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Original Research Article

Menstrual problems among adolescent girls attending at a tertiary care hospital in Bangladesh

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ABSTRACT

Background: Adolescents constitute almost 20% of our population and one-fifth of the world's total population. However, menstrual disorders are a common concern among adolescent girls, often impacting their physical and emotional well-being. This study aimed to assess the prevalence and causes of menstrual problems among adolescent girls attending a tertiary care hospital (BSMMU) in Bangladesh.

Methods: This cross-sectional study was conducted in the Department of Obstetrics and Gynaecology, Bangabandhu Sheikh Mujib Medical University (BSMMU), Dhaka, Bangladesh, from January 2017 to December 2017. This study included 668 adolescent girls with various menstrual disorders aged 10-19 years who attended the outpatient department of obstetrics and gynecology of our institution.

Results: In this study, out of 668 adolescent girls, 418 (62.6%) had some form of menstrual disorder. The most common were menorrhagia (30.38%), oligomenorrhea (26.07%), and amenorrhea (21.76%). Among those with amenorrhea, 3.58% and 18.18% had primary and secondary amenorrhea respectively. Abnormal uterine bleeding (47.4%) and polycystic ovarian disease (PCOD) (44.29%) were the leading causes among 289 individuals with menstrual dysfunction. In cases of primary amenorrhea, the most frequent cause was Müllerian agenesis (60%), followed by imperforate hymen (20%). For secondary amenorrhea, PCOD (77.63%) was the dominant cause, with anemia, emotional disturbances, and premature ovarian failure.

Conclusions: The findings show that menorrhagia, oligomenorrhea, and amenorrhea are frequently common menstrual problems among adolescent girls mostly due to abnormal uterine bleeding and PCOD. The study highlights the need for early diagnosis, proper medical intervention, and specialized adolescent gynecology clinics to improve reproductive health outcomes.

Keywords: Adolescent, Amenorrhea, Dysmenorrhea, Menorrhagia, Menorrhagia, Oligomenorrhoea

INTRODUCTION

Adolescents are the healthiest section of our society and they constitute around 20% of the population. World Health Organization (WHO) defines adolescents as individuals in the 10 to 19 years age group. Adolescents constitute almost one-fifth of the world's total population.¹ Adolescence is a transition period from childhood to adulthood and is characterized by a spurt in physical,

endocrinal, emotional, and mental growth.² All these changes turned them from complete dependence to relative independence.² One of the major physiological changes that take place, when girls reach adolescence is the onset of menarche (first period), which is often associated with problems of irregular menstruation cycles, heavy bleeding, and dysmenorrhea (painful cramps). In this age, the physical nature of the problem is unique and includes emotional and psychological factors. Usually, adolescent

girls are shy and they do not share their problems with their friends and parents. Adolescent gynecology is a sub-specialized area that has still not been explored optimally. In this study, an attempt has been made to review the menstrual problems of the adolescent population attending the obstetrics and gynaecology outpatient department (OPD), BSMMU, Dhaka, Bangladesh.

Obstetric morbidity encompasses the conditions during pregnancy, delivery, and post-partum period; while gynecological morbidity includes the conditions outside pregnancy-related events.³ There are three methods for the diagnosis of gynecological morbidities such as self-reported symptoms, clinical examination, and laboratory tests. Appropriate laboratory testing is relevant for the precise detection of gynecological morbidity and accurate measurement of the prevalence of diseases. However, such tests have limited applicability in developing countries because these are expensive and having logistical difficulties.⁴ To date, information about gynecological morbidity in developing countries is scanty. Although a few studies have been conducted in this field, most of those were based on information obtained from clinics or hospitals. A large proportion of adolescent girls do not visit health facilities unless the disease becomes serious. So, the results from hospitals or clinics do not reflect the magnitude of the disease burden. The statistics provided by the hospitals are based on biomedical causes only but information on social economic demographic and behavioral determinants is rare. A search of literature reveals that knowledge about gynecological morbidity and its determinants in Bangladesh as well as in the sub-continent is almost non-existent. A few studies in this area showed a varying prevalence of gynecological morbidity and these mainly considered adult women of reproductive age.⁵⁻⁸ One study in Bangladesh revealed that a large proportion of adolescent girls (64.5%) have been suffering from gynecological morbidity.⁹ The appropriate strategies need to be designed to bring about improvement in the reproductive health of adolescent girls. Therefore, the present study aimed to assess the prevalence and causes of menstrual problems among adolescent girls attending a tertiary care hospital (BSMMU) in Bangladesh.

