

Menstrual disorders and quality of life of women in an urban area of Puducherry: A community-based cross-sectional study

Karthik Balajee Laksham¹, Ramya Selvaraj¹, Sitanshu Sekhar Kar²

¹Department of Community Medicine, Jawaharlal Institute of Postgraduate Medical Education and Research (JIPMER), Karaikal, ²Department of Preventive and Social Medicine, JIPMER, Puducherry, India

ABSTRACT

Background: Menstrual disorders are common among women in reproductive age group and affect their normal functioning and social life. Due to cultural reasons, menstrual problems often get unreported. In India, the literature on the effect of menstrual disorders on the quality of life (QOL) of women is limited. **Objectives:** To estimate the prevalence of menorrhagia and dysmenorrhea among women in an urban field practice area and to compare their QOL with women without menstrual disorders. **Methods:** This is a community-based cross-sectional study among women who have attained menarche and not yet attained menopause in an urban field practice area of a tertiary care teaching institute in Puducherry. Households were selected by systematic random sampling, and a door-to-door survey was done using an Android-based mobile phone app Epi Info. A pretested questionnaire was used for collection of sociodemographic details. QOL was measured using World Health Organization BREF scale. **Results:** A total of 119 women were interviewed, and their mean (standard deviation) age was 33 (10) years. The majority was homemakers (63%), belonging to lower socioeconomic status (60%) and one-fifth had no formal education. The prevalence of dysmenorrhea was 45% [95% confidence interval (CI): 36.6%–54.4%] and that of menorrhagia was 17% (95% CI: 11.6%–25.3%). QOL in women with dysmenorrhea was poor compared with normal women in physical, psychological, social, and environmental domains (mean score 57.9 vs. 69.7, $P < 0.001$). **Conclusions:** Prevalence of dysmenorrhea and menorrhagia is comparatively high in this study area. QOL of women with these disorders was poor.

Keywords: Dysmenorrhea, menorrhagia, quality of life, World Health Organization BREF

Introduction

Menstrual disorders such as dysmenorrhea, menorrhagia, and irregular cycles are common among women in reproductive age group and they are responsible for physical, behavioral, and emotional changes around the time of menstruation. These disorders affect the normal functioning and social life of women and limit their daily activities. They are also an important cause of college/school absenteeism among adolescents.^[1] Quality of life (QOL) of women with these disorders is compromised.

Address for correspondence: Dr. Karthik Balajee Laksham, Department of Community Medicine, Jawaharlal Institute of Postgraduate Medical Education and Research, Karaikal - 609 602, Puducherry, India.
E-mail: dr.balajeelaksham@gmail.com

The World Health Organization (WHO) defines QOL as “the individuals’ perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards, and concerns.”^[2] The Global Burden of Diseases study has also not estimated the disability-adjusted life-years for menstrual disorders.^[3] In India, due to cultural reasons menstrual problems often get unreported. The literature on the effect of menstrual disorders on the QOL of women is limited. Community-based studies on menstrual disorders will help in estimating the burden of these disorders and in emphasizing the need to develop guidelines for their management at primary care level. We conducted this study to estimate the prevalence of

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dysmenorrhea and menorrhagia in the urban field practice area of a tertiary care teaching institute and to compare the health-related QOL of individuals with and without menstrual disorders, and to study the treatment-seeking behavior for menstrual complaints of the study population.

Methods

This is a community-based cross-sectional analytical study, done in the urban field practice area of a tertiary care teaching institute in Puducherry, in the month of February 2016. The field practice area consists of four urban wards covering a population of around 8000. Each ward had approximately 250–300 households. Assuming the prevalence of dysmenorrhea as 78%,^[4] and with absolute precision of 7%, the sample size required for the study is estimated as 134 using Open Epi software.^[5] A systematic random sampling was done and every fourth house in each ward was selected. The study participants were women who have attained menarche and not attained menopause. Pregnant and lactating mothers were excluded. Interns trained in data collection did a door-to-door survey. After obtaining informed verbal consent, interviews were done using pretested questionnaire, and data were collected using the mobile phone application Epi Info^[6] Companion for Android. If a house was locked or did not have an eligible participant, the next house was selected. Information about sociodemography, age at menarche, regularity of the cycles, number of days of the period, usage of cloth or sanitary napkin, pain or excess bleeding, and white discharge per vagina were collected. For our study purpose, we defined dysmenorrhea as “any women who reported to have excessive pelvic pain during her last periods” and menorrhagia as “any women who reported excess bleeding or had bleeding for more than 7 days during her last periods.” A time frame of 2 weeks prior to the interview is considered for the assessment of QOL. The last menstrual period of the women was considered for the measurement of menstrual disorders such as dysmenorrhea and menorrhagia. For irregular cycles, the regularity of the menstrual cycles in the last 1 year is considered.

