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MENSTRUAL ABNORMALITIES AMONG ADOLESCENT GIRLS AGED 15 TO 18 YEARS IN MADHYA PRADESH

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ABSTRACT

The current research involved the investigation into the prevalence and patterns of menstrual abnormalities in adolescent girls in the age group of between 15-18 years in Madhya Pradesh. Abnormal menstrual flow, menstrual pain, irregular periods duration, abnormal cycle length, passage of blood clots, school absenteeism during menstruation, and physical disorders during menstrual phase were the research topics. The data were obtained in a structured epidemiological process, and the results were discussed in the framework of biological, nutritional, and socio cultural situation of the area. This paper has identified the scale of menstrual health issues and their educational and health implications, and has suggested solutions to clinical practice, school-based interventions, and community health planning.

Keyword: Menstrual abnormalities, Adolescent, Madhya Pradesh

1. INTRODUCTION

Menstrual health adolescents was a significant indicator of reproductive and overall health and had a significant implication to schooling, involvement, and quality of life. Adolescence was the period where the hypothalamic pituitary ovarian axis became developed, the ovulatory cycles developed, and in the course of the change most girls had their menstrual patterns that were not typical of the physiological processes. In Madhya Pradesh, nutrition was influenced by biological factors, which interacted with the health service, school infrastructure and cultural beliefs to influence the process of experiencing menstrual abnormalities and their effects. The age range of 15 to 18 years was also of great importance as it was also an active schooling period, and developmental phases. The abnormal menstruation in this research was excessive or scanty menstruation, painful menstruation, irregularity in the duration and time of menstruation, abnormal menstrual cycle duration, and discharge of blood clots and secondary physical symptoms in the form of weakness, headache, stomach upset, and fatigue. Besides the physical manifestations, the research also focused on behavioral outcomes which in this case were temporary withdrawal at school at menstruation. The research set out to give a holistic image of prevalence, patterns and correlates of menstrual problems among this population group.

There was already evidence on the same in India and other such places where it was seen that menstrual problems were prevalent among adolescents and were determined by various factors. Dysmenorrhea had become the most common complaint that was reported and a primary cause of activity limitation. Nutritional deficiencies, endocrine problems and anovulatory cycles had been linked with heavy menstrual bleeding and irregular cycles in young reproductive years. Blood clot passage had commonly been experienced with heavier bleeding and anaemia symptoms. Cultural limitations, stigma and lack of proper sanitation facilities had also added to the cause of discomfort and absence of schools. The above presented study had a framework where menstrual abnormalities were considered as results influenced by social determinants, nutritional and health condition, access to care, and

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psychosocial factors, and school involvement and well being were the main areas of influence and impact.

The main purpose of conducting the study was to determine the estimate of prevalence of menstrual abnormalities in adolescent girls aged 15 to 18 years in Madhya Pradesh. The objectives were specific poles such as evaluation of abnormal flow, menstrual pain, periods of irregularities, abnormal length of menstrual cycle, pass of blood clots, absenteeism at school during menstruation and physical disorders during the menstrual phase. There were other objectives like investigations of association with other factors like nutritional status, age at menarche, body mass index, and health seeking behavior and subsequently coming up with implications on intervention.

2. METHOD

The design was population based cross sectional study in a bid to estimate prevalence. The sampling procedure was stratified multistage to help in the representation of the urban and rural environments and various socio cultural groups. Out of school and school going adolescent girls of the age group were represented. Sample size was estimated to provide sufficient accuracy on the most frequent results like menstrual pain and irregular cycles. Structured questionnaire was used to gather data through training of female investigators who were then used to conduct their study in a private environment. The tool recorded menstrual history such as age at menarche, regular menstrual cycle, variation in menstrual periods, perceived heaviness of the flow, and blood clots along with the frequency and severity of pain and absenteeism during menstruation. Dietary patterns, symptoms that are suggestive of endocrine disorders, and general health complaints were also noted. To determine the nutritional and anemia status, anthropometric measurements and estimation of hemoglobin were conducted. Informed consent and assent as well as ethical approval were carried out. Those participants, who had severe symptoms or were anaemic, were sent to the relevant health facilities.

3. OPERATIONAL DEFINITION

Abnormal flow was determined by participant report of excessive bleeding which hampered with daily activities, or frequent need of absorbent material change whereas very scanty bleeding where needed. Menstrual pain was classified on the level of its severity and the effect it has on daily activities with severe pain being the pain that results in failure to go to school or carry out the normal routine. Inconsistency of period length meant unpredictability of the onset and the large range of variation of the cycle periods. Abnormal cycle length was used to mean those cycles which were significantly shorter or longer than the anticipated interval of adolescents who were past the early post menarcheal years. The self report of visible clots during menstruation was used to evaluate the passage of blood clots. Absenteeism at school was calculated as days out of school on the specific grounds of menstrual. The physical disorders experienced during menstruation were fatigue, dizziness, palpitations, nausea, vomiting, abdominal discomfort, and headaches and anemia was indicated by the level of hemoglobin.

