Prevalence and Severity of Dysmenorrhoea among Medical Students: A Cross Sectional Study

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Abstract

Background: Dysmenorrhoea is recognized as the most common gynecological complaint which affects most of the females and adolescents. Dysmenorrhoea not only affects the daily routine activities but it has profound effect on quality of life of students.

Objective: To determine the prevalence of dysmenorrhoea, its severity among medical students and its effects on college/class absenteeism of students.

Study design: Cross sectional study

Methodology: This study was conducted on 100 female medical students. Young unmarried undergraduate female medical students between the ages of 18-22 years were included in this study. All participants were given a questionnaire to complete. Questions were related to age of the students, age of menarche, length of menstrual cycle, duration of menstrual flow, dysmenorrhoea and its severity and absenteeism from college and/or class due to dysmenorrhoea. To detect the severity of dysmenorrhoea we used the verbal multi-dimensional scoring system. Participants were given 30 minutes to complete the questionnaire.

Results: Mean age of students was found to be 21 years with SD ± 1.7. Mean age of menarche among the students was found to be 13 years with SD ± 0.8. Mean length of menstrual cycle was found to be 29 days SD ± 2.1. The average duration between two periods and the duration of menstrual flow were 28.34 days SD ± 7.54 and 4.5 days SD ± 2.45 respectively. Regarding dysmenorrhoea 78% of the students complained of dysmenorrhoea while 22% did not have this complaint. Regarding severity 46% had mild dysmenorrhoea, 19% had moderate dysmenorrhoea and 13% had severe dysmenorrhoea. Among female medical students who reported dysmenorrhoea 21% were frequently missing classes.

Conclusion: Dysmenorrhoea is highly prevalent among female medical students; it is related to college/class absenteeism, limitations on social, academic, sports and daily activities. A few of the students consult physician for the problem and many adopt self-medication with over-the-counter medicines or home remedies.

Key words: Menstruation, Dysmenorrhoea, Menarche.

Introduction

Dysmenorrhoea is the commonest gynecological complaint and a leading cause of recurrent school/college absenteeism among female medical students.1 It is defined as painful menstruation in females with normal pelvic anatomy usually beginning in adolescence, characterized by crampy pelvic pain beginning shortly before or at the onset of menstruation and lasting 1 to 3 days.2 Type of dysmenorrhoea found among the young females is primary and it is associated with normal ovulatory cycles.3 Dysmenorrhoea is less common during first two to three years after menarche, when most of the menstrual cycles are an-ovulatory. It becomes more prevalent with the establishment of ovulatory menstrual cycles.4 Most of the females complain of lower abdominal cramps as the most common symptom of dysmenorrhoea. Pain migrates to the back of legs or lower back. Many adolescents suffer from other menstruation associated symptoms such as vomiting, headache, fatigue, back pain and diarrhoea. Pain usually starts within hours of the start of menstruation and peaks as the flow becomes heaviest during the first day or two of the cycle.5

Studies have shown that dysmenorrhoea has negative effects on academic performance and social activities of students.6 It is a public health problem with high prevalence, 2 social and economical impact. In a systematic review that evaluated risk factors of dysmenorrhoea multiple demographic, environmental, gynecological and psychological factors appeared to be associated with this disorder. These include age < 30 years, BMI< 20 years and irregular and heavy menstrual flow.7 The exact etiology of primary dysmenorrhoea is not understood but most of the symptoms can be explained by the action of uterine prostaglandins, particularly prostaglandin F2 alpha.8 Numerous studies have shown that non steroidal anti-inflammatory drugs, which inhibits synthesis of prostaglandins, are highly effective in alleviating the symptoms of dysmenorrhoea.9 This study was conducted to look into the prevalence of dysmenorrhoea and its impact on the life pattern of medical students.
Material and Method
This cross sectional descriptive study was carried out in January 2012 in Islamabad medical and dental college Barakaho. A structured questionnaire based performa was designed to collect information from medical students. Unmarried students between the age of 18 to 22 years with primary dysmenorrhoea were included in this study. Married females with secondary dysmenorrhoea were excluded from study. Primary dysmenorrhoea was defined as painful menstruation that was not associated with any pelvic pathology.

