



A Cross Sectional Study to Assess the Knowledge, Attitude and Health Care Seeking Behaviour towards Dysmenorrhea among Female Students in a Medical College, Kancheepuram, Tamil Nadu

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Authors' contributions

This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.

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ABSTRACT

Background: Menstruation is a normal physiological process that occurs throughout the reproductive years of every woman[1]. Most of the women experience mild pain and discomfort during menstruation. Dysmenorrhea is defined as cramping pain in the lower abdomen accompanying menstruation.

Objectives: The objective of this study was to assess the knowledge, attitude, and healthcare-seeking behavior towards dysmenorrhea among female students in a medical college, Kancheepuram, Tamil Nadu.

Materials and Methods: A cross-sectional study was conducted among 292 female students in Saveetha Medical College and Hospital, Chennai. A pre-tested and structured questionnaire was used and data collected were analyzed using Statistical Package for Social Sciences (SPSS) 16.0 and were presented in tables reporting frequency counts and percentages. Statistical significant tests were conducted using chi-square.

Results: The dysmenorrhea was reported in 243 (83.2%) of them. Out of which 206 (70.54%) had primary dysmenorrhea and 37 (12.67%) had secondary dysmenorrhea which was categorized on

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the basis of onset of pain. A statistically significant relationship was seen between the type of menstrual cycle and dysmenorrhea ($P=0.013$).

Conclusion: Many women consider dysmenorrhea to be a normal part of the menstrual cycle and thus fail to seek help. The consequences of untreated dysmenorrhea include poor concentration, highest incidence of absenteeism, resulting in loss of work hours and economic loss and social withdrawal. Therefore, interventions such as education programmes on effective management of dysmenorrhea can be planned with intention to improve the quality of life among the female students.

Keywords: Attitude; healthcare seeking behavior; dysmenorrhea; knowledge; menstruation.

1. INTRODUCTION

Menstruation is a normal physiological process that occurs throughout the reproductive years of every woman [1]. Most of the women experience mild pain and discomfort during menstruation. But for some, the pain is so severe that it interferes with their normal activities and productivity. Dysmenorrhea is defined as cramping pain in the lower abdomen accompanying menstruation.

It is a common gynecological problem among female adolescent [2]. The prevalence of dysmenorrhea in India is 62%, and it varies greatly across different populations and ethnic groups [1].

Dysmenorrhea can be classified into primary and secondary. Primary dysmenorrhea refers to one not associated with any identifiable pelvic pathology. The pain begins during adolescence and is usually spasmodic in character and felt mainly in the lower abdomen, but it may radiate to the back and along the thighs. It may be accompanied by nausea, vomiting, diarrhea, headache, fatigue, dizziness, breast tenderness and in severe cases syncope[3,4]. Secondary dysmenorrhea is associated with organic pelvic pathology i.e. fibroids, adenomyosis, PID and endometriosis.

The cause of primary dysmenorrhea is still not clear but it is believed to be attributed by uterine contractions with ischemia and production of prostaglandin particularly $PG F_{2\alpha}$ [5,6]. The factors such as nulliparity, obesity, diet, family history of dysmenorrhea, stress, depression, cigarette smoking, and abuse are highly associated with the prevalence of primary dysmenorrhea[7].

Treatment for primary dysmenorrhea varies across different population worldwide, and includes lifestyle modification, complementary

and alternative modalities, over-the-counter drugs, prescription analgesics and hormonal contraceptives. The non-steroidal anti-inflammatory drugs (NSAIDs), which inhibit the synthesis of prostaglandins and antispasmodics are highly effective and most common pharmacological treatment used for dysmenorrhea [8,9]. In girls who do not respond to NSAIDs, combined estrogen and progesterone, depo-medroxyprogesterone acetate, and transcutaneous electrical nerve stimulation (TENS) may be considered. The non-pharmacological treatment like heat application to pelvis and supplemental vitamin B1 or magnesium, low fat diet and herbal treatment may be effective in pain relief [10,11]. If they do not respond to this therapy then should be evaluated for secondary causes of dysmenorrhea [6,11].

Many women consider dysmenorrhea to be a normal part of the menstrual cycle and thus fail to seek help. The consequences of untreated dysmenorrhea include poor concentration, highest incidence of absenteeism, resulting in loss of work hours and economic loss and social withdrawal. Therefore, this study is aimed at determining the knowledge, attitude, and healthcare-seeking behavior towards dysmenorrhea (a prerequisite for planning) so that interventions can be planned to (that) seek to improve the management of dysmenorrhea among female students.

