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Research Article

"A STUDY TO ASSESS THE PREVALENCE AND KNOWLEDGE OF PRE MENSTRUAL SYNDROME AMONG THE ADOLESCENT GIRLS IN SELECTED SCHOOL OF GUWAHATI, ASSAM"

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A R T I C L E   I N F O

A B S T R A C T

Menarche and menstruation are two important aspects of a woman's life[1]. Pre Menstrual Syndrome is a common disorders in women in which a group of physical and psychological symptoms occurs during the last few days of menstrual cycle and before the onset of menstruation[2]. In world PMS manifestations are high similar to very nearly 80-90% in which 5% are women who endure extremely and it affect their daily routine. 25% of immature young woman experienced PMS and PMS among profoundly instructed women are normal and expanded plausibility of worry with PMS is likewise observed. Commonness of PMS substantially more in age gathering of 15-49 years and between 90% of the women everywhere throughout the world[3]. In India, 75% of women have some symptoms, 30-40% suffers from impairments' in their daily activities and 3-8% has severe Pre Menstrual Syndrome. About half of them have experienced 3 or more symptoms and 1 in 20 may require treatment. In India, 95% of adolescent girls have at least one symptoms of Pre Menstrual Syndrome and 89.8% have more than one symptoms of Pre Menstrual Syndrome[4].

Aim: The aim of the study was to assess the prevalence and knowledge of Pre Menstrual Syndrome among the adolescent girls in selected school of Guwahati, Assam.

Method And Material: The research approach adopted for the study was quantitative approach. Non-experimental descriptive research design was used in this study. Convenient sampling technique was used to select the samples. The sample size was 109 adolescent girls from class VIII, IX and X who fulfilled the inclusion criteria. Study was conducted in selected schools in Guwahati, Assam. The tools used for the study were semi structured questionnaire to assess the prevalence and knowledge of Pre menstrual syndrome. The technique used was self report.

Result: Out of 109 respondents, majority i.e. 73(66.97%) respondents had moderately adequate knowledge, 33(30.27%) respondents had adequate knowledge and three (2.75%) respondents had inadequate knowledge level. Out of 109 respondents, majority i.e. 85 (78%) had irritability, 51 (47%) had headache, 49 (45%) had abdominal bloating, 45 (41%) had anger, 38 (35%) had social withdrawal, 35 (32%) had breast tenderness, 33 (30%) had depression, 26 (24%) had confusion, 23 (21%) anxiety and only 21 (19%) had swelling of hands and feet.

Conclusion: From the study it was concluded that out of 109 respondents, majority i.e. 73(66.97%) respondents had moderately adequate knowledge. As to the association of prevalence and knowledge no association were found, in the association of prevalence and demographic variables, physical symptom (breast tenderness) was associated with Pre Menstrual problems faced. Emotional symptoms (anger, anxiety and social withdrawal) were associated with restriction of activity during Pre Menstrual Syndrome. In the association of knowledge and demographic variables significant association was found with previous knowledge of Pre Menstrual Syndrome and Educational activities affected during Pre Menstrual Syndrome.

INTRODUCTION

Adolescence comes from the Latin word 'adoloscere' which means 'to come to maturity'. It is a period of dramatic growth and development. A process of transition from childhood to adulthood. Physical distinction between the sexes become apparent during puberty, but sexual maturity in girls however generally associated with menarche, the onset of menstruation[1]. Pre Menstrual Syndrome is a common disorders in women in which a group of physical and psychological symptoms occurs during the last few days of menstrual cycle and before the onset of menstruation.

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Pre Menstrual Syndrome is extremely variable in its clinical manifestation. Variations are common between women, from one cycle to another. Commonly occurring physical symptoms include breast discomfort, peripheral edema, abdominal bloating, sensation of weight gain, episodes of binge eating, and headache. Symptoms of autonomic nervous system arousal e.g. heart palpitation, dizziness have been reported by women with PMS. Anxiety, depression, irritability and mood swings are some of the emotional symptoms that women may experience[2]. Nearly 80% of women report one or more symptoms that do not substantially affect daily functioning, according to the Journal American Family Physician. Twenty to 32% of women report moderate to severe symptoms that affect some aspect of life. Three to 8% report PMDD. The severity of symptoms can vary by individual and by month[5].

