

A Study to Assess the Premenstrual Symptoms among Adolescent Girls Studying in B. V. V. S Girls High School of Bagalkot

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Abstract: Background: Menstrual cycle is an important indicator of women's reproductive health. However, menstruation has a different pattern within a few years after menarche, which might not be well understood by many adolescent girls and now a days many of the adolescent girls are having premenstrual symptoms. Aims: The aim of the study was to assess the premenstrual symptoms among adolescent girls studying at selected high schools of Bagalkot. Materials and Methods: A descriptive study was conducted on 160 adolescent girls aged from 13 years and 17 years and above. Standard scale to assess the symptoms of premenstrual tension syndrome scales were used to obtain relevant data. The categorical data were analyzed using Chi - square test. Results: Percentagewise Age of menstruating girls was 13 - 14 years age group 56.25%. The 37.5% regular cycle and 62.5% irregular cycle were as had cycle duration of 36 - 40 days 50%. More than half of them reported 5 days' duration of menstrual blood flow and 62.5%. The 37.5% of the participants had 3 - 5 days of flow. Long blood flow duration was more prevalent in early than in late adolescence. The 10thstd students 56.25% were as 90 participants reported. Menstrual cycles tend to be shorter in early adolescence period. The area of residence 68.75% were as rural areas. chi -square test was calculated to assess the association between premenstrual syndrome and selected socio demographic variable of adolescent girls. Finding revealed that distribution of respondents by pre menstrual symptoms level (high, average, poor).80.6% of respondents had high knowledge and 18.7% have average and 0.625% respondents have poor knowledge. Conclusion: The finding of the study conducted that most of the adolescent girls having mild and moderate and severe level of premenstrual symptoms. This study is effective to identify the premenstrual symptoms among adolescent girls. A comprehensive school education program on premenstrual problems may help girls to cope better and seek proper medical assistance.

Keywords: Assess, Adolescence, Girls, premenstruation, symptoms

1. Introduction

Adolescence is the period of transition between puberty and adulthood. Menarche is one of the markers of puberty and therefore can be considered as an important event in the life of adolescent girls. Studies suggested that menarche tends to appear earlier in life as the sanitary, nutritional, and economic conditions of a society improve. [1, 2] For most females, it occurs between the age of 10 and 16 years; however, it shows a remarkable range of variation. [3] The normal range for ovulatory cycles is between 21 and 35 days. While most periods last from 3 to 5 days, duration of menstrual flow normally ranges from 2 to 7 days. For the first few years after menarche, irregular and longer cycles are common. [1]

Menstrual disorders are a common presentation by late adolescence; 75% of girls experience some problems associated with menstruation including delayed, irregular, painful, and heavy menstrual bleeding, which are the leading reasons for the physician office visits by adolescents. [6] Menstrual patterns are also influenced by a number of host and environmental factors. [7] However, few studies in India have described the lifestyle factors associated with various menstrual cycle patterns. We therefore surveyed the current changes in the age of menarche in India adolescents. We also evaluated general menstruation patterns, the incidence of common menstrual disorders. Historically, the age at menarche has gradually decreased by about 4 months in

every 10 - year interval. [8] Some of these menstrual characteristics, such as irregularity in the menstrual cycle, premenstrual pain and discomfort, pain and discomfort at the time of menstrual discharge, and a heavy menstrual discharge, may affect the general and/or reproductive health of a woman.

2. Materials and Methods

Study Design and Participants

Present study was cross sectional design conducted in march 2023. convenient sample of 160 adolescent girls studying in selected high schools of Bagalkot. Adolescent girls who are studying in high school and college are willing to participate in the study and who are present at the time of data collection. Adolescent girls who are not physically fit at the time of data collection are excluded from the study. A descriptive study was carried out on 160 female students recruited from the educational institutions in the urban area of Bagalkot. The selected adolescent girls were explained about the protocol and the purpose of the study and were requested to complete the questionnaires to elicit information relating to demographic features, menarche, and menstrual characteristics.

Statistical analysis: The data were analyzed using Descriptive statistics were used to determine mean and percentages wherever applicable. The categorical data were analyzed using Chi - square.

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Table 1: Levels of pre menstrual symptoms among adolescents

Levels of pre menstrual symptoms	Number	Percentage%
High	129	80.625
Average	30	18.75
Poor	01	0.625

Finding revealed that distribution of respondents by pre menstrual symptoms level (high, average, poor).80.6% of respondents had high knowledge and 18.7% have average and 0.625% respondents have poor knowledge.

