

A Study to Assess the Determinants of Dysmenorrhoea and Its Impact on Emotional Well-Being among Adolescent Girls Studying in Selected High Schools of Bagalkot

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Abstract

Original Research Article

Background: Adolescence is a transitional period from childhood to adulthood, characterized by a spurt in physical, endocrine, emotional, and mental growth. As the direct reproducers of future generations, the health of adolescent girls influences not only their own health but also the health of the future population. Almost a quarter of India's population comprises girls below 20 years. One of the major physiological changes that takes place in adolescent girls is the onset of menarche, which is often associated with problems of irregular menstruation, excessive bleeding, and dysmenorrhea.

Aims: To assess the determinants of dysmenorrhea and its impact on emotional well-being among adolescent girls.

Methods and Materials: The impact of emotional well-being was assessed by using the Functional and Emotional Measure of Dysmenorrhea scale (FEMDS), respectively, from a complete enumeration sample of 100 dysmenorrhea adolescent girls studying in selected schools of Bagalkot. Data were analysed using a descriptive cross-sectional research design. **Results:** There was a highest percentage of adolescent girls had determinants of dysmenorrhea (54.41%), and a higher percentage of moderate well-being among adolescent girls had emotional well-being (61%). There exists a significant negative correlation between emotional well-being and determinants of dysmenorrhea ($X^2_{(1)}31.214$, $X^2_{(1)}4.4905$, $P<0.05$). **Conclusions:** The overall findings reveal that most of the adolescent girls had determinants of dysmenorrhea (54.41% Findings related to assessment of mean, SD, and mean percentage of determinants of dysmenorrhea among adolescent girls reveal that 51.41% had mean and SD (10.28±2.081).

Keywords: Determinants of Dysmenorrhea in Adolescent Girls, Socio-Demographic, Emotional Well-Being, FEMD Scale.

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INTRODUCTION

The transformation of females from childhood to sexual maturity and becoming capable of producing is termed puberty. Throughout this transitional phase, several alterations will take place, which include hormonal, psychological, cognitive, and physical changes, besides the evolution and sexual developments; these changes occur synchronously. The prime physiological change in a girl's life is the onset of menarche, which is a special event of a female's life due to the first occurrence of menstruation [1]

The menstrual cycle is a natural phenomenon; it is a significant signal of a female's health, and it's an important indicator of endocrine function. There are several structures of the female body that will cooperate

in order to initiate the menstrual blood; these structures are: the hypothalamus, pituitary gland, ovaries, and uterus. One of the most common menstrual disorders is dysmenorrhea, an episode of uterine cramp in the lower abdominal segment, immediately before or during the cycle. Dysmenorrhea varies among women [1].

Teenage girls with menstrual pain regularly present to physicians. The experience of pain with menstruation is common for 70–91% of teenagers. Also, many physical, psychological, and emotional symptoms occur premenstrual and during menstruation, which are reported by 96% of teenagers. Menstrual pain and symptoms cause school absence in 14–51% of teenagers and interfere with life activities for 15–59%. (O'Connell, 2006) [2].

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Dysmenorrhea is a common condition and refers to painful menses (menstruation) with severe cramping affecting the lower part of the abdomen. It can be either primary or secondary and is a common complaint among adolescents and women of reproductive age. Dysmenorrhea is known to be the most common cause of pelvic pain [3].

MATERIAL AND METHODS

Study Design and Participants

The present study was a descriptive cross-sectional study conducted between May 2025 to June 2025. A complete enumeration sample of 100 determinants of dysmenorrhea, adolescent girls studying in selected schools of Bagalkot, was selected for the study. Dysmenorrhea: girls who were aged between 13-19 years and willing to participate were included in the study. Permission to conduct the study was obtained from Basaveshwar Kannada and English medium high school vidyagiri, Bagalkot.

INSTRUMENTS

DETERMINANTS OF DYSMENORRHEA

It includes information about the Determinants of dysmenorrhea were assessed by using structured closed-ended questionnaires. It consists of 20 items related to determinants of dysmenorrhea. These items were closed-ended questionnaires. The tool was made with four factors:

- FACTOR 1: The first factor includes four questions. It consists of items regarding psychosocial factors.
- FACTOR 2: The second factor includes six questions. It consists of items regarding lifestyle factors.
- FACTOR 3: The third factor includes of seven questions. It consists of items regarding reproductive factors.
- FACTOR 4: The fourth factor includes of three questions. It consists of items regarding physical factors.

