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A Study of Dysmenorrhoea during Menstruation in High School Adolescent Girls

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Abstract: ***Objective: The objectives were to study the prevalence of dysmenorrhea in high school adolescent girls of Jodhpur Rajasthan and to study the evidence of severity of the problem with associated symptoms and general health status. Method: An explorative survey technique with a correlational approach. A total of Nine hundred and ten adolescent girls of age 15 to 19 years, studying in the higher secondary schools (Pre University Colleges) of Jodhpur Rajasthan who have attended menarche were selected. Statistical analysis: Percentages, Chi -square test, and Test-Retest Method. Results: The prevalence of dysmenorrhea in adolescent girls was found to be 75.67%. Most of them, 30.96%, suffered regularly from dysmenorrhea severity. The three most common symptoms present on both days, that is, day before and first day of menstruation were lethargy and tiredness (first), depression (second) and inability to concentrate in work (third). Conclusion: From the study it can be concluded that dysmenorrhea is a very common problem among adolescent girls. They almost always, silently suffer the pain by dysmenorrhea and the discomfort associated with it due to lack of knowledge about reproductive health. It is probable that this also affects their academic performance. The findings of this study thus indicate the enormity of the problem and the need for appropriate intervention through a change in lifestyle.***

Keywords: adolescent girl, dysmenorrhoea, menstruation

1. Introduction

Adolescence is a transition period from childhood to adulthood and is characterized by a spurt in physical, endocrinal, emotional, and mental growth, with a change from complete dependence to relative independence. The period of adolescence for a girl is a period of physical and psychological preparation for safe motherhood. As the direct rep roducers 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 of girls below 20 years.

One of the major physiological changes that take place in adolescent girls is the onset of menarche, which is often associated with problems of irregular menstruation, excessive bleeding, and dysmenorrhea. Of these, dysmenorrhea is one of the common problems experienced by many adolescent girls. Dysmenorrhea is a cyclical lower abdominal or pelvic pain which may also radiate to the back and thighs; it occurs before or during menstruation, or both (Raine-Fenning, 2005). Cramps and pain are experienced in the lower abdominal after regular ovulation is established. It begins soon aftermenarche (Reddish, 2006). It is the most common gynecologic complaint among adolescent and adult females (Doty & Attaran, 2006; Polat, Celik et al., 2009).

The true incidence and prevalence of dysmenorrhea are not clearly established in India. In recent times, George and Bhaduri, (4) concluded that dysmenorrhea (87.87%) is a common problem in India. In Sweden the prevalence was >2–4%. Dysmenorrhea has been estimated to be the greatest cause of time lost from work and school in the United States. (6)

A study of the prevalence of dysmenorrhea and its associated symptoms would provide evidence of the severity of the problem.

The study was carried out to estimate the prevalence of dysmenorrhea and its common symptoms, and determine the relationship between dysmenorrhea and the selected physiological parameters such as the body surface area and general health status, and to find the association between the dysmenorrhea status and the intensity of pain, with s elected physiological symptoms and self treatment approach.

2. Method

An explorative survey technique with a correlational approach was used for the study. The settings for the study were pre-university colleges (Higher Secondary School) in the JODHPUR district. Only adolescent girls between 15 and 19 years, studying in the pre-university course were included in the study. A probability sampling method of the multistage cluster sampling technique was used to select the sample subjects. Three pre-university schools were selected and from this all the girls who met the sample criteria were included for data collection. The total sample size was 910. The data were collected from September to January 2020.The tool developed was a semi- structured dysmenorrhea status questionnaire with a total of 14 items having a maximum score of '126' and minimum score of '3'. The items included were presence and absence of dysmenorrhea, its frequency, intensity of pain, and symptoms experienced. A visual analog scale was used for measuring the pain intensity.

Content validity was established by a percentage of

agreement of experts. The test-retest method was employed to find the reliability, where 'r' was found to be 0.896. The body weight and height were measured by the standard scales after establishing the reliability of measurement.