Objective

1. To assess the Prevalence of Pre Menstrual Syndrome among adolescent girls in selected school of Guwahati, Assam.
2. To assess the Knowledge on Pre Menstrual Syndrome among adolescent girls in selected school of Guwahati, Assam.
3. To find out the association between Prevalence and Knowledge of Pre Menstrual Syndrome among adolescent girls in selected school of Guwahati, Assam.
4. To find out the association of Prevalence on Pre Menstrual Syndrome among the adolescent girls in selected school of Guwahati, Assam with their selected demographic variables.
5. To find out the association of Knowledge on Pre Menstrual Syndrome among the adolescent girls in selected school of Guwahati, Assam with their selected demographic variables.

REVIEW OF LITERATURE

Mr. Tibin Joseph, *et al*. (2016), conducted a study to assess the prevalence of Premenstrual Syndrome among adolescent girls in selected college, Thrissur. A non experimental descriptive survey design was used in this study as research approach and tool adopted for this study was a modified standardized premenstrual syndrome scale. 60 samples were selected using cluster sampling technique. Out of 60 samples, 10% had PMS, 75% had mild PMS, 15% had moderate PMS and no one experienced severe PMS. Outburst (97.7%) and breast tenderness (74.4%) [6].

Aditya Prasad Sarkar, *et al*. (2015), conducted a descriptive study to assess the prevalence of PMS among adolescent girl students in a rural school of West Bengal, India. Multistage random sampling method was to select 244 students. PMS was reported by 61.5% of girls. Of the affective symptoms in ACOG criteria, 62.7% girls reported depression and 70.5% girls' anger. Irritability was reported to be as high as 84.8%. Anxiety and confusion were reported by 76.0% and 66.8% adolescent girls, respectively. Headache and abdominal distension were reported by around 55% students. Only 14.7% of them reported limb swelling in premenstrual period [7].

Pathak K, *et al*. (2017), conducted a study to assess the knowledge regarding psychological problems of premenstrual syndrome and its management among adolescent girls at selected PU college of Belgaum City. The samples selected were adolescents in the age group 15-17 years, using simple random sampling 80 adolescents were taken. The result revealed that the maximum number of adolescent girls 66 (83%) had average knowledge, 10 (13%) had good knowledge and 2 (3%) had poor knowledge [8].

RESEARCH METHODOLOGY

Research approach: Quantitative research approach

Research design: Descriptive research design

Research variable: Prevalence and Knowledge

Demographic variables: Age, Educational level, Religion, Age of attainment of first Menstruation, Educational status of Mother, Educational status of Father, Monthly income of Parents, Previous knowledge of Pre-Menstrual Syndrome, Experience of Pre-Menstrual problems, Family history of Pre-

Menstrual Syndrome, Problem faced with educational activities, Relationship mostly affected and Activities restricted during Pre-Menstrual Syndrome.

Setting of the study: Kendriya Vidyalaya, IOC, Noonmati, Guwahati, Assam.

Population of the study: Adolescent girls

Target population: adolescent girls who have already attained menarche.

Accessible population: adolescent girls who have already attained menarche studying in Class VIII to Class X in selected schools of, Guwahati, Assam.

Sample: adolescent girls who fulfill the inclusion criteria.

Sample size: 109 adolescent girls.

Sampling technique: Non Probability Convenience sampling technique.

Tools and technique: Semi-structured questionnaire to assess the Knowledge, semi-structured items to assess the Prevalence. The technique used in this study was Self-report.

Validity of the tool: Validity of the tool was established from 1 expert of Obstetrics and Gynecology, 3 experts from Obstetrical and Gynecological Nursing, 1 expert from Community Medicine and 2 experts from Community Health Nursing.