4. RESULTS AND DISCUSSIONS

The results indicated that a significant percentage of the participants had one or more of the menstrual abnormalities. Menstrual pain can be considered as one of the most often reported issues, and it was often related to limitation of everyday activities. Another significant sample of girls told about abnormal flow, such as heavy bleeding and presence of clots. Inconsistency of timing and length of the cycle was noted in a significant proportion especially of those

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who were nearer to menarche but it also existed in some older teenagers. A high percentage of participants reported school absenteeism during menstruation and this was closely associated with intensity of pain, heavy bleeding, and feeling not comfortable in school settings. Physical complaints like weakness, headache and gastrointestinal discomfort often accompanied menstruation and anemia was found in significant proportion of girls, particularly those with heavy bleeding.

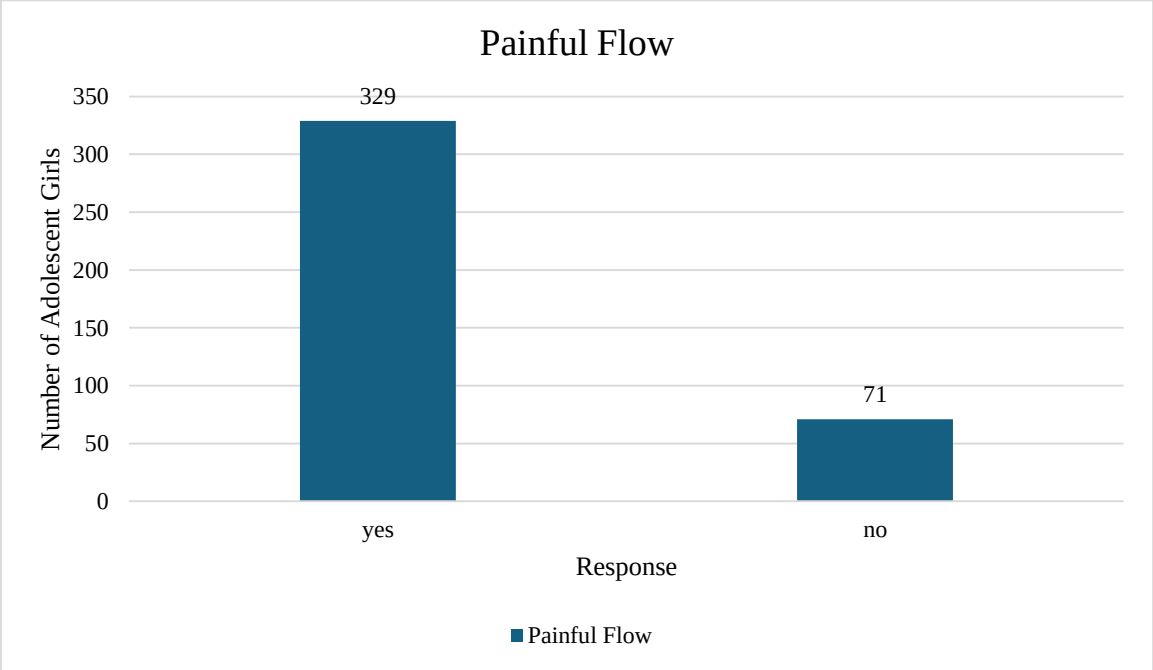

Figure 1 Number of girls experiencing painful flow when menstruating

Out of the total sample of 400 adolescent girls, 329 reported experiencing pain associated with menstruation. This indicated that menstrual pain was highly prevalent in the study population and represented one of the most dominant menstrual complaints. Such a high proportion suggested that dysmenorrhea was not an occasional or minor issue but a routine health concern affecting the majority of girls in this age group. In the context of adolescence, where hormonal cycles were still stabilizing, this level of pain burden pointed toward both physiological immaturity of cycles and possible contributory factors such as anemia, nutritional deficiencies, stress, and lack of early symptom management.

