



“ASSESSMENT OF PREVALENCE OF MENSTRUAL DISTRESS AMONG ADOLESCENTS”

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Abstract: Menstrual distress is a common health concern among adolescents that can adversely affect physical comfort, emotional well-being, academic performance, and quality of life. Adolescence is a critical developmental period during which menstrual problems often remain under-recognized and under-reported. Menstrual distress includes a range of symptoms dysmenorrhea, fatigue, mood changes, and difficulty in daily activities. Early recognition of menstrual distress can help in minimizing its negative impact on adolescents physical and psychological health. The present study was intended to assess the prevalence of menstrual distress among adolescents. The objectives of the study were to assess the prevalence of menstrual distress among adolescents and to find out the association between menstrual distress with selected demographic variables. The study was conducted among adolescents at Sivagiri Sree Narayana Senior Secondary School and Sivagiri Higher Secondary School, Varkala. A structured questionnaire was used to assess the prevalence of menstrual distress and Socio-demographic variables. Modified menstrual distress questionnaire was used to assess the prevalence of menstrual distress. The research approach and design used were non-experimental quantitative approach and descriptive research design respectively. The data revealed that among 280 adolescents, 21 (7%) had severe menstrual distress, 218 (78%) had moderate menstrual distress, and 41 (15%) had mild menstrual distress. The study concluded that there was statistically significant association between the menstrual distress and selected demographic variables such as age, religion, area of residence, monthly income, education status of mother, exercise pattern, any other diseases ($p < 0.05$), ($p < 0.01$) ($p < 0.05$), ($p < 0.05$) ($p < 0.01$), ($p < 0.01$); and ($p < 0.05$)! respectively and there is no statistically significant association between the menstrual distress and socio-demographic variables such as education status of father, type of diet, age of menarche, frequency of menstrual cycle, regularity of menstrual cycle, duration of menstrual cycle.

Keywords: Menstrual distress; Prevalence; Adolescents

INTRODUCTION

Adolescence is the period between 10 and 19 years of age, characterized by rapid physical, psychological, and social changes¹. Menstruation is a normal physiological process that marks an important stage in the reproductive life of adolescent girls. Although menstruation is a natural phenomenon, many adolescents experience various physical, emotional, and behavioural symptoms during their menstrual cycle, collectively known as menstrual distress².

Menstrual distress refers to the discomfort and symptoms associated with menstruation, including abdominal pain, fatigue, headache, backache, irritability, mood swings, anxiety, and reduced concentration. These symptoms can adversely affect the

daily activities, academic performance, social interactions, and overall quality of life of adolescent girls. Studies have shown that menstrual distress is highly prevalent among adolescents and remains an important public health concern worldwide³.

The prevalence and severity of menstrual distress are influenced by several factors such as age, nutritional status, lifestyle, physical activity, menstrual characteristics, and psychological well-being⁴. If not adequately addressed, menstrual distress can lead to school absenteeism, decreased participation in extracurricular activities, and emotional distress. Therefore, early identification and appropriate management of menstrual distress are essential to promote the health and well-being of adolescents⁵. Assessing the prevalence of menstrual distress among adolescents is important



to understand the magnitude of the problem and to develop effective health education and intervention programs⁶

The present study aims to assess the prevalence of menstrual distress among adolescents studying in Sivagiri Sree Narayana Senior Secondary School and Sivagiri Higher Secondary School, Varkala, Thiruvananthapuram District.

MATERIAL AND METHODS

Study Design

The study adopted quantitative non-experimental approach with a descriptive survey design to assess the prevalence of menstrual distress among adolescents. The design was selected to assess the prevalence of menstrual distress among adolescents and its association with selected socio-demographic variables without manipulating any conditions.

Study Settings

The study was conducted at Sivagiri Sree Narayana Senior Secondary School, Sivagiri Higher Secondary School, Varkala, Thiruvananthapuram district. Sivagiri Sree Narayana Senior Secondary School is a private institution affiliated to the Central Board of Secondary Education (CBSE), providing education up to the senior secondary level. Sivagiri Higher Secondary School is a government-aided institution affiliated to the Kerala State Higher Secondary Education Board, offering secondary and higher secondary education. These schools cater to adolescents from diverse socio-economic backgrounds and provide a suitable setting for conducting school-based health-related studies.

Participants

The study population consisted of the adolescents in Sivagiri Sree Narayana Senior Secondary School and Sivagiri Higher Secondary School, Varkala.