Reliability of the tool: the reliability of the tool was obtained by using Split half method for knowledge questionnaire and Test-retest method was used for prevalence. The reliability of knowledge was 1 and the prevalence items were also found to be reliable to proceed with the main study.

Pilot study report: The pilot study was conducted 18th to 23th June, 2018. Pilot study was conducted with 10% of the total sample size that is 15 students from Class VIII to X.

Main study: 2nd- 28th July, 2018.

RESULTS

Section I

Distribution of the adolescent girls according to their demographic variables.

Table I Frequency and percentage distribution of respondents according to their age

n=109

Age	Frequency	Percentage
13 years	25	23%
14 years	42	38%
15 years	38	35%
16 years and above	4	4%
TOTAL	109	100%

Table I: Shows that out of 109 respondents, majority i.e. 42 (38%) respondents were 14 years, 38 (35%) respondents were 15 years, 25(23%) respondents were 13 years, and only four (4%) were 16years and above.

Table II Frequency and percentage distribution of respondents according to their educational level

n=109

Educational level	Frequency	Percentage
Class VIII	29	27%
Class IX	43	39%
Class X	37	34%
TOTAL	109	100%

Table II Shows that out of 109 respondents, majority i.e. 43(39%) respondents were in Class IX, 37 (34%) respondents were in Class X, and only 29(27%) respondents were in Class VIII.

Table III frequency and percentage distribution of respondents according to their religion

n=109

Religion	Frequency	Percentage
Hindu	99	91%
Muslim	8	7%
Christian	2	2%
Others	0	0%
TOTAL	109	100%

Table III: Shows that out of 109 respondents, majority i.e. 99 (91%) respondents were Hindu, eight (7%) respondents were Muslim, and only two (2%) respondents were Christian and there were no other religions.

Table IV Frequency and percentage distribution of respondents according to their age of attainment of first menstruation

n=109

Age of attainment of first menstruation	Frequency	Percentage
<10 years	9	8%
10-12 years	74	68%
13-15 years	26	24%
TOTAL	109	100%

Table IV: Shows that out of 109 respondents, majority i.e. 74(68%) respondents had their first menstruation in 10-12 years, 26 (24%) respondents had their first menstruation in 13-15 years, and only nine (8%) respondents had their first menstruation in <10 years of age.

Table V Frequency and percentage distribution of respondents according to their educational status of mother

n=109

Educational status of mother	Frequency	Percentage
Illiterate	1	1%
Primary	0	0%
Middle school	10	9%
High school	21	19%
Secondary	56	52%
Graduate and above	21	19%
TOTAL	**109**	**100%**

Table V: Shows that out of 109 respondents, majority i.e. 56 (52%) respondents mother were educated up to secondary,21 (19%) respondents mother were educated up to high school, 21 (19%) respondents mother were graduate and above, ten (9%) respondents mother were educated up to middle school, one (1%) respondent mother was Illiterate, and none of their mothers were educated up to primary.

Table VI Frequency and percentage distribution of respondents according their Educational status of father

n=109

Educational status of father	Frequency	Percentage
Illiterate	2	2%
Primary	0	0%
Middle school	8	7%
High school	17	15%
Secondary	29	27%
Graduate and above	53	49%
TOTAL	109	100%

Table VI: Shows that out of 109 respondents, majority i.e. 53 (49%) respondents father were graduate and above,29 (27%) respondents father were educated up to secondary, 17 (15%) respondents father were educated up to high school, eight (7%) respondents father were educated up to middle school, two (2%) respondents father were illiterate and none were educated up to primary.

Table VII Frequency and percentage distribution of the respondents according to the monthly income of the parents

n=109

Monthly income of parents	Frequency	Percentage
Below Rs 15,000	8	7%
Rs 15,001-Rs 20,000	13	12%
Rs 20,001-Rs 25,000	17	16%
Rs 25,001 and above	71	65%
TOTAL	109	100%

Table VII: Shows that out of 109 respondents, majority i.e. 71 (65%) respondents family income were Rs 25,001 and above,17 (16%) respondents family income were Rs 20,001-Rs 25,000, 13 (12%) respondents family income were Rs 15,001-Rs 20,000 and eight (7%) respondents family income were below Rs 15,000.

