



A Clinical Study of Menstrual Disturbances in Female Medical Students

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ABSTRACT

Introduction: Menstrual abnormality in young adults could be due to organic cause or related to psychological factors, like stress, anxiety and hormonal causes. Irregular and heavy bleeding can cause disruption to women's personal and professional lives. Menstrual disorders frequently affect the quality of life of adolescents and young adult women, especially those who suffer from dysmenorrhea and heavy menstruation. Such disorders have non-health problems as well, as limitations on attendance at work and school/college which hinder academic achievements. This study aimed to see the frequency of different menstrual disorders in medical students and their association with lifestyle, psychological stress and college absenteeism.

Methodology: A cross sectional prospective study was conducted at Bangalore medical college and research institute on 100 female medical students. Details of menstrual history including age at menarche, average length of menstrual cycle, duration of flow, passage of clots during menses, presence of dysmenorrhoea or any preceding symptoms like headache, weight gain, water retention, mood swings and irritability suggesting premenstrual symptoms were also collected from the individuals.

Results: The mean age of the participants was 21.8 years with reported mean menarche age of 13.8 years. 78% of students were suffering from dysmenorrhea. Of the students experiencing dysmenorrhea, 66.6% had severe pain. Most of them reported abdominal pain that extended to the thighs which warranted absenteeism from the classes usually or sometimes (10% and 40% respectively). Oligomenorrhoea with irregular cycles was reported in 24.0% of students and polymenorrhoea with irregular cycles was experienced usually or sometimes by 20% of students respectively. 4.0% of student reported very light menstruation (< 1 pad daily) and 24% had heavy bleeding (= 5 pads daily). 64% of the students were having premenstrual symptoms. Of those who suffered from PMS, 98% reported that the signs usually disappeared with the beginning of menstruation and 60.0% and 34% reported that the symptoms usually and sometimes reduced their daily activity respectively.

Conclusion: Prevalence of menstrual problems in medical students is high. Working ability is reported to be affected by this cause.

KEYWORDS : Dysmenorrhea, Oligomenorrhoea, polymenorrhoea, premenstrual symptoms.

Introduction

Menstrual disorders frequently affect the quality of life of female medical students.¹ The normal menstrual cycle relies on action and interaction of hormones released from hypothalamus pituitary ovaries and their effects on endometrium.^{2,3} College-going young females, frequently experience a variety of menstrual-related complaints, including dysmenorrhoea, menorrhagia, irregular menses, menstrual-related mood changes and premenstrual syndrome.^{4,5}

Regular menstrual cycle occurs every 28-35 days \pm 2-3 days in which the menstrual flow lasts for 3-5 days with an average loss of 30-80 ml of blood. Irregular menstrual cycle is any deviation from normal duration.

Dysmenorrhoea is the commonest gynaecological disorder among women, with a prevalence of 60% to 93%.⁶ Dysmenorrhoea is pain perceived before or during menstruation, confined to lower abdomen, back and thighs, and of varying severity, ranging from mild, moderate to severe. Menorrhagia denotes regular cycles with bleeding either excessive in amount (>80ml) &/or, in duration with flow lasting >7 days.

Hypomenorrhoea is scanty menstrual flow which lasts for <2 days. In polymenorrhoea, the interval between two consecutive cycles is <21 day and in oligomenorrhoea, this interval may extend to >35 days.

Pre-menstrual syndrome encompasses a wide variety of cyclic, recurrent, physical, emotional and behavioural symptoms occurring during late luteal phase of menstrual cycle and subsiding with the beginning of menses. These symptoms include weight gain, headache, fatigue, nervousness, irritability and mood swings.^{7,8}

Medical students are at high risk for developing menstrual irregularities due to stressed lifestyle, irregular food and exercise habits. Menstrual irregularity over prolonged periods of time can cause anovulation, endometrial hyperplasia and infertility as well as deterioration in the quality of life. Dysmenorrhea and PMS are most commonly related to absence from class/college, limitation in social, academic, sports and daily activities.^{9,10}

Many studies have been conducted earlier to address the problems related to menstrual abnormalities in young students, yet few reports are available on effect of stress on menstrual patterns in medical students in India as well as in different parts of the world.⁹⁻¹⁵ Medical students need to study harder and are vulnerable to stress, which may lead to dysfunction of hypothalamo-pituitary ovarian axis causing menstrual abnormalities.¹⁶

A number of medical conditions can cause irregular or missed menses which can be diagnosed and treated at early stage. However, this part of women's health is mostly neglected by primary health care. More than 90% of menstrual problems are preventable just by early detection and appropriate treatment.¹⁷ An etiological relationship between menstrual disorders, body mass index (BMI), dietary habits, physical exercise and psychological stress may be sought for early prevention.

Methodology

A cross sectional prospective study was conducted at Bangalore medical college and research institute on 100 female medical students over a period from march 2013 to march 2015. Informed consent was obtained from all the participants.

All the students willing to participate in the proposed study were ex-

plained about the purpose of the study and were given information on the questionnaire. Unmarried participants who were willing and had attained menarche were included in the study.

Background information of the students regarding age, social status, family history of related menstrual abnormality. Details of menstrual history including age at menarche, average length of menstrual cycle, duration of flow, passage of clots during menses, presence of dysmenorrhoea or any preceding symptoms like headache, weight gain, water retention, mood swings and irritability suggesting premenstrual symptoms were also collected from the individuals.

