ORIGINAL RESEARCH PAPER
Volume - 13 | Issue - 08 | August - 2024 | PRINT ISSN No. 2277 - 8179 | DOI : 10.36106/ijsr
INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

A STUDY ON RELATIONSHIP BETWEEN MENSTRUAL PAIN AND BODY MASS INDEX AMONG ADOLESCENT GIRLS

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ABSTRACT

The study was conducted among 250 adolescent girls of selected women's colleges at Ernakulam. Non probability purposive sampling technique was used to select the sample. Structured questionnaire was used for assessing the socio demographic characteristics and clinical data on BMI and menstruation. Rating scale was used for assessing the discomforts experienced by the adolescent girls during dysmenorrhea and standardized numeric pain rating scale was used for assessing the pain experienced by the girls during their menstrual cycle. The results of the study revealed that 50. 4% of the adolescent girls belong to underweight category and 49. 6% of the adolescent girls belong to normal weight category. Regarding the prevalence of dysmenorrhea : 0.4% of samples had mild pain, 41.2 % of samples had moderate pain, and 58.4 % had severe pain. Pearson correlation Coefficient test indicated a negative correlation (-0.753) between menstrual pain and BMI which is significant at 0.01 level. It indicates the inverse relation of BMI with menstrual pain. Results also revealed that BMI and numerical pain rating score have no association with selected demographic variables

KEYWORDS

Menstrual pain, Body Mass Index, Adolescent girls

INTRODUCTION

The World Health Organization (WHO) defines adolescence as the period of life between 10 and 19 years of age. Adolescence in girls is a phase of transition from girlhood to womanhood and marks the onset of female puberty[1]. This period of attaining reproductive maturity between the ages of 10 to 19 years is marked by a number of physiological, behavioral and psychological changes, the most notable being the onset of menstruation. About one fifth of India's population is in the adolescent age group of 10 to 19 years. A vast majority of girls in India are suffering from either general or reproductive morbidities. If these are not treated early, they could lead to various disabilities and may consequently affect their valuable lives[2]. Adolescent girls will become mothers in the subsequent 5 to 10 years and these morbidities may affect the well-being of future generations. Menarche is the onset of menstruation and it is one of the most significant milestones in a woman's life. Menstruation has dual significance for women.[3] The most common menstrual disorders are dysmenorrhea and headache; these conditions are leading causes for work or school absenteeism and substantially impact quality of life. Obese individuals often experience disruption of the menstrual cycle, including interruption of the menstrual cycle, abnormal menstrual flow and increased pain associated with menstrual cycle[4]. The consequences of untreated dysmenorrhea range from loss of work and school hours to family and personal disruption. Therefore, dysmenorrhea affects not only the untreated person, but also their family and social and national economics as well.[5]

MATERIALS AND METHODS

The study was conducted among 250 adolescent girls of selected women's colleges in Ernakulam District. The tools used for the study were, a structured questionnaire developed after reviewing literature. Tool comprises of three parts, Part- A- Socio demographic variables. It includes age, education, monthly income of family and exposure to mass media related to health. Part B- questionnaire for assessing the clinical data on menstrual history including biophysical measurements. Part C – Rating scale to assess the discomforts experienced by the adolescent girls during dysmenorrhea. It includes questions related to physical symptoms and psychological symptoms. Part- D brief pain inventory for assessing dysmenorrhea. The developed tool was sent to experts and their valuable suggestions were incorporated. Formal permission was obtained from the principals of the selected colleges in Ernakulam district. The participants were explained about the study and was confidentiality ensured. Then the questionnaire for data collection was administered to students those who present at the time of data collection. Data was analyzed using descriptive and inferential statistics.

RESULTS

Section 1: Demographic characteristics of the subjects

Table 1: Distribution of subjects based on socio-demographic characteristics N=250

Sl.No	Demographic variables	Frequency	Percentage
1	Age		
	17	45	18
	18	125	50
	19	80	32
2	Education		
	B.Com	100	40
	B,A	150	60
3	Monthly income of family		
	Rs.2500-5000	60	24
	Rs.5001-7500	30	12
	Rs.7501-10000	80	32
	Rs.>10000	80	32
4	Exposure to mass media related to health		
	Newspaper/Health magazine	55	22
	Radio/Television/Mobile phones	25	10
	All of these	170	68

The data presented in table 1 depicts the demographic variables of adolescent girls. Majority of subjects (50%) were in the age group of 18 years. Majority of adolescent girls (60%) were studying B.A. 32% of subjects have a monthly family income of Rs.>10000 and 32% belongs to the category of Rs.7501-10000.Majority of samples (68%) were exposed to mass media through newspaper, health magazine, radio, mobile phones and television.

Section 1I: clinical data on menstrual history

Table 2: Distribution of subjects based on clinical data on menstrual history N=250

Sl.No	variables	Frequency	Percentage
1	Age at menarche		
	9-11 years	5	2
	12-14years	225	90
	15-17years	20	8
2	Duration of menstrual cycle		
	<25 days	20	8
	25-30 days	295	78
	>30 days	35	14
3	Length of monthly cycle		
	< days	10	8
	3-5 days	185	78
	>5 days	55	14
4	Frequency of dysmenorrhea		
	Always	165	66

	Some times	85	34
	Never	0	0
5	Intake of medication for dysmenorrhea		
	Always	90	36
	Some times	75	30
	Never	85	34

The data presented in table 2 depicts the clinical data on menstrual history. Majority of adolescent girls (50%) attained menarche between 12-14 years of age. Majority of adolescent girls (78%) have 25 -30 days of menstrual cycle. Most of the samples (78%) have 3- 5 days of their monthly cycle. Majority of samples (66%) experienced dysmenorrhea always during the cycle. 36% of samples have always been taking medication for dysmenorrhea. 34% of samples were not taking medication for dysmenorrhea.