Questionnaire designed for this study included information on age, menstrual history (age at menarche, cycle length, days of bleeding and regularity of cycles). It also included information regarding severity of dysmenorrhoea and its impact on college attendance, academic performance and social activities.

The following criteria were used to define dysmenorrhoea.  
1. Onset of pain in 6-12 hours after menstruation  
2. Lower abdominal pain or pelvic pain associated with onset of menstruation and lasting for 8-72 hours  
3. Lower back pain during menstruation.  
4. Medial or anterior thigh pain during menstruation.  
5. Menstrual pain with associated features like headache, diarrhea, nausea and vomiting.

To measure the severity of menstrual pain multi dimensional verbal scoring system was used with established validity and reliability. Participants were given 30 minutes to voluntarily complete the questionnaire and they were told that their responses will remain confidential. Data was analyzed using SPSS (statistical software package for the social sciences) version 11.0. Descriptive statistics were used to determine mean age of participants, age at menarche, cycle length, bleeding days, frequency of dysmenorrhoea and severity of dysmenorrhoea. A test of significance (t test) was used to detect association between different variables and dysmenorrhoea. A p value of <0.05 was considered statistically significant.

Results
Students included in this study were between the ages of 18-22 years. Mean age of students was found to be 21 years with SD ±1.7. Mean age of menarche among the students was found to be 13 years with SD ± 0.8. All the students had regular menstrual cycle with mean length of menstrual cycle of 29 days SD ± 2.1. The average duration between two periods and the duration of menstrual flow were 28.34 (±7.54) days and 4.5 (± 2.45) days respectively. Regarding dysmenorrhoea 78% of the students complained of dysmenorrhoea while 22% did not have this complaint (Fig 1). 46% had mild dysmenorrhoea, 19% had moderate and 13% had severe dysmenorrhoea (Fig-2). Among female medical students who reported dysmenorrhea 21% were frequently missing classes. Regarding impact on social life 60% of students complained that their social activities are affected due to pain related to menstruation.

Discussion
Primary dysmenorrhoea is cyclical pain associated with menstruation in the absence of identifiable pathological condition. In our study frequency of dysmenorrhoea was found to be 78%. This is in coordination with a local study, conducted by Parveen N et al11, showing frequency of dysmenorrhoea of 76%. From other studies, conducted in Iran12 and Australia,13 prevalence of dysmenorrhoea is found to be 71% and 80% respectively. Difference in these results may be due to epidemiological differences and perception of dysmenorrhoea by the adolescents. Our study, literature from Iran and Australia is showing high prevalence of dysmenorrhoea. This means that almost more than half of
the adolescent girls throughout the world suffer from dysmenorrhoea and need attention. Regarding the age it is believed that dysmenorrhoea decreases with increasing age. In our study most of the participants were between the age of 19-22 years with mean age of 21 years, so no statistically significant difference was seen between age groups of students and severity of dysmenorrhoea p value >0.05. An association between menstrual dysfunction and stressful situations has long been recognized. Many studies have reported that medical students respond to stress significantly more intensely than other professions, as they find certain aspects of medical course very stressful. For this reason they respond to stress situation by various manifestations of menstrual aberration. Wang et al in his study also emphasized on association of stress with primary dysmenorrhoea. The problem of college absenteeism was present in 21% of students. However this percentage is lower than in study by Mohammad; however it was found to be directly related to severity of dysmenorrhoea with p value < 0.05. Moreover in a study conducted by Bergsjo shows that millions of dollars are being wasted due to sickness absenteeism because of dysmenorrhoea in the USA.

Conclusion
Unpleasant concept regarding menstruation accentuates menstrual symptoms including dysmenorrhoea. It is common among medical students. Information about its effective medication may help alleviate the symptoms. Educating students regarding regular exercise, healthy activities of life and healthy dietary habits helps in decreasing the severity of dysmenorrhoea and associated symptoms.

References