Table VIII Frequency and percentage distribution of the respondents according to the previous knowledge of pre menstrual syndrome

n=109

Previous knowledge	Frequency	Percentage
Yes	65	60%
No	44	40%
TOTAL	109	100%

Table VIII: Shows that out of 109 respondents, majority i.e. 65 (60%) respondents had previous knowledge of Pre Menstrual Syndrome whereas; 44 (40%) respondents did not have previous knowledge.

Table IX Frequency and percentage distribution of the respondents according to their source of information.

n=109

Source of information	Frequency	Percentage
Mass media	6	9%
Books	4	6%
Friends	14	22%
Parents and Family members	34	52%
Health care personnel	7	11%
Others	0	0%
TOTAL	65	100%

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Table IX: Shows that out of 65 respondents, majority i.e. 34(52%) respondents got information from parents and family members, 14 (22%) respondents got information from friends, seven (11%) respondents got information from Health care Personnel, six (9%) respondents got information from mass media, four (6%) respondents got information from books and none got information from others.

Table X Frequency and percentage distribution of the respondents according to the pre menstrual problems experienced.

n=109

Pre menstrual problems experienced	Frequency	Percentage
Yes	56	51%
No	53	49%
TOTAL	109	100%

Table X: Shows that out of 109 respondents, majority i.e. 56 (51%) respondents experienced Pre Menstrual problems whereas; 53 (49%) respondents did not experience Pre Menstrual problems.

Table XI Frequency and percentage distribution of the respondents according to the pre menstrual problems faced.

n=109

Pre menstrual problems faced	Frequency	Percentage
Abdominal pain	31	55%
Breast Tenderness	6	11%
Back pain	13	23%
Others	6	11%
TOTAL	56	100%

Table XI: Shows that out of 56 respondents, majority i.e. 31 (55%) respondents experienced abdominal pain, 13 (23%) respondents experienced back pain, six (11%) respondents experienced breast tenderness and only six (11%) respondents experienced others (headache, vomiting, leg pain and body ache).

Table XII Frequency and percentage distribution of the respondents according to the family history of premenstrual syndrome.

n=109

Family history of pre menstrual syndrome	Frequency	Percentage
Yes	42	39%
No	67	61%
TOTAL	109	100%

Table XII: Shows that out of 109 respondents, majority i.e. 67 (61%) respondents did not have family history of Pre Menstrual Syndrome whereas; 42 (39%) respondents had family history of Pre Menstrual Syndrome.

Table XIII Frequency and percentage distribution of the respondents according to their educational activities affected.

n=109

Educational activity affected	Frequency	Percentage
Lack of concentration	64	59%
Work performance	22	20%
Writing exams/Tests	4	4%
Absenteeism/Remaining absent	11	10%
Lack of motivation	8	7%
TOTAL	109	100%

Table XIII: Shows that out of 109 respondents, majority that i.e. 64 (59%) respondents had lack of concentration, 22 (20%) respondents had poor work performance, 11 (10%) respondents had absenteeism, eight (7%) respondents had lack of motivation, and only four (4%) respondents had problem with writing exam.

Table XIV Frequency and percentage distribution of the respondents according to the relationship affected during pre menstrual syndrome

n=109

Relationship affected	Frequency	Percentage
With friends	23	21%
With family	29	27%
Social withdrawal	57	52%
TOTAL	109	100%

Table XIV: Shows that out of 109 respondents, majority i.e. 57 (52%) respondents had social withdrawal, 29 (27%) respondents relationship with family were affected and only 23 (21%) respondents relationship with friends were affected.