2. MATERIALS AND METHODS

This cross-sectional study was conducted in Saveetha Medical College and Hospital, Chennai from January to March 2021. Institutional Ethics Committee clearance was applied for and obtained. It was done among female students in the medical college. Taking prevalence of dysmenorrhea to be 76%³ and assuming 95% confidence limit with 5% allowable error, with the formulae $N = 4PQ/L^2$, the sample size was found

to be N = 292. Each of the study subjects was approached and explained the aims and objectives of the study by the investigator and informed verbal consent were obtained. A pre-tested and structured questionnaire was developed by the authors based on a pilot study and thorough review of relevant literature addressing the knowledge, attitude and prevalence of dysmenorrhea, its severity and its impact on daily activities and the prevailing management strategies. For the knowledge outcome; correct responses were scored as 1, while incorrect responses were scored as 0. The maximum obtainable knowledge score was 8, scores ≤ 3 were classified as low knowledge, 4–6 as moderate knowledge and scores ≥ 7 were classified as high knowledge. For attitudinal outcome; correct responses were scored as 1, while incorrect responses were scored as 0. The maximum obtainable attitudinal score was 5, scores ≤ 2 were classified as negative, while scores 3 were classified as positive attitude. Data were analyzed and presented in tables reporting frequency counts and percentage. The chi-square test was used to determine association between participants' knowledge and attitude towards dysmenorrhea as well as association between participants' age and healthcare-seeking behavior towards dysmenorrhea at 0.05 level of significance. Statistical Package for Social Sciences (SPSS) software version 16.0 (Chicago II, USA) was used for data analysis.

3. RESULTS

A total of 292 female students were included in the study. The dysmenorrhea was reported in 243 (83.2%) of them. Out of which 206 (70.54%) had primary dysmenorrhea and 37 (12.67%) had secondary dysmenorrhea which was categorized on the basis of onset of pain. Dysmenorrhea was labelled primary if the onset of pain was since menarche and as secondary if the onset was 3-5 years after menarche[3].

The mean age of the study participants was 18.37 ± 2.1 years. Hundred and three participants (35.27%) had adequate knowledge about dysmenorrhea, one hundred and fifty five participants (53.1%) had moderate knowledge and thirty four participants (11.63%) had low knowledge. Two hundred and forty-six individuals (84.7%) were less than 20 years of age, out of these 206 (83.73%) had dysmenorrhea and 40 (16.26%) had no dysmenorrhea. Forty-six individuals (15.7%) were more than 20 years of

age and out of which 37 (80.43%) of them had dysmenorrhea. Participants age did not show any significant association towards dysmenorrhea ($P=0.581$).

Two hundred and thirty nine (81.84%) participants had regular cycles. Of which, 205 (85.77%) had dysmenorrhea and 34 (14.22%) had no dysmenorrhea. Fifty three (18.15%) individuals had irregular cycles and 15 (28.3%) of them with irregular cycles had dysmenorrhea. A statistically significant relationship was seen between the type of menstrual cycle and dysmenorrhea ($P=0.013$). There was no significant relationship seen with age of menarche, nature of flow, number of days of menstruation and dietary pattern (Table-1).

One hundred and seventy three (59.24%) participants had heard of dysmenorrhea and media (31.81%) was the source of information in majority of the population. 24.8% of the participants have heard of dysmenorrhea through their friends. Hospitals served to be the source of information of dysmenorrhea in 23.5% of the population. Books and conferences/seminars were the source of information in the remaining 14.87% and 5.0% of the population respectively (Table-2).

Table 3 shows the attitude of the participants towards dysmenorrhea. Majority of the participants reported that menstrual pain affected their routine work. Also menstrual pain affected sleep in majority of the participants. Two hundred and seven participants reported menstrual pain as reason for absenteeism in educational place. Menstrual pain was a reason for skipping meals in 67.8% of the participants. 67.8% had social withdrawal and 69.5% had restricted themselves from physical activities and 12.7% from taking bath during menstruation due to pain.

Table 4 shows the pain management measures taken by the participants. 47.6% of the participants reported pain relief on taking rest. Hot fermentation was used to relieve pain in 29.45%. 17.12% of the participants took medication for pain relief. Exercise provided relief from pain in 4.1% of the participants. However 1.71% of the participants had to consult a health care provider.