Any known cause for menstrual disorder was also recorded. Any menstrual disorder, which was severe enough to warrant skip of class or required to administer medications (like analgesics or antispasmodics) were also recorded.

Results

The mean age of the participants was 21.8 years with range of 20-24 years.

The reported age of onset of menstruation was 14 years for 70% of participants. The mean menarche age was 13.8 years.

Overall 90 (90%) of the students reported suffering from one or more types of menstrual dysfunction. Prevalence of different menstrual disturbances has been shown in figure 1.

The most common problem was pain during menses; 78% of students were suffering from dysmenorrhoea. Of the students experiencing dysmenorrhoea, 17.8 % suffered a mild degree of pain, 15.6% moderate and 66.6% severe. Most of them reported abdominal pain that extended to the thighs. A great majority reported that the pain affected their daily activities usually or sometimes (60% and 30% respectively) many had been absent from the classes because of pain usually or sometimes (10% and 40% respectively).

Oligomenorrhoea with irregular cycles was reported in 24.0 % of students and polymenorrhoea with irregular cycles was experienced usually or sometimes by 20 % of students respectively.

According to the number of pads used during a cycle 4.0% of student reported very light menstruation (< 1 pad daily) and 24 % had heavy bleeding (= 5 pads daily).

64% of the students were having premenstrual symptoms. Rectal pain 50%, breast tenderness 52%, change of mood 48%, craving for sweet /salty food 50%, headache /migraine 30% were assessed as criteria to diagnose premenstrual syndrome.

Of those who suffered from PMS, 98% reported that the signs usually disappeared with the beginning of menstruation and 60.0% and 34% reported that the symptoms usually and sometimes reduced their daily activity respectively.

Discussion

The mean age of menarche in the present study was 13.8 years, which was almost consistent with earlier reports from different geographical areas of India and different parts of the world 12.5±1.52 years¹⁸, 12.6 ± 1.0 years¹⁹, 12.5 years²⁰, 13.99 ± 1.8 years²¹, 13.57 ± 1.23 years²², 14.2 years²³, 12.4 ± 1.3 years²⁴. The age of menarche is determined by general health, genetic factors, socioeconomic and nutritional status.

Dysmenorrhoea (pain during periods) was reported to be the commonest menstrual problem and premenstrual symptoms as the most distressing problem associated with menstrual cycle.^{25,26} Various studies have reported a wide variation in the incidence of dysmenorrhoea, in a range between 28% and 89.5%.^{27,28} In the present study, 78% of enrolled subjects complained of dysmenorrhoea. Singh et al., reported a prevalence of 73.83% in Indian medical students²⁹ which is comparable with our study.

Occupational stress significantly influences the function of endocrine and reproductive health.^{30,31} Various studies performed across the globe have found that medical students suffer from greater level of distress, as compared to their colleagues in other professions. Among

various causes, academic pressure, work load, sleep deprivation and exposure to patient's suffering and deaths have been hypothesised as the main contributory factors to the mental health of medicos.³²

Regarding severity of dysmenorrhoea, 12.8 % suffered a mild degree of pain, 15.3% moderate and 66.6% severe which is comparable with another study conducted by Nisreen et al, where 18.8% suffered from mild dysmenorrhoea, 19.5 % from moderate and 61.6 % s from severe dysmenorrhoea.³³

Singh et al., have also reported premenstrual symptoms in 60.74% of Indian medical students³⁴, which is comparable with our study of 64% suffering from it. Stress may be a causal factor for pre-menstrual tensions in the present study, as high number of medicos suffered from more than average or high levels of stress (62%). Studies have shown that stress not only increases the level of cortisol but also progesterone and its metabolites allopregnanolone.³⁵ Evidences from animal studies have shown that progesterone and allopregnanolone both are stress-responsive (i. e., increase in stress) as well as stress-reducing (that is down regulates stress and anxiety).³⁵ Progesterone is responsible for ovulation and as premenstrual syndrome occurs in ovulatory cycles, progesterone is probably the underlying cause for premenstrual symptoms in susceptible females.³⁶

Conclusion

In the medical institutions, students should be educated on the importance of physical, social and mental health as well as the importance of preventive care. Menstruation is a normal physiological process, however any deviation from normalcy is usually considered as minor ailment. Menstrual abnormalities can cause severe health problems like polycystic ovarian disease, hyperlipidaemia, obesity, infertility, social withdrawal, psychological problems, low self-esteem and class/college absenteeism. The timely intervention after understanding the problem on individual basis can be done by conducting studies in order to provide healthy clinicians to the community, who can treat similar problems in the surrounding population and help the society on a larger scale.

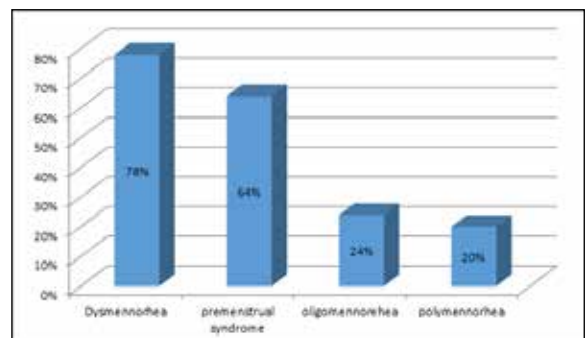


Figure 1 menstrual disturbance among female medical students

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