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Determination of Prevalence, Predictors and Effects of Dysmenorrhoea among Adolescent Girls - A Cross-sectional Study

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Abstract

Background: Dysmenorrhoea is a common gynaecological issue. It has been predominant among women in their late teenage and early twenties and normally declines with age. It likewise influences over 80% of ladies in their conceptive age.

Method: A cross-sectional non-exploratory research was conducted in a provincial area of Bagalkot region. The researcher randomly chose Shirur town as the provincial setting for the enrolment of subjects. All the young women in the age group of 12-18 years were included in the study. The socio-demographic variables were collected from each participant. The data were analyzed using descriptive and inferential statistics.

Result: The prevalence of dysmenorrhea was found to be 68.1% (95% CI, 65.0), with a majority of respondents reporting severe aggravation. Additionally, 22.5% of participants reported adverse impacts on their daily activities during menstruation. Teenagers who didn't live with their parents experienced a prevalence of 53.1%. Moreover, respondents with irregular periods reported a prevalence of 72.5%.

Conclusion: A significant relationship between sporadic monthly cycle ($p < 0.01$), not living with their parent ($p < 0.04$), and self-reported dysmenorrhoea was noted.

Keywords: Prevalence, Predictors, Dysmenorrhoea, Adolescent girls

Introduction

Dysmenorrhea is a normal gynaecological condition that can affect almost half the women. About 10% of these women endure a severe state to the point that they are incapacitated for 1-3 days during each monthly cycle. This kind of circumstance not only impacts personal satisfaction and individual wellbeing but also has a worldwide monetary impact.[1]

Dysmenorrhea, also called as excruciating periods, is characterized as agony during monthly cycle. This is most common reason for young females to visit gynaecological centres. Even though dysmenorrhea is not a serious condition, it can be excruciating for teenagers.[2]

Dysmenorrhea is an ailment described by serious uterine torment during monthly cycle. A large proportion of ladies experience minor torment during feminine cycle. It has been analysed that when the aggravation is extreme to restrict daily ordinary activities, the women require medications.[3]

Previous researches contributes to existing theories and identifies a neglected pattern. Once more, these surveys guarantees that feminine schooling tends to the social, mental effect of dysmenorrhea as well as the actual components of menstruation.[4]

Immaturity is a period from youth to adulthood. It is portrayed by physical, endocrinal, close to home and mental development. The time of youthfulness is a time for physical and mental planning for safe parenthood. Not only does it affect the health of the youth but also the well-being of the future population.[5]

Taking into account the scarcity of information on dysmenorrhoea in Bagalkot locality, on account of test size the singular examinations might have insufficient factual power. We intend to gather cross sectional information on the predominance and indicators of dysmenorrhoea. which impacts youths in chosen rustic regions of Bagalkot area. This study can offer essential reference information on predictive factors of dysmenorrhea, which can be used to guide its prevention and control strategies in this region.[6]

Material and Methods

Ethical clearance

Institutional ethical clearance was obtained (Ref No. BVVS/SIONS/IEC/2021-22/149; Date: 28-04-2021).

Research approach

Research Configuration: Cross-sectional distinct examination plan.

Setting: The study is conducted in rural areas of the Bagalkot locality.

Data Collection Strategy: The sample was chosen using a complete identification procedure, with Shirur town, randomly selected as the country setting.

Sample Size: The study included a sample size of 217 young girls.

Population: The study subjects comprised young girls aged between 12 and 18 years.

Variables under study

Study variable: Dysmenorrhoea in adolescent girls, age of menarche, educational status, place of living (with parents or without parents), menstrual history (regular or irregular), nature of menstrual bleeding (small, heavy or normal), duration of cycle (less than 21 or more than 21 days), history of dysmenorrhea (yes or no).

Selected socio demographic variables

Age, gender, duration, education, occupation, marital status, religion, number of members in the family, side effects of dysmenorrhea, monthly family income.

Data collection procedure

Prior authorization was obtained from Head, B.V.V. Sangha's SIONS, Bagalkot. Authorization was obtained from the Clinical official of Shrirur Essential Wellbeing Focus of Bagalkot district. The written consent and verbal assent were obtained from the subjects chosen for the study. Uneducated juvenile young ladies were interviewed, while educated young women were provided with structured closed-ended questionnaires. The data collection took place between 9 am and 5 pm, depending on the availability of the subjects.

Statistical analysis

The data was analysed using descriptive and inferential statistics. Numerical data obtained from the sample was organized and summarized with the help of descriptive statistics like percentages, mean, median and standard deviation. Multiple linear regression model was used to determine significant predictors of dysmenorrhoea among adolescent girls.

Results

Socio-demographic variables and clinical characteristics of mother

Majority of respondents with dysmenorrhea (28%) were 18 years and above in age. About 33% of the subjects with dysmenorrhoea were Christian students. Regarding the type of family, 53% reported nuclear family. Furthermore, 43% of adolescents completed secondary education. Parents of majority of respondents did labored work (42%) while 53% earned Rs. 15,000 and above per month. About 33% of girls attained menarche at the age of 12 years (Table 1).