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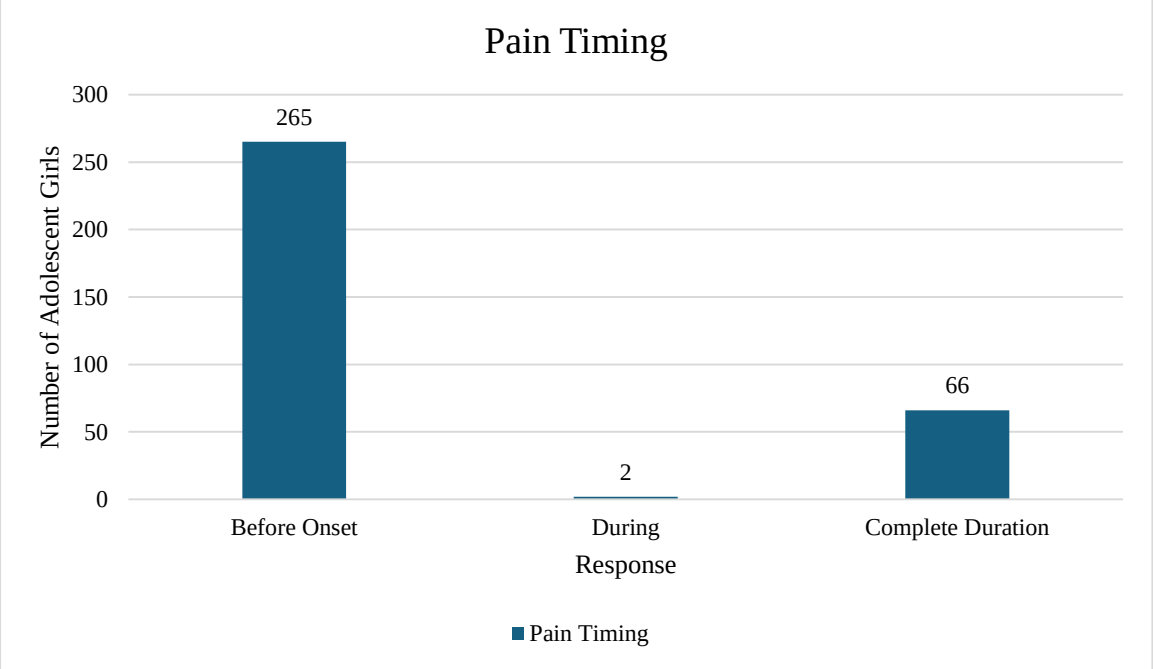

Figure 2 Pain timing characteristics for the sample when menstruating

With respect to the timing of pain, 265 girls indicated that pain began before the onset of menstrual bleeding, while 66 reported that pain persisted throughout the entire duration of menstruation. This distribution suggested that for most girls the pain was premenstrual in nature, likely linked to uterine contractions and hormonal fluctuations preceding the shedding of the endometrium. However, the subgroup experiencing pain during the entire menstrual phase represented a clinically important category, as prolonged pain often indicated more intense uterine activity, possible inflammatory processes, or secondary dysmenorrhea. This group was more likely to experience functional limitations, including difficulty in attending school and performing routine tasks.