METHODS

This cross-sectional study was conducted in the Department of Obstetrics and Gynaecology, Bangabandhu Sheikh Mujib Medical University (BSMMU), Dhaka, Bangladesh, from January 2017 to December 2017. In this study, we included 668 adolescent girls with various menstrual disorders aged 10-19 years irrespective of their marital status who attended the outpatient department (OPD) of obstetrics and gynecology of our institution.

These are the following criteria to be eligible for enrollment as our study participants: a) Adolescent girls aged 10-19 years; b) Adolescent girls with various menstrual disorders like- amenorrhoea, menorrhagia, oligomenorrhoea, prolonged period, and dysmenorrhoea; c)

Adolescent girls who were willing to participate were included in the study And a) Adolescent girls with pregnancy; b) Adolescent girls diagnosed with major psychiatric disorders; c) Adolescent girls with any history of acute illness (e.g., renal or pancreatic diseases, ischemic heart disease, asthma etc.) were excluded from our study.

Data collection and analysis

Informed written consent was obtained from all individual participants or legal guardians for every case. A detailed history of gynecological problems and other associated problems was taken carefully. In addition to the general examination; the height, weight, and secondary sex characteristics of each study subject were recorded accordingly. Investigations like complete blood count, hormonal assay (FSH, LH, Prolactin, TSH), coagulation profile, pelvic ultrasound, and karyotyping were done as and when indicated. All data were analyzed using the Statistical Package for Social Science (SPSS) software version 22. Results were expressed in frequencies or percentages.

The study was approved by the ethical review committee of Bangabandhu Sheikh Mujib Medical University (BSMMU), Dhaka, Bangladesh.

RESULTS

The current study intended to evaluate the menstrual problems among adolescent girls attending a tertiary care hospital (BSMMU), in Dhaka, Bangladesh. A total of 668 adolescent girls were evaluated, of them, 418 (62.6%) had different forms of menstrual disorder.

Table 1: Menstrual disorders of our study patients (n=418).

Menstrual disorder	N	Percentage (%)
Amenorrhea (n=91)		
Primary amenorrhea	15	3.58
Secondary amenorrhea	76	18.18
Menstrual dysfunction		
Menorrhagia	127	30.38
Prolonged period	53	12.67
Oligomenorrhoea	109	26.07
Dysmenorrhoea	38	9.09
Total	327	78.22

Table 1 shows that menstrual disorders of adolescent girls varied from amenorrhoea (21.76%) to menorrhagia (30.38%). Among 91 patients with amenorrhoea, 15(3.58%) had primary amenorrhoea and 18.18% had secondary amenorrhoea. Among menstrual dysfunction, menorrhagia (30.38%), and oligomenorrhoea (26.07%) were found to be the most common, followed by a prolonged period observed in 12.67% of cases and dysmenorrhoea found at 9.09% cases respectively.

Table 2: Etiology of menstrual dysfunction (n=289).

Etiology	Number	Percentage (%)
AUB (abnormal uterine bleeding)	137	47.40
PCOD (polycystic ovarian disease)	128	44.29
Thyroid disorder	13	4.49
Moderate anaemia	6	2.07
Emotional disturbance	5	1.73

Table 2 shows the causes of menstrual disorders among 289 individuals. The most common cause is abnormal uterine bleeding (AUB), affecting 47.4% of the group, followed by polycystic ovarian disease (PCOD), which accounts for 44.29% of cases. Other less common causes include thyroid disorders (4.49%), moderate anemia (2.07%), and emotional disturbances (1.73%).

Table 3: Etiology of primary amenorrhea (n=15).

Etiology	Number	Percentage (%)
Mullerian agenesis	9	60
Hypogonadotropic hypogonadism	1	6.66
Testicular feminizing syndrome	2	13.33
Imperforate hymen	3	20

Table 3 presents the causes of menstrual disorders in 15 individuals with primary amenorrhea. The most common cause is Müllerian agenesis (60%), followed by imperforate hymen (20%), testicular feminization syndrome (13.33%), and hypogonadotropic hypogonadism (6.66%).

Table 4: Etiology of secondary amenorrhea (n=17).

Etiology	Number	Percentage (%)
PCOD (polycystic ovarian disease)	59	77.63
Anemia	6	7.89
Marked emotional disturbance	5	6.57
Premature ovarian failure	3	3.94
Hyperprolactinemia	2	2.63
Tuberculosis	1	1.31

Table 4 shows the causes of menstrual disorders in 76 individuals with secondary amenorrhea. The most common cause is polycystic ovarian disease (PCOD), affecting 77.63% of cases, followed by anemia (7.89%), emotional disturbances (6.57%), and premature ovarian failure (3.94%), which can lead to early menopause. Less common causes include hyperprolactinemia (2.63%), and

tuberculosis (1.31%), which can impact reproductive health.