3. Instruments

Premenstrual tension syndrome scale (PMTS):

Premenstrual tension syndrome scale developed by Steiner et al was used to assess the symptoms of premenstrual syndrome among adolescent girls. There are 10 items for premenstrual tension syndrome scoring of these as follows: 0 - no disturbance, 1 - doubtful, trivial, 2 - mild, 3 - moderate and 4 - severe. The reliability of the premenstrual tension syndrome for adolescent girls was established by test retest method (r = 0.97) shows equally reliable.

Table 2: Association level of pre menstrual symptoms with Socio - demographic Variables of adolescents

S No	Demographic variables	Chi - square	Df	P value
1	Age	0.5	4	0.97
2	Religion	0.5	6	0.99
3	Year of education	0.84	04	0.933
4	Educational status of father	9.61	6	0.142
5	Educational status of mother	11.86	6	0.065
6	Occupation of father	28.75	6	<.0001
7	Occupation of mother	12.76	6	0.047
8	Family monthly income	3.11	4	0.539
9	Type of family	23.97	4	<.0001
10	Area of residence	13.59	2	0.004
11	Menstrual cycle regularity	5.83	2	0.054
12	Length of menstrual cycle	2.88	1	0.089
13	Duration of menstrual flow	16.34	2	0.0003

The socio - demographic data consists of information about premenstrual syndrome adolescent girls - Age, Religion, Year of study, father’s educational status, mother’s educational status, father’s occupation, mother’s occupation, family monthly income, type of family, area of residence, menstrual cycle regularity, menstrual cycle duration, duration of menstrual flow and age at menarche.

Data Collection Procedures

Prior permissions were taken from relevant institutions before the beginning of data collection procedure. The study participants were attended class at their college during study period. Every adolescent girl who fulfilled the inclusion criteria was approached for data collection. Consent was taken from adolescent girls. Purpose of the study was explained to the participants before administration for structured questionnaire.

Table 3: Area wise mean, SD and mean percentage of pre menstrual symptoms among adolescent girls

Area	Minimum score	Maximum score	Mean	SD	Mean%
Pre menstrual symptoms	00	40	22.41	3.117	56.04%

Table 2: showing that the knowledge regarding pre menstrual symptoms among adolescent girls by using standard questionnaire or scale (PMTS). the minimum score is 00 and maximum score is 40 were as the mean was 22.41 and the SD 3.117 were as Mean 56.04%. Majority of the participants (37.5%) belonged to the families practicing others, and 43.75% of girls were from nuclear family. The girls family monthly income belonged to low (18.75 %), middle (31.25%), and high (50%) Family size of the participants varied and large among the families were less prevalent. menstrual cycle irregularity is 62.5% therefore, it is evident that irregularity of menstruation is frequent among adolescents.

4. Discussion

Adolescents comprise nearly one - fifth of the India's total population. The country also has the world's largest adolescent girl population. Menstruation and menstrual health issues which is one of the major areas of concern in reproductive health affects a large number of women throughout their reproductive life from adolescence.

The present study was conducted to explore the menstrual characteristics among the unmarried adolescents across different age groups (early and late adolescence) and to find out association with menstrual pattern. In the present study, the SD and mean was $3.11 \pm 56.04\%$ years, which is essentially similar to many other studies. Menarche age is the most widely used indicator of sexual maturation and influenced by many factors such as genetic and environmental conditions, type of family, family monthly income, and level of education. [4,]

Female anthropometry that reveals body composition has strong influence on their reproductive characteristics marked by the monarchical age. An early monarchical age is associated with increased risk for breast cancer, obesity, endometrial cancer, and uterine leiomyoma. Furthermore, several studies have reported that age at menarche may relate to subsequent reproductive performance, such as age at first intercourse, age at first pregnancy, and risk of subsequent miscarriage.

Duration of menstrual flow more than 5 days (62.5%) were as 100 participants are complained, gynecological problem associated with adolescent females. Several other studies reported its prevalence range from 25% to 90% among women and adolescents girls.

We found higher percentage of experiencing menstrual irregularity (62.5%) Majority of the participants experienced dysmenorrhea during menstruation although more than three - fourth of them had mild - to - moderate pain. However, about 50% of them complained of 36 - 40 days of flow length of menstrual cycle. Abundant menstrual blood loss was also a common problem among the adolescents in this study. The most common cause of heavy menstrual bleeding in adolescents is dysfunctional uterine bleeding related to an ovulation; therefore, it is expected to be higher in the adolescence period.

The present study showed that the premenstrual symptoms are the more in among adolescent girls and the duration of menstrual blood loss tend to become irregular and, respectively, with the increase in age, suggesting a gradual accomplishment of ovarian maturity during the time.

When we surveyed general menstruation patterns, we found that frequency of irregular menstruation was higher in early adolescence. Menstrual symptoms are a broad collection of affective and somatic concerns that occur around the time of menses. Some women manage their monthly periods easily with few or no concerns, while others experience a number of physical and emotional symptoms that may cause psychological and physical discomfort.