Study instrument

QOL was measured using WHO BREF scale (Field Trial Version).^[7] The scale contains a total of 26 questions under four domains – physical, psychological, social, and environmental. The four domain scores denote an individual’s perception of QOL in each particular domain. The domains’ scores are scaled in positive direction, that is, higher scores denote higher QOL. The mean score of items within each domain was used to calculate the domain score. The mean scores were then transformed to a 0–100 scale to make domain scores comparable with the scores used in the WHO QOL-100.

Data were collected using the mobile phone application Epi Info^[6] Companion for Android and analyzed using IBM SPSS version 19.0.^[8] Continuous variables such as age and QOL scores are summarized as mean and standard deviation (SD), and the length of the menstrual cycle was summarized as median and interquartile range (IQR). QOL score for each of

the four domains for the participants with menstrual disorders is compared with that of the participants without menstrual disorders and statistical significance tested using Student’s *t*-test. Categorical variables such as menstrual disorders and treatment-seeking behavior are summarized as proportions (%).

Result

A total of 119 women who fulfilled the inclusion criteria were interviewed from the four urban wards. The mean (SD) age of the participants was 33 (10) years and the mean (SD) age at menarche was 13.6 (1.7) years. The majority (63%) of the participants were home-makers. The mean (SD) length of the menstrual cycle was 29 (7.5) days, and the median (IQR) duration of the period was 4 (3–5) days. The sociodemographic characteristics and the menstrual disorders of the participants are summarized in Table 1.

Table 1: Characteristics of the study participants (n=119)

Characteristic	Frequency (%)
Education	
Primary	12 (10.1)
Middle	17 (14.3)
Secondary	32 (26.9)
Higher secondary	19 (16)
Graduate	14 (11.7)
No formal education	25 (21)
Occupation	
Homemaker	75 (63)
Working women	32 (26.9)
Student	12 (10.1)
Socioeconomic status*	
Upper class	4 (3.4)
Upper middle class	12 (10.1)
Middle class	31 (26.1)
Lower middle class	44 (37)
Lower class	28 (23.8)
Complaint	
Dysmenorrhea	54 (45.4)
Heavy menstrual bleeding	21 (17.6)
Irregular cycles	10 (8.4)
White discharge	9 (7.6)
Length of cycles (days)	
<21	5 (4.2)
21-35	106 (89.1)
>35	8 (6.7)
Duration of periods (days)	
<3	7 (5.9)
3-7	105 (88.2)
>7	7 (5.9)
Sanitary material used	
Sanitary napkin	96 (80.7)
Cloth	23 (19.3)
Number of pads per day	
1-2	38 (31.9)
3-5	78 (65.5)
>5	3 (2.6)

*Modified BG Prasad classification using per capita income (rupees/month)

The majority of the participants (94/119, 79%) had a menstrual complaint during their last period. The most common complaint was dysmenorrhea [45%, 95% confidence interval (CI): 36.6%–54.4%], followed by menorrhagia (17%, 95% CI: 11.6%–25.3%). Irregular cycles and white discharge were the other complaints reported. Only a third of those with a menstrual complaint (36%) seek treatment from a health facility. The rest of them resorted to home remedy (10%), self-medication (6%), or did not take any measure (43%). The most common systemic complaint during periods was a headache (11.8%), followed by giddiness (9.2%), sleeplessness (2.5%), and nausea and vomiting (2.5%). One-fifth of the participants were using cloth during periods.

WHO BREF scale to measure the QOL was administered to all the 119 participants, and the results are shown in Table 2. The mean QOL scores of women with dysmenorrhea were lower in physical (57.9 vs. 69.7, $P < 0.001$), psychological (56.2 vs. 65.4, $P < 0.001$), social (68.4 vs. 74.1, $P < 0.001$), and environmental (60.8 vs. 64.5, $P < 0.001$) domains when compared with women without dysmenorrhea, and the difference was statistically significant. Similarly, the mean QOL scores of women with menorrhagia were lower in physical (55.4 vs. 66.4, $P < 0.001$) and psychological (57.1 vs. 62.0, $P < 0.03$) domains when compared with women without menorrhagia.