Majority, 65.41% of the participants (191) considered dysmenorrhea to be treatable (Fig. 1).

Table 1. Association between sociodemographic details and dysmenorrhea among female students

Variables		Frequency	With dysmenorrhea	Without dysmenorrhea	P-value
Age	Less than 20 years	246	206	40	0.581
	More than 20 years	46	37	9	
Type of menstrual cycle	Regular	239	205	34	0.013
	Irregular	53	38	15	
Age of menarche	Less than 15 years	269	226	43	0.34
	More than 15 years	23	17	6	
Nature of flow	Normal	246	202	44	0.242
	Heavy	46	41	5	
Number of days of menstruation	Less than 5 days	251	211	40	0.339
	More than 5 days	41	32	9	
Dietary pattern	Vegetarian	107	87	20	0.506
	Non-vegetarian	185	156	29	

**Chi square test was applied; p value <0.05 considered to be significant*

Table 2. Sources of information on dysmenorrhea of the study participants

Source(S) of Information		Frequency	Percentage
1- Books		36	14.87%
2- Media		77	31.81%
3- Hospital		57	23.5%
4- Conferences/ seminar		12	5.0%
5- Friends		60	24.8%

Table 3. Attitude of the study participants towards dysmenorrhea

Attitude towards Dysmenorrhea	
Variables	n (%)
Menstrual pain affect your routine work?	
(yes)	229(78.4%)
(no)	63(21.6%)
Affect your sleep?	
(yes)	216(73.9%)
(no)	76(26.1%)
Reason for your absenteeism in educational place?	
(yes)	207(70.8%)
(no)	85(29.2%)
Skip meals due to menstrual pain?	
(yes)	198(67.8%)
(no)	94(32.2%)
Take bath daily during menstruation?	
(yes)	255(87.3%)
(no)	37(12.7%)
Withdraw yourself socially during menstruation?	
(yes)	198(67.8%)
(no)	94(32.2%)
Restrict yourself from physical activities during menstruation?	
(yes)	203(69.5%)
(no)	89(30.5%)

Table 4. Measures adopted by the study participants for pain relief during menstruation

Measures for Pain Management		
Variables	Frequency	Percentage
1- Rest	139	47.6%
2- Medication	50	17.12%
3- Hot fermentation	86	29.45%
4- Exercises	12	4.10%
5- Consult a health care provider	5	1.71%

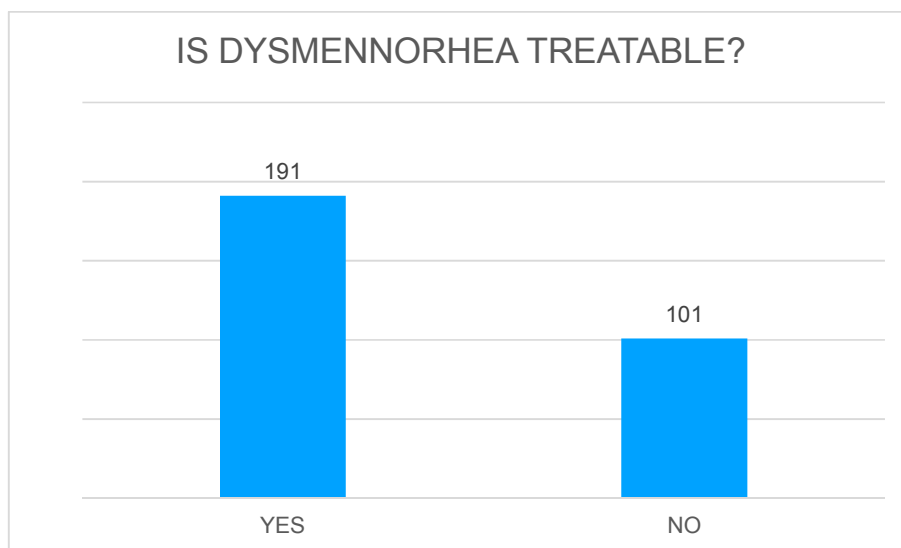


Fig. 1. Treatability of dysmenorrhea according to the study participants

Even though a large proportion of population considered dysmenorrhea to be treatable. Majority, 66.1% of the participants (193) considered pain to be natural and did not seek medical advice. 18.13% of the participants (55) assumed that pain will disappear after marriage and 15.06% of the participants (44) did not seek medical advice as they were embarrassed to discuss about menstruation.