Functional and Emotional Measurement of Dysmenorrhea Scale (FEMD Scale)

It is discovered by the author Lili, consists of 14 items, and evaluates 3 domains of emotional well-being among adolescent girls. Items are rated using a functional and emotional well-being of dysmenorrhea scale (1=Most of the time, 2=Sometimes, 3=Never). Total score ranges 42, in that, 0 to 14, with low well-being, 15-28 with moderate well-being, and 29-42 with high well-being score.

Socio-Demographic Variables

It includes information about Age, Religion, Place of residence, Type of family, Family monthly

income, Education qualification, Source of information, Educational status of father, Educational status of mother, and Family history of dysmenorrhea.

Data Collection Procedures

Prior permission was taken from the relevant high schools before the beginning of data collection procedure. The study participants were identified during the study period at selected dysmenorrhea adolescent girls studying selected high schools of Bagalkot. Every adolescent girl with dysmenorrhea who fulfilled the inclusion criteria was approached for data collection. Consent was obtained from the dysmenorrhea adolescent girls. All the information collected was based on structured closed-ended questionnaires and FEMD Scale.

Data Analysis

Data analysis was performed using Descriptive statistics such as frequencies and percentages, were used for socio-demographic variables and determinants of dysmenorrhea. Calculation of mean, Standard Deviation of sociodemographic variables and determinants of dysmenorrhea. Correlation between emotional well-being and determinants of dysmenorrhea was assessed using Karl Pearson's correlation coefficient. Association between the socio-demographic and determinants of dysmenorrhea with emotional well-being was found using FEMD Scale.

RESULTS

Part I: Socio-Demographic Variables

The study showed that 54.41% of girls had determinants of dysmenorrhea. Emotional well-being assessment revealed 61% had moderate well-being, while 39% had high well-being. Hypothesis testing showed no negative correlation between determinants and well-being. Significant associations were found between psychosocial factors and religion/family type, and between lifestyle factors and age. Emotional well-being was significantly associated with educational qualification only.

Part-II: Assessment of Determinants of Dysmenorrhea Adolescent Girls

Categorization of dysmenorrhea adolescent girls based on their determinants of dysmenorrhea was done as follows:

- FACTOR 1: Psychosocial factors.
- FACTOR 2: Lifestyle factors.
- FACTOR 3: Reproductive factors.
- FACTOR 4: Physical factors.

FACTOR 1: Psychosocial factors

Table 6.11: Frequency and percentage distribution of subjects in terms of their determinants of dysmenorrhea, psychosocial factors among adolescent girls

Psychosocial factors	Yes	No	F	%
Have you ever been absent to class because of painful menstruation	54	46	54	54%
Do you get stress on small issues during menstruation	66	34	66	66%
Is there a menstruation gets anxiety to you	43	57	43	43%
Do you have support system from friends and Family that helps to you when your experiencing menstrual pain	89	11	89	43%

FACTOR 2: Lifestyle factors

Table 6.12: Frequency and percentage distribution of subjects in terms of their determinants of dysmenorrhea lifestyle factors among adolescent girls

Lifestyle factors	Yes	No	F	%
Do you use any form of precautions during menstruation (hot application, exercise and yoga)	75	25	75	75%
Do you consume a sugar content food during menstruation	20	80	20	20%
Do you consume a junk food during menstruation	71	29	71	71%
Do you have the habit of beverages	68	32	68	68%
Do you have the habit of smoking	0	100	0	0%
Do you have the habit of drinking alcohol	0	100	0	0%

FACTOR 3: Reproductive Factors

Table 6.13: Frequency and percentage distribution of subjects in terms of their determinants of dysmenorrhea reproductive factors among adolescent girls

Reproductive factors	Yes	No	F	%
Is there a family history of dysmenorrhea	31	69	31	31%
Is your menstrual cycle regular	56	44	56	56%
Is your menarche is early < 12 years	58	42	58	58%
Is your menstrual cycle is > 5 days	45	55	45	45%
Is your suffering from heavier menstrual flow	58	42	58	58%
Do you use any form of medications during menstruation	10	90	10	10%
Do you have any hormonal disorders like PCOD & PCOS	25	75	25	25%

FACTOR 4: Physical Factors

Table 6.14: Frequency and percentage distribution of subjects in terms of their determinants of dysmenorrhea reproductive factors among adolescent girls