Inclusion criteria

No.	Inclusion criteria
1.	Girls who have attained menarche
2.	Girls who are willing to participate in the study

Exclusion criteria

No.	Exclusion criteria
1.	Girls with known gynaecological disorders or chronic illnesses
2.	Girls on hormonal treatment or medications affecting menstruation

Variables

The study variables included:

Variable	Details
Socio-demographic variable	age in years, religion, area of residence, monthly family income, educational status of father, educational status of mother, type of diet, exercise

pattern, age of menarche, frequency of menstrual cycle, duration of menstrual cycle, regularity of menstrual cycle, medical care facilities, medical history.

Sample Size

Sample size was calculated using the formula,

Calculation

$$n = 4pq/d^2$$

$$p = 77.9\% = 0.779$$

$$q = 100 - p = 100 - 77.9 = 22.1 = 0.221$$

$$d = 5\% = 0.05$$

$$n = (4pq)/(d^2) = (4 \times 0.779 \times 0.221)/(0.05 \times 0.05) = 0.688636/0.0025$$

$$n = 275.45$$

Study sample size was taken as 280.

Data Analysis

Data were analyzed using descriptive statistics (frequency & percentage) and inferential statistics (chi-square test) were used to analysis the data.

Ethical Considerations

Ethical clearance was obtained from the Institutional Ethical Committee of Sivagiri Sree Narayana Medical Mission College of Nursing, Varkala. Formal permission was secured from the Principal of Sivagiri Sree Narayana Senior Secondary School and Principal of Sivagiri Higher Secondary School, Varkala. Participants were informed about the purpose of the study, assured of confidentiality, and their written informed consent was obtained.

Data collection process

The investigators introduced themselves to the subject and explained the Objectives of the study to each subject. Confidentiality was ensured and informed Consent was obtained from selected samples. Data were collected from 280 adolescents in Sivagiri Sree Narayana Senior Secondary School and Sivagiri Higher Secondary School, Varkala by using convenience sampling technique. The data was collected by using Modified Menstrual Distress Questionnaire to identify physical, psychological, and behavioural symptoms related to the menstrual cycle among adolescents. The data collection process was from 07/01/2026 to 23/01/2026 and concluded by thanking the subject for their participation.

RESULTS

The socio-demographic data of the adolescents revealed that,

1. The findings regarding the age distribution showed that 64% of the adolescents were in the age group of 16–17 years, 30% were in the age group of 13–15 years, and 6% were in the age group of 10–12 years.



2. The findings regarding religion showed that 71% of the adolescents belonged to the Hindu religion, 23% belonged to the Muslim religion, 5% belonged to the Christian religion, and 1% belonged to other religions.
3. The findings regarding area of residence indicated that 81% of the adolescents were from rural areas, whereas 19% were from urban areas.
4. The findings regarding family monthly income revealed that 33% of the adolescents had a family monthly income of ₹5,001–10,000, 30% had an income of ₹10,001–20,000, 24% had an income of less than ₹5,000, and 13% had an income of more than ₹20,000.
5. The findings regarding the educational status of the father showed that 35% of the adolescents had fathers with a degree and above, 33% had fathers with higher secondary education, 25% had fathers with high school education, and 7% had fathers with primary education.
6. The findings regarding the educational status of the mother showed that 44% of the adolescents had mothers with a degree and above, 29% had mothers with higher secondary education, 21% had mothers with high school education, and 6% had mothers with primary education.
7. The findings regarding dietary pattern revealed that 80% of the adolescents followed a mixed diet, 16% followed a non-vegetarian diet, 3% followed a vegetarian diet, and 1% followed an ovo-vegetarian diet.
8. The findings regarding exercise pattern indicated that 51% of the adolescents engaged in regular exercise, 35% engaged in irregular exercise, and 14% did not engage in exercise.
9. The findings regarding age at menarche showed that 83% of the adolescents attained menarche at 10–13 years, 11% at 14–17 years, and 6% at 6–9 years.
10. The findings regarding menstrual cycle frequency revealed that 41% of the adolescents had a cycle frequency of 21–27 days, 32% had 28–35 days, 22% had less than 21 days, and 5% had more than 35 days.
11. The findings regarding menstrual cycle regularity indicated that 74% of the adolescents had regular menstrual cycles, whereas 26% had irregular menstrual cycles.
12. The findings regarding menstrual cycle duration showed that 67% of the adolescents had a duration of 4–7 days, 21% had a duration of 1–3 days, and 12% had a duration of more than 7 days.

13. The findings regarding the presence of other diseases indicated that 94% of the adolescents had no other diseases, whereas 6% had other diseases.