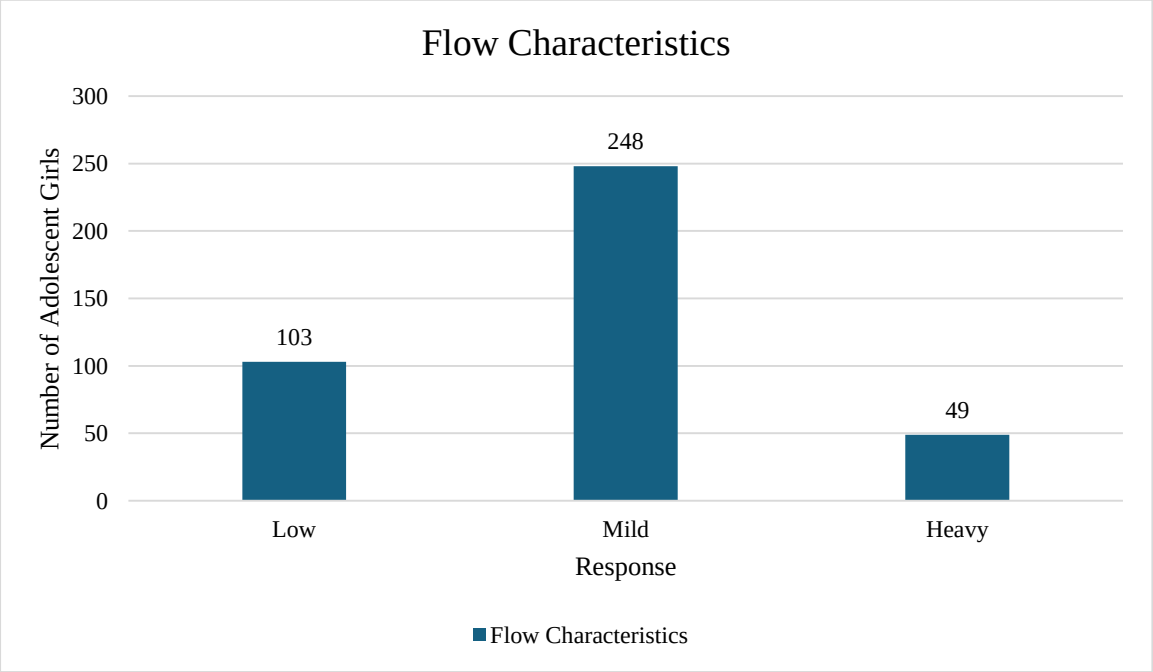

Figure 3 Menstruation flow characteristics

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Regarding menstrual flow, variation in perceived quantity was evident. A total of 103 girls reported low flow, 248 described their flow as medium, and 49 indicated heavy menstrual bleeding. The predominance of medium flow suggested that for most participants menstruation fell within a tolerable range. However, the subgroup reporting heavy flow was significant from a public health perspective, as excessive blood loss during menstruation in adolescents was often associated with iron deficiency anemia, fatigue, dizziness, and reduced physical capacity. When considered alongside the high prevalence of pain, heavy flow could have compounded the physical strain experienced during menstruation. On the other end, low flow among a substantial number of girls might have reflected hormonal irregularities, nutritional issues, or early cycle instability.

Cycle regularity findings further emphasized the instability of menstrual patterns in this age group. A total of 146 girls stated that their menstrual cycle was not fixed, indicating variability in cycle length from month to month. Additionally, 47 girls reported that their periods did not follow any recognizable pattern and that they did not experience even 12 cycles in a year. This subgroup likely represented adolescents with significant cycle irregularity, which could be associated with anovulatory cycles, endocrine disturbances such as thyroid imbalance or polycystic ovarian tendencies, stress, or undernutrition. The fact that nearly half of the participants experienced some degree of irregularity highlighted that menstrual rhythm had not yet stabilized for many girls, but the proportion with markedly infrequent cycles suggested the need for clinical screening.

Taken together, these findings portrayed a scenario in which menstrual pain, variations in flow, and irregular cycles coexisted as common experiences among adolescent girls in the region. The overlap of high pain prevalence with notable levels of heavy flow and cycle irregularity indicated that menstrual health challenges were not isolated symptoms but part of a broader pattern of reproductive health vulnerability. In an educational context, girls experiencing severe or prolonged pain and heavy bleeding were more likely to have faced discomfort, fatigue, and possible school absenteeism. Physiologically, these patterns underscored the interaction between hormonal maturation, nutritional status, and environmental stressors in shaping adolescent menstrual health.

5. CONCLUSION AND SUGGESTIONS

Overall, the observations demonstrated that menstrual abnormalities in this population were widespread and multifaceted, reinforcing the importance of routine screening, menstrual health education, nutritional support, and accessible adolescent friendly health services.

It was analyzed that abnormalities of menstruation are possible to be attributed to nutritional state, specifically, factors that are indicative of iron deficiency. Female students with lower hemoglobin rates more frequently reported to experience fatigue, dizziness, and heavier bleeding. The age at menarche and body mass index were found to be related to the cycle irregularity and the patterns of pain. Reporting and management of symptoms as well as delayed seeking of care was affected by the socio cultural factors and lack of menstrual knowledge. Patterns of absenteeism were connected with the school infrastructure and access to personal hygienic facilities. These results indicated the interplay between the biological, nutritional, and environmental factors in influencing menstrual health in the area. The research report showed that early detection and treatment of routine menstrual disorders were necessary. The correct analgesic use to relieve the symptoms, iron supplementation in the case of anaemia and hormonal control where necessary were pertinent options. Repeat irregular cycles and extreme symptoms were indicative of endocrine disorders. Services provided using adolescent friendly platforms were significant to give confidentiality and

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comfort in delivery. It was proposed that strengthening of the school health program to incorporate menstrual health screening and counselling would be viable. The research proved that miscarriage of menstruation was very common in adolescent girls between 15 and 18 years of age in Madhya Pradesh and had serious health and educational implications. Menstrual pain, abnormal flow, irregular cycle, passage of clots and related physical disorders were widespread and often caused school absenteeism. The results emphasized the significance of combination clinical, nutritional, educational, and infrastructural interventions to enhance their menstrual health and help adolescent girls to reach their full potential.

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3. Gagua T, *Primary dysmenorrhea: prevalence in adolescents* — documented wide prevalence ranges of menstrual pain in adolescent girls and its role in absenteeism and reduced functioning.
4. A study on menstrual patterns among secondary school adolescents found dysmenorrhea, irregular cycle lengths, and bleeding variations to be highly prevalent, often interfering with school and social life.
5. Clinical guidance from ACOG on adolescent menstruation highlighted that irregular cycles are typical in early post-menarche years but may still require evaluation when prolonged or accompanied by other symptoms.