Physical factors	Yes	No	F	%
Do you experience painful abdominal cramps during menstruation	100	0	100	100%
Do you experience menstrual pain at your back during menstruation	93	7	93	93%
Do you involve physical activities during menstruation	66	34	66	66%

Part-III: Assessment of the Impact on Emotional Well-Being of Dysmenorrhea among Adolescent Girls

Findings related to the assessment of the impact on emotional well-being of dysmenorrhea among

adolescent girls reveal that, highest percentage of adolescent girls had Moderate well-being (61%), whereas some adolescent girls had high well-being (39%). (Table 5.11)

Emotional well-being	Range of scores	Number of scores	percentage
Low well-being	0 – 14	00	0%
Moderate well-being	15 - 28	61	61%
High well-being	29 - 42	39	39%

Part IV: To find out the correlation between emotional well-being and determinants of dysmenorrhea among adolescent girls

Table 6.23: Correlation between emotional well-being and determinants of dysmenorrhea among adolescent girls

SI. NO	Variables	DF	Chi-square value	Table value	P value	Significance
1	Is there a family history of dysmenorrhea	1	3.237	3.84	0.072	NS
2	Is your menstrual cycle regular	1	0.0135	3.84	0.9072	NS
3	Is your menarche is early < 12 years	1	0.1605	3.84	0.6887	NS
4	Do you experience painful abdominal cramps during menstruation	1	0	3.84	1.000	NS
5	Do you experience menstrual pain at your back during menstruation	1	0.1535	3.84	0.6951	NS
6	Is your menstrual cycle is > 5 days	1	0.0513	3.84	0.8207	NS
7	Is your suffering from heavier menstrual flow	1	3.5030	3.84	0.0613	NS
8	Have you ever been absent to class because of painful menstruation	1	31.214	3.84	0.001	*ESS
9	Do you use any form of medications during menstruation	1	1.6860	3.84	0.1941	NS
10	Do you use any form of precautions during Menstruation (hot application, exercise and yoga)	1	0.2222	3.84	0.6374	NS
11	Do you have any hormonal disorders like PCOD & PCOS	1	0.1240	3.84	0.7247	NS
12	Do you consume a sugar content food during menstruation	1	3.662	3.84	0.0556	NS
13	Do you consume a junk food during menstruation	1	4.4905	3.84	0.0341	*SS
14	Do you have the habit of beverages	1	0.6544	3.84	0.4185	NS
15	Do you have the habit of smoking	1	0	3.84	1.000	NS
16	Do you have the habit of drinking alcohol	1	0	3.84	1.000	NS
17	Do you get stress on small issues during menstruation	1	0.1025	3.84	0.7488	NS
18	Is there a menstruation gets anxiety to you	1	3.9020	3.84	0.0482	NS
19	Do you involve physical activities during menstruation	1	1.7943	3.84	0.1804	NS
20	Do you have support system from friends and family that helps to you when your experiencing menstrual pain	1	2.0604	3.84	0.1512	NS

Table value $X^2(1)$ 31.214, $X^2(1)$ 4.4905, $P < 0.05$ DF- Degree of freedom NS- Not significant *SS- Statistically significant *ESS- Essentially statistically significant

Findings related to the correlation between emotional well-being and determinants of dysmenorrhea among adolescent girls. Karl Pearson's correlation coefficient test was used to find the correlation between emotional well-being and determinants of dysmenorrhea among adolescent girls. Findings reveal that there exists a significant negative correlation ($X^2(1)$ 31.214,

$X^2(1)$ 4.4905, $P < 0.05$) between emotional well-being with determinants of dysmenorrhea.

Part-V: To find out the association between determinants of dysmenorrhea with selected sociodemographic variables among adolescent girls.

Table 6.24: Association between determinants psychosocial factors of dysmenorrhea with selected sociodemographic variables among adolescent girls

SI.NO	Determinants psychosocial factors of dysmenorrhea and sociodemographic	DF	Chi - square value	Table value	P value	Significance
1	Age in years	2	1.371	5.991	0.5036	NS
2	Religion	3	0.644	7.815	0.8862	*SS
3	Place of residence	1	4.4443	3.841	0.0350	NS
4	Type of family	1	0.121	3.841	0.7279	*SS
5	Monthly income of family	3	9.9706	7.815	0.0188	NS
6	Educational qualification	2	5.5234	5.991	0.0632	NS
7	Source of information	5	4.114	13.84	0.5331	NS
8	Educational status of father	4	5.604	9.488	0.2307	NS
9	Educational status of mother	4	6.143	9.488	0.1887	NS