Discussion

In our study, the prevalence of dysmenorrhea among women in the reproductive age group is 45%, whereas previous studies from India indicate a higher prevalence ranging between 56% and 78%.^[4,9-17] This may be because the participants in other studies were either school-going adolescents or unmarried girls. Whereas in our study the majority of the participants were married and their mean age was 30 years. Studies have shown that the prevalence of dysmenorrhea decreases with increasing age and this may be the reason for lower prevalence in our study. One-fourth of the women in our study had menorrhagia, and it ranged between 6% and 46%^[18-20] in previous studies from India. The reason for this wide variation may be the use of selected groups of women in these studies and the absence of a universally accepted method of defining dysmenorrhea and menorrhagia.

Table 2: Quality of life of women with and without menstrual disorders (n=119)

QOL domain	Dysmenorrhea			Menorrhagia		
	Absent (n=65)	Present (n=54)	P	Absent (n=98)	Present (n=21)	P
Physical [#]	69.7	57.9	<0.001	66.4	55.4	<0.001
Psychological ^{##}	65.4	56.2	<0.001	62	57.1	0.03
Social [*]	74.1	68.4	<0.001	71.6	70.8	0.75
Environmental ^{**}	64.5	60.8	0.01	62.7	63.3	0.76

QOL: Quality of life. [#]Physical domain measures activities of daily living, dependence on medicinal substances and medical aids, energy and fatigue, mobility, pain and discomfort, sleep and rest, and work capacity; ^{##}psychological domain measures bodily image and appearance, negative feelings, positive feelings, self-esteem, spirituality/religion/personal beliefs, thinking, learning, memory, and concentration; ^{*}social domain measures personal relationships, social support, and sexual activity; ^{**}environmental domain measures financial resources, freedom, physical safety and security, health and social care: accessibility and quality, home environment, opportunities for acquiring new information and skills, participation in and opportunities for recreation/leisure activities, physical environment, and transport

High prevalence of these menstrual disorders indicates that they are important public health problems. However, only a third of those with these menstrual complaints are seeking medical care. This may be because women perceive these conditions as universal and part of life. The suboptimal use of medical care and the barriers to seek medical attention need further exploration. One-fifth of the participants using cloth during periods are a matter of concern, and health education session on menstrual hygiene has to be conducted.

QOL measure gives a more direct measure of the impact of the disease on daily life. It is particularly relevant in menstrual disorders wherein health-seeking is impaired by a culture of silence, embarrassment, and hesitation. They are not routinely measured in the clinics. In our community study, all domains of QOL were impacted in the group with a menstrual disorder. The largest impact was on the physical and psychological domains. The social domain was also affected in the group with dysmenorrhea. These indicate that the burden of menstrual disorders in the society is large and unaddressed. Under the National Rural Health Mission (NRHM), antenatal, intranatal, postnatal, and family planning services are provided through all the primary health centers (PHCs) in the country.^[21] Reproductive tract infections and sexually transmitted infections are also managed at the PHCs. However, menstrual disorders such as dysmenorrhea and menorrhagia are not addressed under NRHM or any other national program. A national guideline for the management of menstrual disorders at the PHC level is also not available. Women with these disorders are usually referred to community health center or the district hospitals. As the burden of menstrual disorders in the community is high, management of common menstrual disorders should be a part of primary healthcare and a new guideline has to be developed. All women in the reproductive age group must be enquired about their menstrual health at PHCs. Family physicians have to rule out menstrual disorders in women presenting with systemic complaints such as headache, giddiness, nausea, or vomiting.

The strength of this study is that systematic random sampling was used to select the participants in the community, which would have reduced selection bias. Second, we have used a standardized questionnaire to measure QOL of participants and quantitatively compared the scores between the two groups. We are well aware of the limitations of this study. First, it was performed in a single district and in the single field practice area of a teaching hospital. Therefore, the sample may not be representative of all women in the country. The mean age of the study participants is higher than that in other studies and the majority of them were homemakers. This reduces the comparability of this study with other community-based studies.

Conclusion

The prevalence of menstrual disorders among women in this field practice area is high, but the use of medical care is suboptimal. The QOL of women with menstrual disorders is poor. The

barriers to seek medical attention in women with menstrual disorders have to be explored and addressed to improve their QOL.

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Conflicts of interest

There are no conflicts of interest.

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