DISCUSSION

Adolescence is a transient period between childhood and adulthood with various gynecological problems. The most common gynecological problem in adolescent girls is menstrual complaints, which is the most common reason for consultation with gynecologists.

The present study shows that menstrual disorders are the most common gynecological problem (62.6%) among adolescent girls. This finding was similar to a couple of previous studies as showed that menstrual disorders were 58.06% and 53.33% respectively in adolescent girls.^{10,11}

It was evident that amenorrhea, menorrhagia, polymenorrhea, oligomenorrhoea, and dysmenorrhea are the common menstrual disorders reported in adolescent girls which should be properly diagnosed and effectively managed in this population.^{12,13}

In our study amenorrhea (both primary and secondary) was present in 91 girls (21.76%). Mullerian agenesis was found in 9 out of 15 girls with primary amenorrhea. 1 cases of primary amenorrhea were ultimately diagnosed as hypogonadotropic hypogonadism, 2 cases were testicular feminizing syndrome and 3 cases were due to imperforate hymen those presented with cyclical lower abdominal pain along with primary amenorrhea. In the study of Prasad et al mullerian agenesis was found in 3 out of 8 girls with primary amenorrhea.¹¹ Another study reported that after gonadal dysgenesis, Mullerian agenesis was the second most common cause of primary amenorrhea.¹⁴

In the present study, dysmenorrhea was reported in 9.09% of adolescent girls. Dysmenorrhea (31.25%) was one of the most frequently reported problems in adolescent girls as reported by Prasad et al.¹¹ In India, the incidence of dysmenorrhoea among adolescent girls was 33.5% reported by Nag et al.⁹ Another study by George & Bladui concluded that dysmenorrhea is a common problem in adolescent girls.¹⁵

In the present study, oligomenorrhea was found in 26.07% of adolescent girls. Although 87.3% had normal cycles between 25 and 35 days and according to Nair et al reported that 11.3% of their patients had oligomenorrhoea or cycle lengths greater than 35 days, comparatively lower than the 18%-32.9% reported in other studies which included young adolescents.^{16,17}

It was reported that abnormal uterine bleeding (AUB) is not only restricted to the adult population but is more common in adolescents.¹⁸ In as many as 95% of abnormal bleeding was caused by AUB.¹⁹ It may take 2-5 years to form complete maturation of the hypothalamic-pituitary-ovarian axis.²⁰ In this present study, out of 668 adolescent girls total of 418 were suffering from menstrual problems,

of them 137 were found to have AUB. Another study reported that 32 out of 51 girls suffering from menstrual problems were diagnosed as cases of AUB.²⁰ The current study was supported by these previous studies.¹⁷⁻²⁰

In our study a large percentage of the adolescent girls (44.29%) were suffering from polycystic ovarian disease (PCOD) which was diagnosed by clinical criteria of menstrual problems such as secondary amenorrhea (duration 3-6 months) or oligomenorrhea, the feature of hyperandrogenism and hormonal assay and sonographic findings. However, Karki et al found that 16 adolescent girls out of 87 (18.39%) were diagnosed to be cases of PCOD.²¹

PCOD was the main etiology behind secondary amenorrhea (77.63%). Other etiological factors were anemia, marked emotional disturbance, premature ovarian failure, hyperprolactinemia, and tuberculosis. One previous study found that premature ovarian failure may be the cause of secondary amenorrhea in 10% of cases below the age of forty.²² It is rare in adolescents but in our study, 3 girls had secondary amenorrhea due to premature ovarian failure based on amenorrhea of more than 4 months.

This study has few limitations. Our study was a single-center study. We took a small sample size due to the short study period. After evaluating those patients, we did not follow up with them for the long term and did not know other possible interference that may happen in the long term with these patients.

CONCLUSION

The present study demonstrated that the majority of adolescent girls have menstrual disorders. Menorrhagia, oligomenorrhea, and amenorrhea are frequently common menstrual problems among adolescent girls. There are various causes responsible for menstrual disorder among adolescent girls but the most common of them was observed to be irregular menses due to abnormal uterine bleeding and polycystic ovarian disease. From this study, it is evident that adolescent girls are at high risk of developing several menstrual disorders. Establishing specialized adolescent clinics will certainly be desirable for the proper management of adolescent gynecological problems.

Recommendations

Further study with a prospective and longitudinal study design including a larger sample size needs to be done to validate the findings of our study.

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Ethical approval: The study was approved by the Institutional Ethics Committee

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