In the present study, occurrence rate of certain discomforts among adolescents indicates the extent of sufferings; the adolescence females undergo with each cycle of menstruation. The information suggests that treatment approaches should be developed as the target group is vulnerable (the target group was adolescents who are more vulnerable than adults).

The main objective of the present study was to find the Premenstrual tension syndrome among adolescent girls studying in high school Bagalkot.

Findings shows that majority of the adolescents girls (36%) were in the age group of 20 years. 91% of adolescent girls were Hindu. This is consistent and supported with the study conducted by **Pattanashetty N O, Mugali J et al at Gadag**. Result shows that the majority, 39 (10.1%) were Hindus.^[8]

Majority (33.5%) of them are studying in BSc II year, Most (25%) of adolescent girls fathers were graduates and above, Majority (29%) of mothers had secondary education, Majority (37.5%) of adolescent girls fathers had agriculture as a occupation, Majority (67%) of adolescents mothers were housewives.

74.5% of adolescents had income between 10, 001 - 20, 000 per month, Most (83.5%) of them were in Nuclear family and (76%) of them were residing in urban area. This is consistent and supported with the study conducted by **Bhuvanewari K, Rabindran P, Bharadwaj at Puducherry**. Result shows that majority of them (73%) were from urban areas and belonged to a nuclear family (83.3%).^[9]

Majority (77%) of adolescents were regular with their menstrual cycle. Most (48%) of them with 29 - 35 days length in their menstrual cycle. Majority (61%) of them had 3 - 5 days of menstrual flow. This is consistent and supported with the study conducted by **Tsegaye, D., Getachew, Y at Ethiopia**. Result shows that majority (52.4%) of participants reported average length of menstrual period of 4-5 days of bleeding per one cycle.^[10]

This is consistent and supported with the study conducted by **Janita P. C. Chau, Anne M. Chang et al at Hong Kong**. Result shows that majority ($\bar{x} = 5.56$, $SD = 1.14$) of adolescent girls are with 3 - 8 days of menstrual flow.^[11]

Most (30%) of adolescents attained their menarche at the age of 14. This is consistent and supported with the study conducted by **Tsegaye, D., Getachew, Y at Ethiopia**. Result shows that majority (55.5%) adolescent girls attained their menarche at the age of 13 - 15.^[10]

Findings revealed that distribution of respondents by premenstrual tension syndrome levels (mild, moderate and severe). 64.5% of respondents had mild level premenstrual tension syndrome, 35% of respondents had moderate level premenstrual tension syndrome and 0.5 % respondents had severe level premenstrual tension syndrome. This is consistent and supported with the study conducted by **P Padmavati, Sankar R et al at Erode**. Results show that majority (54%) of the samples had mild PMS, 28% as moderate and 18% of them had severe.^[12]

Findings depicts that, there was a significant association found between Age and Levels of Premenstrual tension syndrome [$\chi^2=5.35$, $P < 0.05$]. This is consistent and supported with the study conducted by **Joseph T et al at Trissure**. Results shows that there is a significant association found between age [$\chi^2=1.12$, $P < 0.05$] and premenstrual syndrome.^[13]

There was a significant association found between Mother's educational status and Levels of Premenstrual tension syndrome [$\chi^2=4.84$, $P < 0.05$], there was a significant association found between Father's occupation and Levels of Premenstrual tension syndrome [$\chi^2=6.99$, $P < 0.05$] and No significant association found between Premenstrual tension syndrome and other variables.

5. Limitation of the Study

This study is limited to adolescent girls between the age group of 13 - 22 years attending selected high schools of Bagalkot.

6. Recommendations

Based on the findings of the study the following recommendations are stated; A similar study can be undertaken with a large stratified sample including adolescent girls from different sections of society to generalize the findings. A study can be conducted to find out the prevalence of anxiety and symptoms of premenstrual syndrome among adolescent girls. A study can be carried out to evaluate the efficiency of various teaching strategies like SIM, pamphlets and computer - assisted instruction on anxiety and symptoms of premenstrual syndrome among adolescent girls.

7. Suggestions

Health professionals can conduct health education programme on anxiety and symptoms of premenstrual syndrome among adolescent girls at various places.

8. Conclusion

Pre menstrual symptoms and menstrual irregularity are more prevalent among adolescent females. Common menstrual symptoms are tiredness, backache, and headache. It appears that occurrence of dysmenorrhea is increasing in the population; such sufferings would affect the productivity among females. Therefore, it can be stated that a comprehensive school education program on menarche and menstrual problems may help girls to cope better and seek proper medical assistance.

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