Table value $X^2(1)$ 0.644, $X^2(1)$ 0.121, $P < 0.05$ DF- Degree of freedom NS- Not significant *SS- Statistically significant

Findings related to the association between determinants psychosocial factors of dysmenorrhea with selected sociodemographic variables among adolescent girls Findings reveals that, there was significant association was found between determinants psychosocial factors of dysmenorrhea with selected

sociodemographic variables among adolescent girls with their Religion ($X^2(1)$ 0.644, $P < 0.05$) and Type of family ($X^2(1)$ 0.121, $P < 0.05$) Hence H_2 stated was accepted for only religion and type of family and rejected for other variables.

Table 6.25: Association between determinants lifestyle factors of dysmenorrhea with selected sociodemographic variables among adolescent girls

SI.NO	Determinants lifestyle factors of dysmenorrhea and sociodemographic	DF	Chi - square value	Table value	P value	Significance
1	Age in years	2	121.97	5.991	0.0001	*ES
2	Religion	3	2.0764	7.815	0.5567	NS
3	Place of residence	1	0.0026	3.841	0.9586	NS
4	Type of family	1	1.343	3.841	0.2464	NS
5	Monthly income of family	3	2.318	7.815	0.5090	NS
6	Educational qualification	2	0.665	5.991	0.7171	NS
7	Source of information	5	10.318	13.84	0.0667	NS
8	Educational status of father	4	7.286	9.488	0.1215	NS
9	Educational status of mother	4	3.372	9.488	0.4975	NS

Table value $X^2(1)$ 121.97, $P < 0.05$ DF- Degree of freedom NS- Not significant *SS- Statistically significant

Findings related to the association between determinants lifestyle factors of dysmenorrhea with selected sociodemographic variables among adolescent girls Findings reveals that, there was significant association was found between determinants lifestyle

factors of dysmenorrhea with selected sociodemographic variables among adolescent girls with their Age in years ($X^2(1)$ 121.97, $P < 0.05$) Hence H2 stated was accepted for only Age in years and rejected for other variables.

Table 6.26: Association between determinants reproductive factors of dysmenorrhea with selected sociodemographic variables among adolescent girls

SI.NO	Determinants lifestyle factors of dysmenorrhea and sociodemographic	DF	Chi - square value	Table value	P value	Significance
1	Age in years	2	1.315	5.991	0.5179	NS
2	Religion	3	1.117	7.815	0.7729	NS
3	Place of residence	1	1.667	3.841	0.1966	NS
4	Type of family	1	1.308	3.841	0.2527	NS
5	Monthly income of family	3	4.594	7.815	0.2040	NS
6	Educational qualification	2	0.735	5.991	0.6922	NS
7	Source of information	5	6.445	13.84	0.2652	NS
8	Educational status of father	4	7.183	9.488	0.1265	NS
9	Educational status of mother	4	6.665	9.488	0.1547	NS

$P < 0.05$ DF- Degree of freedom NS- Not significant

Findings related to the association between determinants reproductive factors of dysmenorrhea with selected sociodemographic variables among adolescent girls Findings reveals that, there was no significant

association was found between determinants reproductive factors of dysmenorrhea with their selected sociodemographic variables among adolescent girls. Hence H2 stated was rejected.

Table 6.27: Association between determinants of physical factors of dysmenorrhea with selected sociodemographic variables among adolescent girls

SI.NO	Determinants lifestyle factors of dysmenorrhea and sociodemographic	DF	Chi - square value	Table value	P value	Significance
1	Age in years	2	0.747	5.991	0.6883	NS
2	Religion	3	3.061	7.815	0.3823	NS
3	Place of residence	1	1.485	3.841	0.2229	NS
4	Type of family	1	0.050	3.841	0.8215	NS
5	Monthly income of family	3	6.509	7.815	0.0893	NS
6	Educational qualification	2	0.274	5.991	0.8716	NS
7	Source of information	5	5.655	13.84	0.3412	NS
8	Educational status of father	4	7.190	9.488	0.1262	NS
9	Educational status of mother	4	6.480	9.488	0.1660	NS

$P < 0.05$ DF- Degree of freedom NS- Not significant

Findings related to the association between determinants physical factors of dysmenorrhea with

selected sociodemographic variables among adolescent girls Findings reveals that, there was no significant

association was found between determinants physical factors of dysmenorrhea with their selected sociodemographic variables among adolescent girls. Hence, H2 was rejected.

