



Prevalence of Primary Dysmenorrhea and its Impact on Daily Chores of Women

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ABSTRACT

Primary dysmenorrhea refers to the common menstrual cramps experienced by most women during the menstrual period. To ascertain the prevalence and impact of primary dysmenorrhea among women, the present survey was carried out with a sample of 589 women aged between 15- 45 years. A standardized questionnaire was used to obtain the relevant data online. The results revealed that the prevalence of dysmenorrhea was 80.4%. The pain intensity was severe among 23.5% of subjects, whereas moderate and mild pain intensity was experienced by 45.5% and 31% of the subjects respectively. The subjects were reported to be experiencing menstrual pain for 1-3d. The impact of primary dysmenorrhea was observed in terms of loss of concentration in work (57%), being absent from work (28.4%) and inability to participate in social activities (28.3%). Apart from this impact on the daily chore activities, the women showed symptoms like back pain (64.4%), extreme tiredness (57.6%), mood swings (50.8%), acne (37.8%) and abdominal bloating (29.4%). It can be concluded from the current study that the majority of women experience moderate to severe pain during the menstrual time to the extent that the daily routine is disturbed and it would be appropriate to formulate pain management strategies to overcome the distress.

Key Words: Gastrointestinal discomfort, Menstrual symptoms, Menstrual pain, Mood swings, Primary dysmenorrhea. swings, Primary dysmenorrhea.

INTRODUCTION

Primary dysmenorrhea is one of the most common complaints in women causing physical and mental issues and absence from social activities. It describes the painful, repeated cramping that occurs during menstruation in the lower abdomen and waist without any evidence of a pelvic or pathological disease (Chen, 2014; Ryan, 2017). It differs in intensity and effect ranging from a minor annoyance to a serious handicap. Menstruation begins at puberty and ends at menopause with an average duration of 28d for every cycle. Most of the time, systemic symptoms accompany the discomfort, which often begins with menstrual bleeding and lasts for two to three days (Ryan, 2017). The syndrome is characterized by symptoms such as mood swings, headache (60%) nausea and vomiting (80%),

tiredness (45%), irritability (30%) and diarrhea (50%) and less frequently, dizziness and collapse in addition to lower back and stomach cramps (Berkley, 2013; Parker *et al*, 2010).

Dysmenorrhea appears to be the most common gynecological disorder in women irrespective of age and nationality (Proctor and Farquhar, 2002; Patel *et al*, 2006). The prevalence of primary dysmenorrhea may vary, in female adolescents it was 20% to 90% (Kazama, 2015), Studies from India reported the prevalence range between 50-87.8% (Agarwal and Agarwal, 2010), 85% in Nigeria (Loto, 2008; Yasir, 2014) and in Iran, between 74 to 90 percent (Mohammadinia, 2013) with 10–20% of them reporting severe pain and were unable to work or engage in other activities for one to three days, it impaired their activities (Habbi *et al*, 2015;

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Berkley 2013). In Indonesia, 9.36% of women have secondary dysmenorrhea and 54.8% of women have primary dysmenorrhea (Dana, 2023). Although dysmenorrhea is not considered a life-threatening disorder, it may reduce the quality of life and satisfaction as can interfere with daily activities as well as familial or social relationships (Lacovides, 2014). Dysmenorrhea has a wide range of effects and is significant in ways that go beyond its socioeconomic effects (Raine-Fenning, 2005).

The female menstrual cycle happens to allow the ovum released from the follicle and to prepare the uterus for possible pregnancy. It starts at puberty, between the ages of 10-16, and ends at menopause around 51. One menstrual cycle usually occurs from 21 to 35 d, with an average length of 28 d (Thiyagarajan *et al*, 2020). Various attempts were made to alleviate the pain of primary dysmenorrhea. Non-pharmacological efforts were also carried out including hot water bottles (Chaudhuri *et al*, 2013), exercise (Chaudhuri *et al*, 2013; Brown and Brown, 2017), acupuncture (Zhang *et al*, 2018), yoga (Yang and Kim, 2016), physiotherapy [Azima *et al*, 2015; Ortiz *et al*, 2015], using fruits (Wrisnijati *et al*, 2019), and herbs (Chen *et al*, 2016).