4. DISCUSSION

The mean age at menarche in the present study was found to be 9.827 years which was low compared to the result of other studies that reported a higher average age at menarche [1,12,13,14,15]. In the present study, the prevalence of dysmenorrhea was found to be 83.2%. Similar results were found in other studies. A study conducted by Fatima et al. showed a similar prevalence rate of 84% [16] and a study conducted in Thailand showed a prevalence rate of 84.2%. Also a study conducted in Nigeria showed a prevalence of 78.1% among participants [1].

In our present study, two hundred and thirty nine participants (81.8%) were found to have regular menstrual cycles and fifty three of them (18.2%) had irregular cycles. This is similar to the study conducted by Fatima et al where one hundred and sixty six (79.0%) had regular cycles and forty four (21.0%) had irregular cycles. Of which, approximately 6.0% of them had scanty menstrual flow, 66.6% of them had moderate menstrual flow whereas 26.6% had heavy menstrual bleeding. Whereas in the present study 19.1% of them had scanty menstrual flow, 65.1% of them had moderate menstrual flow whereas 15.8% had heavy menstrual bleeding [16].

Among the participants, one hundred and seventy three (59.24%) have heard of dysmenorrhea and their sources of information were reported to be media (21.91%), friends (20.5%), hospital (19.5%), books (12.32%), conferences/seminar (5.4%), and others. Whereas a study conducted by Arafa et al reported that family members (65.9%), friends (24%), educational institutions (14.6%), social media (14.6%), and hospitals (6.9%) to be their sources of information [17].

Of the, 83.2% of the participants who had dysmenorrhea, two hundred and five (70.20%) participants reported pain only on the first day

and eighty seven (29.8%) of them had pain on all the days. A study by Banikarim et al. reported that 90% of adolescents had pain lasting for 48 hours [18]. Pathophysiology behind dysmenorrhea being present early on and particularly in the initial days is the increased release of PGs causing intense uterine contractions, decrease uterine blood flow causing ischemic necrosis of endometrial lining and nerve hypersensitivity, ultimately causing expulsion of the endometrial lining [19,20].

Dysmenorrhea is associated with higher incidence of absenteeism in educational place among students. Absenteeism due to menstrual pain was reported to be 70.8% in the present study. This is much higher compared to study conducted in Sri Lanka where absenteeism was reported to be 44% [21]. Absenteeism due to dysmenorrhea should be adequately addressed as it can affect students' academic performance in examinations. Two hundred and sixteen participants (73.8%) reported to have sleep disturbances due to menstrual pain.

Two hundred and three participants (69.5%) restricted themselves from physical activities during menstruation due to pain. Similar results were seen in study conducted by Farotimi et al.

Whereas only 26.92% of the participants reported limitation of activity in a study conducted by Fatima et al [16]. In the present study, skipping of meals and social withdrawal due to menstrual pain were reported in hundred and ninety eight participants (67.8%). These have adverse effects on the health and is it important to provide adequate health education for proper management of dysmenorrhea.

Though one hundred and ninety one (65.41%) participants considered dysmenorrhea to be treatable, only 1.71% of the participants consulted a health care provider. In the present study, 66.1% of the participants did not seek medical treatment considering that pain is natural, 18.8% assumed that pain will disappear after marriage and 15.1% of the participants did not seek medical treatment because of the embarrassment to discuss about dysmenorrhea.

5. CONCLUSION

Dysmenorrhea is one of the common health problems affecting women's quality of life. Many women consider dysmenorrhea to be a normal part of the menstrual cycle and thus fail to seek

help. The consequences of untreated dysmenorrhoea include poor concentration, highest incidence of absenteeism, resulting in loss of work hours and economic loss and social withdrawal. Therefore, the findings of this study signifies the need for interventions such as education programmes on effective management of dysmenorrhoea with intention to improve the quality of life among the female students.

DISCLAIMER

The products used for this research are commonly and predominantly use products in our area of research and country. There is absolutely no conflict of interest between the authors and producers of the products because we do not intend to use these products as an avenue for any litigation but for the advancement of knowledge. Also, the research was not funded by the producing company rather it was funded by personal efforts of the authors.

CONSENT

As per international standard or university standard, patients' written consent has been collected and preserved by the author(s).

ETHICAL APPROVAL

As per international standard or university standard written ethical approval has been collected and preserved by the author(s).

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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