Section 1I: Distribution of samples based on BMI

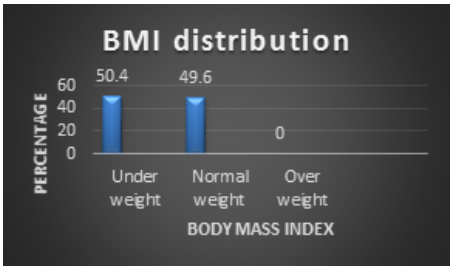

Fig 1: Distribution of subjects based on BMI

Figure 1 shows that distribution of subjects based on body mass index .50.4% of samples belongs to the category of underweight (>18.5). 49.6 % of samples have normal weight (18.5-24.9) And there were no samples in the category of overweight (>25)

Section III: Prevalence of dysmenorrhea

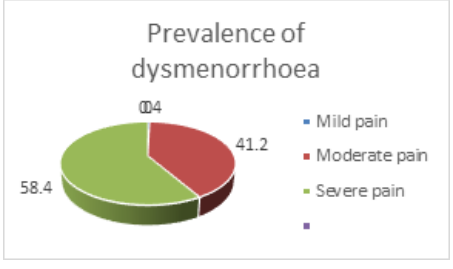

Fig 2: Prevalence of dysmenorrhea among adolescent girls

Figure 2 shows prevalence of dysmenorrhea. Majority of samples (58/4%) had severe pain,41.2% of samples had moderate pain during their menstrual cycle

Section IV: Correlation between menstrual pain and BMI

Table 3: Correlation between menstrual pain and BMI of adolescent girls

Variable	N	Mean score	S. D	Pearson's r
BMI	250	18.91	2.48	-0.753**
Numeric pain score	250	7.6	3.55	

** Correlation is significant at the0.01 level

Table 3 depicts the relationship between menstrual pain and BMI. The correlation coefficient value is -0.753, which is significant at 0.01 levels, and this correlation coefficient states the relationship between menstrual pain and BMI as inverse relation. It indicates adolescent girls with low BMI have increased menstrual pain

DISCUSSION

The findings of the present study were compared with the objectives of the study and the findings of other studies were reviewed. The present study aimed to assess the relationship between menstrual pain and BMI in adolescent girls. The findings of the study shows that there is a negative correlation between menstrual pain and BMI. The correlation Coefficient value is - 0.753 which is significant at 0.01 level. It indicates that adolescent girls with low BMI have increased menstrual pain.

The present study is supported by a cross sectional study conducted by Chauhan, Madhubala, Kala and Jyothi to find out the relation between the frequency of dysmenorrhea and BMI in 200 Urban and 200 rural school going adolescent girls in Rajasthan. Of the 400 girls, the prevalence of dysmenorrhea was found to be very high (81.5% rural and 76% urban). In the rural setup, out of the total girls with mild dysmenorrhea 71.84% had BMI <16.5, and 27.19% was underweight. All girls with moderate and severe dysmenorrhoea had BMI< 16.5. In the urban setup, of all girls with mild dysmenorrhea, 38.05% had BMI < 16.5 and 54.86 % were underweight. All girls with severe dysmenorrhoea and 80% of the girls with moderate dysmenorrhea had BMI < 16.5. All girls with no dysmenorrhea had normal BMI. Relation between dysmenorrhea and BMI was found to be significant (p0.01) with increased prevalence in the low BMI group

CONCLUSION

According to the study findings, majority of adolescent girls have moderate and severe dysmenorrhea during their Menstrual cycle. Adolescent girls with low BMI experienced severe menstrual pain compared to adolescent girls with normal BMI.

REFERENCES:

1. Konar H. DC Dutta's textbook of gynecology. JP Medical Ltd; 2016 Jun 30,174-180
2. Hacker NF, Gambone JC, Hobel CJ. Hacker & Moore's Essentials of Obstetrics and Gynecology E-Book. Elsevier Health Sciences; 2009 Mar 11.256-257
3. World Health Organization. Obesity: preventing and managing the global epidemic: report of a WHO consultation.1997,7-17
4. Piran NI, Ross ER. From girlhood to womanhood: Multiple transitions in context. Handbook of girls' and women's psychological health. 2005 Sep 1:301-11.
5. Das JK, Lassi ZS, Hoodbhoy Z, Salam RA. Nutrition for the next generation: older children and adolescents. Annals of Nutrition and Metabolism. 2018 Apr 18;72(Suppl. 3):56-64.
6. Golub S. Menarche: The beginning of menstrual life. Lifting the curse of menstruation. 2017 Sep 29:17-36.
7. Al-Bawi ZA, Salman ST. Is Body mass index associated with irregular menstruation.
8. MacGregor B, Allaire C, Bedaiwy MA, Yong PJ, Bougie O. Disease burden of dysmenorrhea: Impact on life course potential. International journal of women's health. 2023 Dec 31:499-509.
9. Rusydi R, Fitri SA, Agustina FR. Relationship Between Body Mass Index With Menstrual Pain Scale At Senior High School 9 Padang. Journal of Nutrition Science. 2023 Nov 21;4(2):88-91.
10. Rafique N, Al.Sheikh MH. Prevalence of primary dysmenorrhea and its relationship with body mass index. Journal of Obstetrics and Gynaecology Research. 2018 Sep;44(9):1773-8.