

Impact and healthcare-seeking behaviour of premenstrual symptoms and dysmenorrhoea

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Abstract

Objective: Determine the impact and healthcare-seeking behaviour of women with dysmenorrhoea.

Design: Cross-sectional survey.

Setting: Medical college, nursing college, hospital (staff and patient attendants), schools and suburbs of Islamabad.

Population: 1236 women aged 16–50. Exclusion criteria: pregnancy; gynaecological or medical condition.

Methods: Structured-questionnaire interviews.

Main outcome measures: Impact, healthcare-seeking behaviour, and response to treatment.

Results: Prevalence of premenstrual symptoms was: low back pain 879 (72%), depressed mood 484 (40%), headache 268 (22%), premenstrual fluid retention (body swelling) 218 (18%), and nausea 218 (18%). Predictors of pain score (linear regression coefficients) were: low back pain (0.39), headache (0.25), depressed mood (0.17) and nausea (0.17). Premenstrual symptoms affected household chores in 441 women (37%), household income 129 (11%) and social obligations 395 (33%). Students and self-employed women, 282 (63%) and 38 (63%) respectively, reported one or more days missed from school/work. Treatments sought were: conventional medicine by 496 women (56%); household remedies, 285 (32%); herbal 90 (10%); and homeopathic 125 (14%). Self-reported effectiveness of treatments was: conventional medicine (OR 13, 95% CI 8.7–21); household remedies (OR 6.5, 95% CI 4.1–11); herbal (OR 4.1, 95% CI 2.2–7.7). Homeopathic treatment was not felt to be effective (OR 1.5, 95% CI 0.89–2.6). Conclusions: Low back pain and headache contributed the most to severity of dysmenorrhoea. Headache and body swelling (fluid retention) were predictive of days unable to work. Conventional medicine was used by more educated women and was perceived to be effective more often than other modalities.

Keywords

Dysmenorrhoea, developing countries, impact

Introduction

Dysmenorrhoea and other premenstrual symptoms are common among women of reproductive age and lead to suffering and impact on home, school, and work performance. Earlier studies have focused on the prevalence and risk factors of dysmenorrhoea ^{1, 2, 3}. Surveys in Pakistan have found the prevalence of premenstrual symptoms varying from 53% to 67% in college girls ^{4, 5, 6}. About 57% of students in one study reported that dysmenorrhoea affected their work⁵. Although these surveys document the prevalence and severity of symptoms they do not correlate it with the impact of specific symptoms on daily activities or with healthcare seeking behaviour. A population-based survey of 2262 women from Goa, India, revealed a linear association between pain severity and treatment seeking and time off from work ³. However the impact of specific symptoms of premenstrual syndrome on treatment seeking and rest was not reported.

Aims

Primary objective: The authors carried out a cross-sectional

study to explore the impact of dysmenorrhoea and other premenstrual symptoms among women of reproductive age.

Secondary objective: The authors intended to find out the predictors of healthcare-seeking behaviour including self-treatment for premenstrual symptoms.

Methodology

A cross-sectional survey study design was chosen. A 13-item questionnaire was administered to women, aged 16 to 50, who were not pregnant and had no known gynaecological, medical, musculoskeletal or neurological diagnosis. Participants were recruited from multiple sites using convenience sampling within urban areas of Islamabad and Rawalpindi in Pakistan. Trained interviewers (physicians, medical students, nursing staff, and high school students) filled out questionnaires interviewing female students at a medical college, a nursing college, and at city schools; as well as housekeeping staff and patients' attendants at a tertiary care teaching hospital in Islamabad. A proportion of women completed the questionnaire themselves. Ethical approval was obtained from the Shifa International Hospital Ethics committee. No personally identifiable data such as the respondents' names were recorded.

Results

Study population characteristics

A total of 1236 women from multiple locations within Islamabad and Rawalpindi, Pakistan, participated in the survey. Most of the women were in the younger age groups: 402 women (33%) were 16–20 years old and 622 (50%) were 21–35 years old. Fewer women were in the older age groups: 147 women (12%) were 36–45 years old and 63 (5%) were more than 45 years old. About 55% were unmarried and 61% had no children. The distribution of educational achievement was weighted towards the more educated: 16% were able to read a religious book (basic literacy); 49% had some school education (up to 12th grade); and 34% had professional level education.

