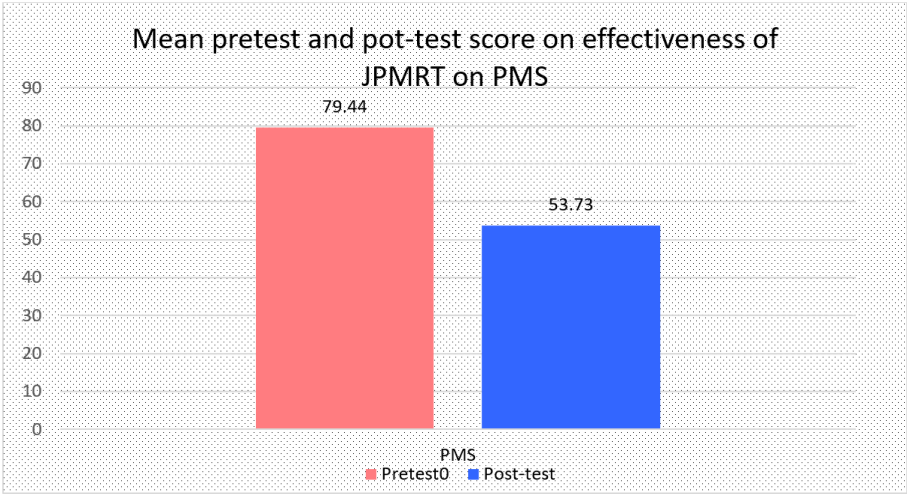
Severity of PMS	Before Intervention	
	Frequency	Percentage
Mild	1	.3
Moderate	173	49.4
Severe	176	50.3
Total	350	100.0

Table 2: Frequency and percentage of severity of premenstrual syndrome among girls after the intervention.
n=350

Parameter	Severity of PMS after the Intervention	
	Frequency	Percentage
Mild	23	6.6
Moderate	314	89.7
Severe	13	3.7

Table 3: Assessment of the mean before and after test on effectiveness of JPMRT on symptom relief among girls experiencing PMS.
n=350

Variable	Pretest		Post test		t Value	P Value
	Mean	SD	Mean	SD		
Premenstrual syndrome	79.44	15.616	53.73	13.204	31.319	<0.001



Graph 1: Assessment of the mean before and after test on effectiveness of JPMRT on symptom relief among girls experiencing PMS.

The response of subjects is collected and coding done for the responses, data is tabulated and concluded. Out of 350 girls, majority of the adolescent girls reported that their symptoms of PMS are reduced and QoL is improved after exposure to JPMRT when compared to pretest scores.

Limitation

1. The adolescent girls' responses are restricted to the tools' items and the pre- and post-test evaluations conducted for the research.
2. Due to the survey form's lack of consistency, researchers had to create their own instruments for evaluating adolescent girls' PMS symptoms.
3. There is no control group in the current study; it just has an experimental group.
4. Selected private Pu colleges in Bengaluru were the site of the current study.
5. Adolescent females at chosen high schools between the ages of 14 and 16 are included in the current study.

Conclusion

The researcher concluded that premenstrual syndrome is an important health problem among university students and it adversely affects quality of life of the students. Majority of the adolescent girls reported that their symptoms of PMS are reduced and QoL is improved after exposure to JPMRT. And studies should be conducted to improve the quality of life among adolescents who is suffering with PMS.

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