Table 1: Description of baseline factors/socio-demographic factors (N=217)

Baseline factors	Characteristics	Frequency	%
Age in years	12-14 yrs	54	25
	15-16 yrs	48	22
	17-18 yrs	61	25
	18 & above	54	28
Religion	Hindu	28	13
	Muslim	56	26
	Christian	72	33
	Others	61	28
Type of family	Nuclear	115	53
	Joint	102	47
Educational status	No formal education	63	29
	Primary education	26	12
	Secondary education	93	43
	Degree and above	35	16
Parents occupation	Government employee	72	33
	Private employee	29	13
	Agriculture	28	12
	Labored work	91	42
Monthly income	Below 5000	64	29
	5001-10,000	22	10
	10,001-15,000	17	8
	15,001 & above	114	53
Age at which you attend menarche	10 yrs	28	13
	11 yrs	64	29
	12 yrs	72	33
	13 yrs	53	24
Family history of dysmenorrhoea	Yes	98	45
	No	119	55
Dietary pattern	Veg	82	38
	Nonveg	26	12
	Mixed	109	50
Does your school conduct program for creating awareness about menstruation	Yes	92	42
	No	125	58

Table 2: Description of predictors of dysmenorrhea among adolescent girls (N=217)

Age in years	Frequency	%
12-15 yrs	66	30.4
19-19 yrs	151	69.6
Educational status	**Frequency**	**%**
Primary school	64	29.5
Secondary school	153	70.5
Place of stay	**Frequency**	**%**
Live with parents	176	81.1
Live without parents	41	81.9
Age of menarche	**Frequency**	**%**
<13	74	34.1
13-15	114	52.5
>15	29	13.4
History of menstruation	**Frequency**	**%**
Irregular	43	19.8
Regular	174	80.2
Amount of menstrual flow	**Frequency**	**%**
Small flow	54	24.9
Moderate	148	68.2
Heavy	15	6.9
Length of cycle	**Frequency**	**%**
<21 days	24	11.1
>21 days	193	88.9
Duration of menstruation	**Frequency**	**%**
<3 days	14	6.5
>3 days	203	93.5
Family h/o dysmenorrhoea	**Frequency**	**%**
Yes	158	26.7
No	159	73.3

Predictors among adolescent girls

The overall predictors of self-reported dysmenorrhea in this study were the majority of despondence with dysmenorrhea (69.6%) between the ages of 19 years old. 70% of subjects had secondary school education qualification. About 81.9% of subjects were not living with parents. Around 52.5% of subjects attained menarche at the age of 13-15 years. 80.2% of subjects reported regular menstruation. 68.2% subjects reported moderate menstrual flow with a cycle length of >21 days (88.9) (Table 2).

Predictors among adolescent girls

In this study overall 68.1% of dysmenorrhoea are self-reported, where majority were between 16-19 years old with 69.6%. The mean age of the participants was 16.7±1.98 years. More than 70.5% of the subjects with dysmenorrhoea were senior high school students but no significance was found (p >0.20). According to living status, 73.9% of the respondents who had dysmenorrhea lived with their families and this was significant (p <0.04). Moreover, adolescents who had their first menstruation at the age of 13–15 years reported more to have experienced dysmenorrhea (59.8%) than their peers, but no significant association was found (p >0.20). However, 28.5% of subjects with dysmenorrhoea had menstrual irregularity (Table 3).

After adjustment of all the variables, a significant association between irregular menstrual cycle (p <0.01), not living with their parent (p <0.04), and self-reported dysmenorrhoea was found. However, no significant association between self-reported dysmenorrhoea and other variables was observed. Besides, 53.1% of adolescents who do not live with their parents experienced an increase in odds of self-reporting dysmenorrhoea [AOR, 1.53 (95% CI, 1.02–2.30; p <0.04)]. Likewise, 72.5% of respondents who had irregular menstrual cycle experienced an increase in odds of self-reporting dysmenorrhoea [AOR, 1.73 (95% CI, 1.16–2.57; p <0.01)] (Table 4).