Table XV Frequency and percentage distribution of the respondents according to the restriction in activities during pre menstrual syndrome.

n=109

Relationship affected	Frequency	Percentage
With friends	23	21%
With family	29	27%
Social withdrawal	57	52%
TOTAL	109	100%

Table XV: Shows that out of 109 respondents, majority i.e. 75 (69%) respondents did not have restriction in activities whereas; 34 (31%) respondents had restriction.

Table XVI Frequency and percentage distribution of the respondents according to the activities restricted during pre menstrual syndrome.

n=109

Activities restricted	Frequency	Percentage
Sports/Play	23	68%
Running	5	15%
Others	6	17%
TOTAL	34	100%

Table XVI: Shows that out of 34 respondents, majority i.e. 23 (68%) respondents restricted sports/play, six (17%) restricted other activities like jumping, exercise going to temple and only five (15%) restricted running.

Section-II Assessment of Prevalence of Pre Menstrual syndrome among the adolescent girls.

Table XVII Frequency and percentage distribution of the respondents according to the presence of symptoms.

n=109

Symptoms	Frequency	Percentage
Breast Tenderness	35	32%
Headache	51	47%
Abdominal Bloating	49	45%
Swelling of hands and feet	21	19%
Anger	45	41%
Anxiety	23	21%
Irritability	85	78%
Depression	33	30%
Confusion	26	24%
Social Withdrawal	38	35%

Table XVII: Shows that out of 109 respondents, majority i.e. 85 (78%) had irritability, 51 (47%) had headache, 49 (45%) had abdominal bloating, 45 (41%) had anger, 38 (35%) had social withdrawal, 35 (32%) had breast tenderness, 33 (30%) had depression, 26 (24%) had confusion, 23 (21%) anxiety and only 21 (19%) had swelling of hands and feet.

Supporting Study

Zehra Sitwat, *et al*. (2013), conducted a cross-sectional study to assess the prevalence of premenstrual syndrome among university students in Karachi, Pakistan. 520 subjects were selected, the PMS and menstrual data were collected from prism calendar and symptom-thermal chart. The subjects were grouped as control (208) and PMS patients (312). The common symptoms reported were fatigue (86.84%), irritability (71.05%), breast tenderness (67.65%), appetite down (51.47%), abdominal bloating (47.06%), appetite up (42.65%), bowel constipation (36.76%), aggressiveness (29.41%), loose bowel (17.65%), insomnia (14.71%), depression (13.24%), anger (7.35%), and labile mood (5.88%)[10].

Section III
Assessment of knowledge score of the adolescent girls regarding Pre Menstrual Syndrome

Table XVIII Assessment of knowledge of the adolescent girls regarding pre menstrual syndrome

n=109

Level of knowledge	Frequency	Percentage
Inadequate (<33%) (<5)	3	3%
Moderately adequate (33%-66%) (5-11)	73	67%
Adequate (>66%) (>11)	33	30%
TOTAL	109	100%

Table XVIII: Shows that out of 109 respondents, majority i.e. 73 (67%) respondents had moderately adequate knowledge, 33 (30%) respondents had adequate level of knowledge and only three (3%) respondents had inadequate level of knowledge. The results are shown in cone diagram in figure 1.
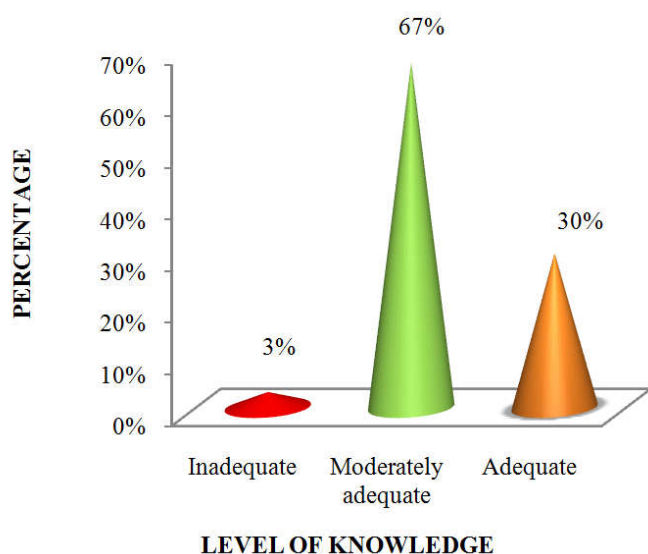

Figure 1 Cone diagram showing percentage distribution of the respondents according to their level of knowledge.