Among the 280 adolescents, 97% of adolescents have menstrual distress in the menstrual phase and 3% of adolescents have menstrual distress in the premenstrual phase. The result also shows that out of 280 adolescents, 15% of adolescents have mild distress, 78% of adolescents have moderate distress, 7% of adolescents have severe distress. Chi-square test showed statistically significant association between the menstrual distress and selected demographic variables such as age, religion, area of residence, monthly income, education status of mother, exercise pattern, any other diseases.

Table 1: Frequency and Percentage Distribution Based on Socio-Demographic Variables (N = 280)

Socio-demographic variables	Frequency	Percentage
Age in years		
10 – 12	16	6
13 – 15	85	30
16 – 17	179	64
Monthly income (In rupees)		
<5000	68	24
5001 – 10000	90	33
10001 – 20000	85	30
>20000	37	13

Table 2: Frequency and Percentage Distribution of Prevalence of Menstrual Distress (N = 280)

Prevalence of menstrual distress	Frequency	Percentage
Menstrual phase	273	97
Premenstrual phase	7	3

Table 3: Frequency and Percentage Distribution of Level of Menstrual Distress (N = 280)

Level of menstrual distress	Frequency	Percentage
Mild	41	15
Moderate	218	78
Severe	21	7

Table 4: Association Between Level of Menstrual Distress and Selected Socio-Demographic Variables (N = 280)

Socio demographic variables	Mild Menstrual Distress (%)	Moderate Menstrual Distress (%)	Severe Menstrual Distress (%)	χ^2
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Age in years				
10 - 12	2	3	0	27.45**
13 - 15	7	23	1	
16 - 17	5	52	7	
Monthly Income (In rupees)				
<5000	3	19	3	13.36**
5001 – 10000	3	26	3	
10001 – 20000	6	23	1	
>20000	4	9	0	

DISCUSSION

The present study was intended to assess the prevalence of menstrual distress among adolescents in Sivagiri Sree Narayana Senior Secondary School and Sivagiri Higher Secondary School, Varkala. The first objective of the study was to assess the prevalence of menstrual distress among adolescents. The result shows that the prevalence of menstrual distress among adolescents based on the distribution, 15% is having mild distress, 78% of adolescents have moderate distress and 7% of adolescents have severe distress. These findings were supported by the study conducted by Chen in 2019 to assess menstrual distress among adolescent girls in selected high schools of Taiwan. The study was conducted among 1,024 adolescents aged 12–18 years, and data were collected using the Menstrual Distress Questionnaire (MDQ). The findings revealed that 67.4% of participants experienced moderate to severe menstrual distress, and the most commonly reported symptoms were fatigue (72.1%), back pain (69.8%), and irritability (58.4%). However it is evident that menstrual distress was highly prevalent and significantly interfered with daily functioning among adolescents.

The second objective of the study was to find out the association between menstrual distress with selected socio-demographic variables. The study result showed that there was statistically significant association between the menstrual distress and selected socio-demographic variables such as age, religion, area of residence, monthly income, education status of mother, exercise pattern, any other diseases. These findings were supported by the study conducted by Stewart in 2019 to explore menstrual distress and health-related quality of life in adolescents in New Zealand. The study involved 495 adolescent girls aged 13–18 years, and menstrual distress was measured using the Moos MDQ and a health-related quality-of-life questionnaire. The findings showed that 44.7% of adolescents reported moderate distress, 22.4% reported high distress, and 12.8% reported very high distress.

Severe distress was strongly associated with lower school performance and social participation. The result show that menstrual distress significantly reduced quality of life and school.

CONCLUSION

Assessing the prevalence of menstrual distress among adolescents helps in understanding the magnitude of menstrual-related problems and their impact on physical, emotional, and daily functioning. The use of a modified menstrual distress questionnaire in the present study helped the investigator to identify common symptoms of menstrual distress and increased awareness among adolescents regarding menstrual health.

The following conclusion were drawn based on the findings of the study. Out of 280 samples, 97% of adolescents have menstrual distress in the menstrual phase, representing the majority of the study, while the remaining 3% of adolescents have menstrual distress in the premenstrual phase. The prevalence of menstrual distress among adolescents is associated with age in years, religion, area of residence, monthly income, education status of mother, exercise pattern.

Out of 280 adolescents, 78% had moderate menstrual distress. Furthermore, 15% of adolescents have mild menstrual distress, while the remaining 7% of adolescents have severe menstrual distress. The modified menstrual distress questionnaire was effective in assessing the prevalence of menstrual distress among adolescents.

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Conflict of Interest

The authors declare that there is **no conflict of interest** related to this study.

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