The etiology of primary dysmenorrhea is not yet fully understood. An imbalance of hormone-like prostaglandins probably causes the symptoms, thereby increasing uterine contractions that cause menstrual pain (Wantini *et al*, 2021; Baird *et al*, 1996). Given the elevated incidence of PD in females, the current investigation aimed to determine the frequency of primary dysmenorrhea in Indian women and assess its influence on their day-to-day household tasks.

MATERIALS AND METHODS

The current study was conducted as a cross-sectional study, among 589 women participants throughout India. The data were collected through online methods by using google forms. The study's goal and protocol were elucidated to the participants in detail. They were requested to complete the questionnaire, which was designed to collect data in terms of demographic information related to their family

status, family size and type, chronological age, age at menarche, menstrual history, menstrual characteristics such as pain severity, duration, and features, monthly symptoms, the effect of dysmenorrhea on everyday tasks, and techniques for managing menstrual discomfort were explained. Before data collection, ethical approval was obtained from the Institutional Human Ethics Committee (IHEC) of Acharya N. G. Ranga Agricultural University, Lam, Guntur (IHEC Ref Code No: IHEC/PG/FN/2022-2). To ensure the confidentiality of the participants, no personal identifying information was collected. SPSS for Windows version 23.0 (Statistical Package for Social Sciences Inc., Chicago, USA) was used to conduct statistical analyses on the data that were gathered after exporting the data to an Excel document created using Microsoft Office. The study used descriptive analysis, utilizing percentages to analyze qualitative variables and the mean and standard deviation to represent quantitative data. Furthermore, correlation was used to find out the interaction between different parameters.

RESULTS AND DISCUSSION

In total, 589 participants consented to participate in this study and correctly filled in the questionnaire in Google Forms. The data on the general profile of the participants showed that 55.4% of the participants have completed their professional degree 34.8% have completed graduation and the remaining 9.8 % of participants were pursuing intermediate and high school education. Among the participants 33% had attained the age of menarche at 13 yrs, 28.8% at 14 yrs and 18.2% at 12 yrs, 6.8% participants at 11 yrs, the remaining were at 13.1% of participants attained menarche at the age of 15 yrs and above and with a mean age of 13.31 ± 1.48 yrs at menarche. It was found that 83.8% of the subjects had their menstrual cycle regularly. Out of 589 participants, 472 (80.4%) women reported pain during menstruation and 54.7% experienced it due to their family history of pain. The most reported pain locations during menstruation were the lower abdomen (70.2%), lower back (43.4%) and pain in legs (40.7%). Dysmenorrhea is said to be influenced by a variety of factors including

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Table 1. Dysmenorrhea and associated characteristics. (n=472)

Sr. No.	Characteristics	Number of participants	Percentage
A.	Pain length		
1.	1 day	184	34.4
2.	1-2 days	165	39.0
3.	2-3 days	94	20.8
4.	Entire period	29	6.1
B.	Frequency of occurrence		
5.	Every month	366	77.5
6.	Rarely	106	22.4
C.	Pain intensity		
7.	Mild	146	31.0
8.	Moderate	215	45.5
9.	Severe	111	23.5
D.	Degree of bleeding		
10.	Normal	341	72.2
11.	Heavy	105	22.2
12.	Less	26	5.6

Table 2. Interrelationship between menstrual age and menstrual characteristics.

Variable	Age	Intensity of pain	Pain symptoms	Bleeding length
Age	1			
Intensity of pain	-0.015 , 0.726 ^{NS}	1		
Pain symptoms	-0.104* , 0.012 ^S	0.038 , 0.365 ^{NS}	1	
Bleeding length	0.077 , 0.064 ^{NS}	0.187** , 0.000 ^S	-0.129** , 0.002 ^S	1

*Indicates significant level is at 0.05

**Indicates significant level is at 0.01

nutritional status and hormonal factors. In the present study, the women with dysmenorrhea reported consistent pain during periods.