Part VI: Association between emotional well-being and selected sociodemographic variables among adolescent girls.

Table 6.28: Association between emotional well-being and selected sociodemographic variables among adolescent girls

Sl.NO	Determinants lifestyle factors of dysmenorrhea and sociodemographic	DF	Chi - square value	Table value	P value	Significance
1	Age in years	2	1.768	5.991	0.4129	NS
2	Religion	3	1.167	7.815	0.7608	NS
3	Place of residence	1	0.213	3.841	0.6439	NS
4	Type of family	1	0.072	3.841	0.7882	NS
5	Monthly income of family	3	1.677	7.815	0.6418	NS
6	Educational qualification	2	6.4006	5.991	0.0407	*SS
7	Source of information	5	6.720	13.84	0.2423	NS
8	Educational status of father	4	5.523	9.488	0.2377	NS
9	Educational status of mother	4	1.235	9.488	0.8722	NS

Table value $X^2(1)$ 6.4006 $P < 0.05$ DF- Degree of freedom NS- Not significant *SS- Statistically significant

Findings related to the association between emotional well-being with selected sociodemographic variables among adolescent girls Findings reveals that, there was significant association was found between emotional well-being with selected sociodemographic variables among adolescent girls with their educational qualification ($X^2_{(1)}$ 6.4006, $P < 0.05$) Hence H_3 stated was accepted for only educational qualification and rejected for other variables.

DISCUSSION

The study assessed determinants of dysmenorrhea and its impact on emotional well-being among adolescent girls in Bagalkot. Most participants were aged 15–16 years and from urban nuclear families. Findings showed that over half of the girls experienced significant determinants of dysmenorrhea influenced by psychosocial, lifestyle, and physical factors. A majority had moderate emotional well-being, indicating noticeable impact. There was a significant negative correlation between dysmenorrhea and emotional well-being. Certain sociodemographic factors like age, religion, and family type showed associations with determinants. Educational qualification was significantly associated with emotional well-being. Overall, dysmenorrhea adversely affects adolescents' physical and emotional health.

Limitations

Study limited to only 100 adolescent girls, so results cannot be generalized widely. Conducted in selected high schools of Bagalkot only, limiting external validity. Cross-sectional design, so cause-effect relationship cannot be established. Data collected through self-report, which may lead to recall bias or inaccurate responses. Emotional well-being is subjective, may vary based on personal perception. Some factors like diet, stress, and lifestyle may not be fully

controlled. Cultural and social factors influencing dysmenorrhea may not be deeply explored. Time constraint may have limited in-depth assessment and follow-up.

Recommendations

- A similar study can be conducted with an increase in the sample size.
- A similar study can be conducted among adolescent girls with dysmenorrhea with major health education.
- School-Based Menstrual Health Education: Implement regular educational sessions in schools to improve knowledge on menstrual health, causes of dysmenorrhoea, and emotional self-care strategies.
- Counselling Services for Adolescents: Provide accessible counselling or support groups in schools to help girls cope with emotional disturbances associated with menstruation.
- Family and Community Awareness: Organize community workshops to educate parents and families on how to support adolescent girls experiencing dysmenorrhoea.
- Encourage Healthy Lifestyle Practices: Promote physical activities, nutritious diets, and stress reduction techniques among school-going girls.
- Policy Advocacy: Advocate for policy initiatives that incorporate adolescent reproductive health into school health programs, especially in rural areas.

CONCLUSIONS

Most adolescent girls experienced moderate well-being despite dysmenorrhea. The findings stress the need for health education and supportive measures in schools to improve menstrual well-being.

Ethical Clearance

Ethical clearance was obtained from the institutional ethical committee of BVVS Sajjalashree Institute of Nursing Sciences, Bagalkot.

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REFERENCES

1. S NG, Priyadarshini S, Shetty S. Dysmenorrhea among adolescent girl's: characteristics and symptoms experienced during menstruation. Journal of health and allied science NU 04(03): 045-052. 2014.
2. Mohamed E. Assessment of dysmenorrhea and menstrual hygiene practices among adolescent girls in some nursing schools at el minima government, Egypt. 2011.
3. Bezuidenhout S, Mahlaba K Jackson, Nxumalo G pholad, Meyer J Catharina, Chukwu B o. Dysmenorrhea: an overview. SA pharmaceutical journal 85(4):19-25. 2018.