3. Results

Majority of the adolescent girls under study had experienced dysmenorrhea, that is, 688 out of 910 (75.6%), as shown in Table 1. Thus it can be said that dysmenorrhea is a very common problem among adolescent girls. Further analysis was conducted to find out how frequently they experienced dysmenorrhea. From Table 1 it can be seen that, the maximum number of girls, that is, 213 out of 688 girls (30.90%) experienced dysmenorrhea every month, and 162(23.54%) experienced it in most of the months, and it was statistically highly significant (P<0.001). Common symptoms experienced and their association with the dysmenorrheal

Table 1: Frequencies & Percentage of adolescent girls experiencing dysmenorrheal status and the intensity of pain

Adolescent with Dysmenorrheal status	Frequency (N=688)	Percentage (%)
Dysmenorrhea every month	213	30.96
Most of month	162	23.54
Occassionally	111	16.13
Rarely	202	29.36

Symptoms	Day before menstruation		First day of menstruation		Day after stoppage of menstruation	
	%	Rank	%	Rank	%	Rank
Lethargy and tiredness	32.2	1	57.4	1	17.2	1
Irritability	31.9	2	32.9	7	7.3	10
Inability to concentrate on work	29.5	3	44.4	3	10.9	4
Feeling of heaviness in the lower abdomen	25.5	4	37.1	5	9.3	5
Nervousness	23.9	5	48.0	2	12.2	3
Depression	21.7	6	48.0	4	12.7	2
Anorexia	19.8	7	28.4	8	8.4	6
Loss of appetite	18.6	8	35.8	6	7.9	7
Sleeplessness	18.4	9	26.2	10	6.6	8
Headache	17.2	10	28. 1	9	5.0	9

There were 23 symptoms grouped under four areas, such as, gastrointestinal symptoms (GI), psychological symptoms (PS), eliminational symptoms (ES), and other physical symptoms. Among these ten were common which are presented in Table 2. Three most common symptoms present on both days, that is, the day before and first day of menstruation were lethargy and tiredness (first), depression (second), and inability to concentrate on work (third), whereas, the ranking of these symptoms on the day of menstruation showed headache and anorexia as the eighth common symptom. Irritability was the second-most common symptom during the day before menstruation, and it become less on the first dayof menstruation and the day after menstruation. The Chi-square tests were computed to find the association between the dysmenorrhea status, no dysmenorrhea status, and common symptoms experienced on the day before the onset of menstruation, on the first day of menstruation, and on the day after stoppage of menstruation. Similar statistical computation was also done between the intensity of pain and the listed symptoms.

The average intensity of pain as measured by the visual analog scale, during menstruation, could be scored as 0, 1, 2, 3, 4, and 5, where 0 indicated no pain and 5 showed extreme pain.

4. Discussion

The findings of the present study showed a high prevalence of dysmenorrhea, that is, 75.60% among adolescent girls of Jodhpur. Similar findings were reported by George and Bhaduri (87.87%), (4) Mckay and Diem (67%), (5) Anderschand Milson (80%), (2) Sundel et al, Comparatively lower incidences had been reported by Nag (33.84%). (1). The Gastrointestinal, Psychological, Eliminational, and other Physical Symptoms, similar to the ones found associated with dysmenorrhea in the present study, were reported by George and Bhaduri, (4) Agarwal and Agarwal, (6) The findings of the recent study, of there not being a relationship between the severities of dysmenorrhea and body surface area contradict the explanations by Jeffcoate (7) and Dawn (1990), (3) which states that general ill health is one of the etiological causes of dysmenorrhea. However, it supports the findings of George and Bhaduri, (4)

5. Conclusion

From the study it can be concluded that dysmenorrhea is a very common problem among adolescent girls, and they experience a number of physical and emotional symptoms associated with dysmenorrhea, and with the increased intensity of pain in occurrence of dysmenorrhea the probability of experiencing these symptoms is also increased. Adolescent girls, almost always, silently suffer the pain bydysmenorrhea and the discomfort associated with it due to lack of knowledge about reproductive health. It is probable that this also affects their academic performance. The findings of this study thus indicate the enormity of the problem and the need for appropriate intervention through a change in lifestyle.

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