About 27% of the respondents were homemakers (among women with professional level education, 10% reported staying at home). Age at menarche was less than 12 years old for 16%; between 12 and 14 years for 62%; and more than 14 years old for 23% of the respondents.

Severity of dysmenorrhoea and its correlation with premenstrual symptoms

On the 10-point visual pain scale, 465 women (38%, 95% CI 35–41) reported mild dysmenorrhoea severity from 0 to 3; 517 women (42%, 95% CI 39–45) reported moderate severity from 4 to 7; and 248 women (20%, 95% CI 18–23) reported severe pain rated from 8 to 10. The linear regression coefficient between dysmenorrhoea severity score and the number of days unable to work in a month was 0.59 (standard error: 0.031).

Table 1: Prevalence of premenstrual symptoms and their contribution to pain severity and days lost from work

	Women reporting symptoms, n (%; 95% CI) a	Contribution to pain score b	Contribution to days out of work c
Low back pain	879 (72, 69–74)	0.39 *	0.05
Depressed mood	484 (40, 37–43)	0.17 *	-0.05
Headache	268 (22, 20–24)	0.25 *	0.22 *
Swelling	218 (18, 16–20)	0.03	0.12
Nausea	218 (18, 16–20)	0.17 *	0.01

* Statistically significant values ($P < 0.005$)

^a Respondents were allowed to select more than one option. Total respondents: 1236.

^b Linear regression coefficients for a 10-point visual pain score categorized into three levels.

^c Linear regression coefficients for self-reported days unable to work in a month.

Table 2: Impact of premenstrual symptoms and dysmenorrhoea on household, school and work performance

	All respondents, n (%)	Students, n (%)	Maids and housekeeping staff, n (%)	Self-employed, n (%)	Professionals, n (%)
Affected domain					
Household chores	441 (37)	124 (28)	59 (40)	31 (52)	75 (35)
Household income	129 (11)	24 (5.3)	33 (22)	12 (20)	18 (8.5)
Performance in school	313 (25)	239 (53)	N/A	N/A	N/A
Social obligations	395 (33)	130 (29)	58 (39)	31 (52)	85 (40)
Unable to work for one or more days in a month	643 (53)	282 (63)	75 (51)	38 (63)	103 (50)

Table 3: Remedies sought for dysmenorrhoea relief and their patient-reported effectiveness

	Women reporting use of treatment, n (%; 95% CI)a	Odds ratio for self-reported effectiveness, (95% CI)b
Conventional medicine	496 (56, 53–59)	13 (8.7 to 21)
Household remedies	285 (32, 29–35)	6.5 (4.1 to 11)
Herbal	90 (10, 8–12)	4.1 (2.2 to 7.7)
Homeopathic	125 (14, 12–17)	1.5 (0.89 to 2.6)

a Respondents were allowed to select more than one option. Total respondents: 1236.

b Unconditional logistic regression (converged, 6 iterations, 878 cases included, using Epi Info 3.4.3). All odds ratios with $P < 0.005$, except homeopathic, $P = 0.12$. [CI, confidence interval]

Table 1 shows the prevalence of primary symptoms of preceding menstruation and their contribution to a 10-point visual pain scale and to self-reported days unable to work in a month. Low back pain and headache contributed most to the pain score while headache and swelling correlated with days out of work.

Impact of dysmenorrhoea

Among the working women (366 professionals and housekeeping staff) 49% (95% CI 44–54) reported one or more days out of work in a month due to pain. Similarly, among the 452 students surveyed, 53% (95% CI 48–58) reported dysmenorrhoea affecting school performance (Table 2).

Percentages do not add up to 100% as respondents were allowed to select more than one affected domain. Values for 50% or more respondents acknowledging an impact in a domain are given in bold.

Treatment taken for dysmenorrhoea relief

Table 3 outlines the remedies sought for the relief of dysmenorrhoea symptoms and the reported effectiveness of each type of remedy. All treatments except homeopathic were felt to be effective. Logistic regression analysis showed that the use of any treatment type was related to low back pain (odds ratio 2.2, 95% confidence interval 1.6–2.9), pain severity (OR 2.0, 95% CI 1.6–2.5), headache (OR 1.7, 95% CI 1.2–2.4), depressed mood (OR 1.7, 95% CI 1.3–2.2), increasing education (OR 1.1, 95% CI 1.0–1.2) and not being unmarried (OR 0.52, 95% CI 0.34–0.79).