Table 3: Levels of predictors of dysmenorrhoea among adolescent girls (N=217)

Sl. No	Variables	Description	Frequency	%	*p value*
1.	Age in years	12-15 yrs	66	30.4	>0.74
		16-19 yrs	151	69.6	
2.	Level of education	Junior high school	64	29.5	>0.20
		Senior high school	153	70.5	
3.	Living	Not lived with parents	41	18.9	<0.04
		Live with parents	176	81.1	
4.	Age at menarche	< 13 yrs	74	34.1	>0.20
		13-15 yrs	114	52.5	
		>15 yrs	29	13.4	
5.	History of menstrual cycle	Irregular cycle	43	19.8	<0.02
		Regular cycle	174	80.2	
6.	Amount of menstrual flow	Light flow	54	24.9	>0.48
		Moderate flow	148	68.2	
		Heavy flow	15	6.9	
7.	Length of cycle	<21 days	24	11.1	>0.15
		>21 days	193	88.9	
8.	Duration of menstruation	<3 days	14	6.5	>0.10
		>3 days	203	93.5	
9.	Family history of dysmenorrhoea	No	159	73.3	>0.59
		Yes	58	26.7	

Table 4: Multilinear regression analysis to determine the predictors of dysmenorrhoea among adolescent girls (N=217)

Sl. No	Variables	Description	95% CI (confidence interval)	*p value*
1.	Age in years	12-15 yrs	1	-
		16-19 yrs	0.76-2.05	>0.37
2.	Level of education	JHS	1	_
		SHS	0.46-1.22	>0.25
3.	Place of stay	Not lived with their parents	1.02-2.30	<0.04
		Lived with their parents	1	-

4.	Age at menarche	<13yrs	0.59-1.7	>0.92
		13-15yrs	0.84-2.37	>0.19
		>15yrs	1	-
5.	History of menstrual cycle	Regular cycle	1	-
		Irregular cycle	1.16-2.57	<0.01
6.	Nature of menstrual flow	Light flow	1	-
		Moderate flow	0.85-1.89	>0.24
		Heavy flow	0.59-2.45	>0.61
7.	Length of cycle	<21days	0.55-2.32	>0.75
		>21days	1	-
8.	duration of menstruation	<3days	0.66-3.94	>0.30
		>3days	1	-
9.	Family history of dysmenorrhoea	No	1	-
		Yes	0.76-1.60	>0.60
10.	Unnecessary irritation (mood swings)	No	56.7	>0.21
		Yes	43.3	

Table 5: Prevalence based on dysmenorrhoea among adolescent girls

Sl. No	Variables	Description	%	*p value*
1.	Mostly ignore the pain	No	42.9	>0.89
		Yes	57.1	
2.	Practices self-medications	No	68.7	>0.41
		Yes	31.3	
3.	Engages in physical exercises	No	88.9	>0.17
		Yes	11.1	
4.	Home remedies used to reduce the pain	None	60.4	>0.19
		Rest	26.7	
		Hot application	8.8	
		Herbs	4.1	
5.	Consult a physician	No	83.9	>0.30
		Yes	16.1	

Higher proportion of dysmenorrhea adolescents reported to have mostly ignored their menstrual pain (57.1%). Nevertheless, when they took action, they mostly relied on self-medication (31.3%), less on physical exercise (88.9%), relaxation (26.7%), hot application (8.8%), and herbs (4.1%) for relieving their menstrual pain. Only a few of them (16.1%) consulted a physician. Nevertheless, no significant association with dysmenorrhea was found (Table 5).

Discussion

The main objective of the present non-experimental descriptive study was to assess the predictors, prevelence and effects of dysmennorhea in adolescent girls.

The finding related to socio-demographic variable among adolescent girls reveals that majority of girls age belongs to 28 % in between 18 and above years. 25 % in the age group of 12 to 14 years and 17 to 18 years. Lowest percentage is 22% were belonging to age group less than 15 to 16 years. It reveals that majority of girls under the study were belonging to age group 18 and above years.

The finding of the study is similar to the study conducted by Kwabena Acheampong (2019) which reveals that age group of adolescent girls belongs to mean of 16-19 years. The findings reveals that The percentage-wise distribution of adolescent girls according to education

69% of girls secondary education (p=0.20), and 31% had primary education. The majority of mothers where belongs to secondary education. Whereas other studies reveals that The mean educational level was 16.7 years, with 50.6% of women having eleven or more years of schooling.[7]

A previous study mentioned that the treatment of dysmenorrhea includes various methods, one of which is the use of a heating pad. Our findings also align with this, as 11.4% of the dysmenorrhea adolescents in our study reported using a hot application for pain relief. Additionally, 6.7% of the adolescents in our study used herbs to alleviate their menstrual pain.[8,9]

In our study, 6.9% of adolescents with dysmenorrhea reported being absent from school. Previous studies have indicated that absenteeism rates due to dysmenorrhea range from 5% to 14%. Moreover, dysmenorrhea has been identified as the primary cause of recurrent short-term school absence in previous research. Our study's finding of 6.9% absenteeism in Shirur was comparable to the 9.2% reported previously but lower than the 44.0% rate.[10]

Conclusion

This study suggest that girls had a poor knowledge regarding adolescents, most of girls affected by efficacy. There must be strategies to improve the knowledge of the mother regarding dysmenorrhea.

The strategies should be adapted are girls education, counselling. To improve the efficacy among girls there should be educational programs conducted for adolescent girls. Girls to increase their knowledge and interest about dysmenorrhea, encourage girls by incorporating them in educational programmes.

Conflict of interest

None

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