Supporting Study

Supritha K Vani, *et al*. (2015), conducted a descriptive study to assess the knowledge of premenstrual syndrome among undergraduate in selected colleges of Karnataka. The study was conducted on 1010 undergraduates of private degree colleges of Udipitaluk using purposive sampling technique. The data was collected using demographic variables self evaluation questionnaire and knowledge questionnaire on PMS. The result showed that only 18 (1.8%) had good knowledge, 453 (44.9%) had poor knowledge and majority 539 (53.4%) had average knowledge regarding PMS[9].

Section- IV

1. Association between prevalence and knowledge of the adolescent girls regarding Pre Menstrual Syndrome.

The result shows that prevalence and knowledge are not associated to each other

2. Association between prevalence of pre menstrual syndrome among the adolescent girls with their selected demographic Variables.

Table XIX Association between prevalence of pre menstrual syndrome among the adolescent girls with their selected demographic Variables.

n=109

Physical Symptoms	Demographic Variables	Remark
Breast Tenderness	Pre Menstrual problems faced	S
Headache	-	NS
Abdominal Bloating	-	NS
Swelling of hands and feet	-	NS

Emotional Symptoms	Demographic Variables	Remark
Anger	Restriction of activities during Pre Menstrual Syndrome	S
Anxiety	Restriction of activities during Pre Menstrual Syndrome	S
Irritability	-	NS
Depression	-	NS
Confusion	-	NS
Social Withdrawal	Restriction of activities during Pre Menstrual Syndrome	S

Table XIX: Shows that physical symptom (breast tenderness) was associated with Pre Menstrual problems faced and emotional symptoms (anger, anxiety and social withdrawal) was associated with restriction of activity during Pre Menstrual Syndrome.

3. Association between knowledge of the adolescent girls regarding pre menstrual syndrome with their selected demographic Variables.

Table XX Association between knowledge of the adolescent girls regarding pre menstrual syndrome with their selected demographic Variables.

n=109

	Demographic variables	Calculated chi square value	df	Remark
1.	Age	0.012	1	NS
2.	Educational level	3.42	2	NS
3.	Age of attainment of first menstruation	0.28	1	NS
4.	Educational status of mother	2.56	1	NS
5.	Monthly income of parents	3.80	1	NS
6.	Previous knowledge of pre menstrual syndrome	4.41	1	S
7.	Pre menstrual problems faced	3.48	1	NS
8.	Family history of Pre menstrual syndrome	1.34	1	NS
9.	Educational activities affected during pre menstrual Syndrome	3.86	1	S
10.	Relationship mostly affected during pre menstrual syndrome	2.42	1	NS
11.	Restriction of activities during pre menstrual syndrome	0.06	1	NS

Table XX: Shows that previous knowledge of pre menstrual syndrome and Educational activities affected during pre menstrual Syndrome are significantly associated at 0.05 level of significance.

CONCLUSION

In conclusion it was found that out of 109 respondents, majority i.e. 73(66.97%) respondents had moderately adequate knowledge, 33(30.27%) respondents had adequate knowledge and three (2.75%) respondents had inadequate knowledge level.

As to the association of prevalence and knowledge no association were found, in the association of prevalence and demographic variables, physical symptom (breast tenderness) was associated with Pre Menstrual problems faced. Emotional symptoms (anger, anxiety and social withdrawal) were associated with restriction of activity during Pre Menstrual Syndrome. In the association of knowledge and demographic variables significant association was found with previous knowledge of Pre Menstrual Syndrome and Educational activities affected during Pre Menstrual Syndrome.

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