Conventional medicine was sought by women with higher pain scores (OR 2.2, 95% CI 1.8–2.8) and greater years of education (OR 1.2, 95% CI 1.1–1.3); other factors such as age and specific symptoms were not statistically related. Women with a greater number of days unable to work were more likely to use herbal treatment (OR 1.4, 95% CI 1.1–1.9) while household remedies like hot water bottles and warm drinks were more commonly taken by women with headache (OR 1.66, 95% CI 1.2–2.4), depressed mood (OR 1.6, 95% CI 1.2–2.3) and lesser years of education (OR 0.88, 95% CI 0.78–0.99).

Discussion

This paper is the first, to the best of our knowledge, to show an association between specific premenstrual symptoms and dysmenorrhoea severity and healthcare-seeking behaviour. We found that certain symptoms, namely low back pain and headache, contributed more to the perceived severity than other complaints. This finding may be of importance to clinicians treating women with menstrual complaints especially when the treatment is symptom-oriented. In women working outside

their homes clinicians may wish to target headache and swelling as these symptoms correlated with days unable to work.

Prevalence of premenstrual symptoms in the present study was higher than a Japanese survey⁷ that reported back pain in 6.9% of women and headache in 11% of women (compared with our results of 72% and 22% respectively). This difference may be due to cultural differences in perception and reporting of symptoms, overall better health, and being strong and hardworking. It may simply be the perception difference in underdeveloped or developed country i.e. lack of resources, poor diet, and poor health.

Menstrual symptoms caused a heavy impact on social, school, and work responsibilities in women, a finding we share with previous studies. A cross-sectional survey from India found that 17% of adolescent girls reported missing school classes due to dysmenorrhoea while 60% reported disruption of their daily activities⁸. In an Australian study, 53% of high school girls reported that dysmenorrhoea limited daily routines and 37% stated that it affected schoolwork⁹. A study from New York found 46% of students missing one or more days of school due to dysmenorrhoea¹⁰. Corresponding figures from the present study were: 62% students reported missing at least one day of school and 53% reported an impact on school performance. The authors would like to reiterate the need for screening for and treating menstrual symptoms because of the impact on daily activities and the potential to reduce avoidable suffering.

Women seek a variety of sources for relief of menstrual symptoms. A survey of 2411 high school girls in Malaysia showed that 11% sought medical care although the majority (80%) obtained advice from their mothers regarding premenstrual symptoms¹¹. A study of adolescent girls in Haryana, India, found that 5.3% consulted a physician for menstrual symptoms and 22% self-treated with over-the-counter medicines¹². 52% reported self-treatment and 7.7% used complementary medicines in a Japanese study¹³. In the present study, although conventional medicine was felt to be most effective, it was used by only half of the women. This indicates poor access or awareness of available effective treatments. Even household and herbal remedies were infrequently used possibly due to their limited effectiveness. As menstruation and its associated symptoms are often thought to be a 'normal' part of women's lives these issues may remain untreated in the community. Women who were more educated tended to seek more effective treatments, as did those who had more severe symptoms. Clinicians and public health professionals need to proactively reach women from less privileged background to reduce suffering from menstrual symptoms. Educational campaigns to improve awareness of safe and effective conventional medicine, such as non-steroidal anti-inflammatory drugs, could reach women not aware of these options. These public health campaigns may be addressed

toward high-school girls, homemakers, and professionally employed women through separate targeted channels.

The present study was limited by non-random (convenience) sampling yielding a study sample skewed towards more educated women. This may be due to sampling in urban areas only. The questionnaire was designed using closed-ended questions, to reduce subjectivity in data recording, limiting exploration of unanticipated variables. Psychosocial issues, such as socio-economic disadvantage and mental health, play an important role in the perception and reporting of menstrual symptoms³ but these factors were not explored in this study. Further research in this area should focus on awareness, access to care, and quality of life outcomes with different treatment options.

Conclusion

Low back pain and headache contribute the most to severity of dysmenorrhoea while headache and body swelling (fluid retention) were predictive of days unable to work. Conventional medicine is commonly used by more educated women, as well as those with more severe symptoms, and was perceived to be effective more often than other treatment modalities. Effective treatments for the relief of menstrual symptoms remain underutilized causing avoidable suffering.

COMPETING INTERESTS

None Declared

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