The data (Table 1) depicted the associated characteristics of menstrual pain. It was found that 47.4% of the subjects experienced pain on the first day, 15.8% reported menstrual pain only on the second day and 20.5% of subjects expressed pain at irregular intervals on all 3 or 4 days of menstruation. The data showed that 45.5% of the women experienced moderate pain, whereas one-third (31%) experienced mild pain and 23.5% of the participants suffered from severe pain during the periods. Earlier studies reported the prevalence of dysmenorrhea between 45 and 92% in India and other countries (Ullah, 2021; Omar, 2020; Abreu-Sánchez, 2020; Gebeyehu, 2017; Ahuja, 2016; Yasir, 2014).

The data indicated the interrelationship between the menstrual age of participants and with

intensity of pain, symptoms and bleeding length. Pain symptoms were found to be significantly negatively correlated with the menstrual age of women and the length of menstrual bleeding. It was recorded that the intensity of pain was found to be highly positively significant with bleeding length. As the bleeding length increased, the intensity of pain was reported to be increased. The rest of the variables were non-significant.

The results (Table 3) indicate the most common dysmenorrhea-associated symptoms reported in the study. Women suffering from dysmenorrhea experienced several associated symptoms because of the uterine contraction that occurs during menstruation which was painful and accompanied by symptoms like tiredness, mood swings, dizziness, loss of appetite, headache, abdominal distention, nausea, back pain, diarrhea, and acne. Symptoms such as sweating, bloating,

Table 3. Distribution of women based on other symptoms during dysmenorrhea.

Sr. No.	Symptom	Number	Percentage
1.	Tiredness (fatigue)	315	57.6
2.	Mood swings	278	50.8
3.	Dizziness	111	20.3
4.	Loss of Appetite	125	22.9
5.	Headache	144	26.3
6.	Abdominal distention	161	29.4
7.	Nausea	53	9.7
8.	Backpain	352	64.4
9.	Diarrhea	40	7.3
10.	Acne	207	37.8

Table 4. Impact of dysmenorrhea.

Sr. No.	Activity	Number	Percentage
1.	Loss of concentration in class/work/household activities	312	57.2
2.	Absent to school/college/work	155	28.4
3.	Inefficient in carrying out tasks/homework	191	35.0
4.	Absent in social activities	154	28.3

painful/tender breasts, supra-pubic cramping, and depression were reported by other authors (Vlachou *et al*, 2019; Iacovides *et al*, 2014). This variation can be explained by the fact that the perception of dysmenorrhea is entirely subjective.

The effect of dysmenorrhea in women affects the quality of life (QoL) and also limits daily activity like absenteeism from school/work, social withdrawal, decreased academic performance, and increased health care medical costs which are the negative effects of menstrual pain. The effects of dysmenorrhea on the women who took part in this study were presented in Table 5. Loss of concentration in the classes or workplaces was reported by 57.2% of the participants, 35% of the participants reported inefficiency in carrying out tasks/homework, absence from work/school was reported by 28.4% of the respondents, while participation in social activities was found to be affected in 28.3% of the women. Studies have indicated that menstrual pain restricts the movement and usual activity pattern of females. In line with these findings, a

study by Joshi *et al* (2015) reported that dysmenorrhea has significantly affected the quality of life which was seen in terms of decreased physical mobility, loss of concentration and poor social relationships.

CONCLUSION

The current study showed a high prevalence of dysmenorrhea among the women. Varying levels of occurrence of pain were observed in terms of duration, frequency, intensity and degree of bleeding. The pain symptoms were seen irrespective of the age and the length of bleeding while the pain intensity increased with an increase in bleeding length. The pain symptoms severely affected the quality of life concerning academics, work and social activities. Evolving appropriate pain management strategies, may it be in the form of medicine, diet, nutraceuticals or other integrative or complementary approaches may go a long way in helping women who are suffering from primary dysmenorrhoea.

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