Section: Obstetrics and Gynaecology

Original Research Article

PREVALENCE AND IMPACT OF DYSMENORRHEA ON QUALITY OF LIFE AMONG WOMEN: A CROSS-SECTIONAL STUDY

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Received *: 07/06/2025*
Received in revised form *: 07/08/2025*
Accepted *: 25/08/2025*

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DOI: 10.70034/ijmedph.2025.3.373

Source of Support: Nil,
Conflict of Interest: None declared

Int J Med Pub Health
2025; 15 (3); 2017-2021

ABSTRACT

Background: Dysmenorrhea, characterized by painful menstruation, is one of the most common gynaecological problems among young women and can significantly impair daily functioning, academic performance, and overall quality of life. Despite its high prevalence, many women normalize symptoms and do not seek medical care, leading to underdiagnoses and under treatment. Objectives: To estimate the prevalence of dysmenorrhea among college-going women and evaluate its impact on different domains of quality of life (QOL).

Materials and Methods: A cross-sectional study was conducted among 250 female students aged 18–25 years at MM Medical College & Hospital, Kumarhatti-Solan. Data were collected using a structured questionnaire including socio-demographic details, menstrual history, and the World Health Organization Quality of Life (WHOQOL-BREF) instrument. Dysmenorrhea severity was assessed using a visual analog scale and categorized as mild, moderate, or severe. Statistical analysis was performed using descriptive and inferential statistics.

Results: The prevalence of dysmenorrhea was 72%. Among affected participants, 34.8% reported moderate, 23.2% mild, and 14% severe pain. Absenteeism from academic or social activities was significantly higher in those with severe dysmenorrhea (57.1%) compared to those with mild symptoms (17.2%). Quality of life scores were significantly lower in women with severe dysmenorrhea across all domains—physical (55.1), psychological (52.1), social (57.1), and environmental (58.0)—compared to women without pain (73.4, 69.6, 75.0, 73.0 respectively).

Conclusion: Dysmenorrhea is highly prevalent among young women and has a substantial negative impact on quality of life, particularly in those with severe symptoms. Early recognition, health education, and effective management strategies are essential to minimize its burden and improve well-being.

Keywords: Dysmenorrhea, Menstrual pain, Prevalence, Quality of life, WHOQOL-BREF.

INTRODUCTION

Dysmenorrhea, defined as painful menstruation, is one of the most common gynaecological problems affecting women of reproductive age. It is typically classified into primary dysmenorrhea, characterized by recurrent menstrual pain without identifiable pelvic pathology, and secondary dysmenorrhea, which is associated with underlying conditions such as endometriosis, adenomyosis, uterine fibroids, or pelvic inflammatory disease.[1,2] The pathophysiology of primary dysmenorrhea is largely attributed to increased production of uterine prostaglandins, particularly prostaglandin F2α and prostaglandin E2, which result in excessive uterine contractions, ischemia, and subsequent pain.[3] Secondary dysmenorrhea, though less prevalent, is often more severe and progressive, warranting

careful clinical evaluation and intervention.[4] Globally, the prevalence of dysmenorrhea ranges from 50% to 90%, depending on the population studied and the definition applied.[5,6] Studies report that up to 45% of women experience moderate to severe dysmenorrhea, which interferes with daily activities, academic performance, and work productivity.[7] In India, community-based surveys have found prevalence rates between 60% and 75%, with a significant proportion of adolescents and young adults missing school or college due to menstrual pain.[8,9] Despite its high prevalence, dysmenorrhea is often underreported because many women perceive it as a normal part of menstruation and refrain from seeking medical care.[10] The impact of dysmenorrhea extends beyond physical discomfort. It has been linked to psychological stress, reduced social participation, impaired interpersonal relationships, and poor sleep quality.[11,12] The condition is also associated with absenteeism and presenteeism (attending work/school despite reduced efficiency), which have important implications for educational attainment and workplace productivity.[13] The quality of life (QOL) framework provides a holistic perspective on how dysmenorrhea affects not only physical health but also psychological well-being, social relationships, and environmental adaptability.[14] Instruments such as the WHOQOL-BREF questionnaire allow systematic assessment of these domains and are widely used in clinical and epidemiological research.[15] Given the paucity of regional data from North India, particularly Himachal Pradesh, this study was undertaken to determine the prevalence of dysmenorrhea and its impact on the quality of life among women attending MM Medical College & Hospital, Kumarhatti-Solan. By focusing on this population, the study aims to contribute valuable insights for improving menstrual health awareness, developing support systems, and promoting timely medical interventions.

MATERIALS AND METHODS

Study Design- This was a cross-sectional, observational study designed to determine the prevalence of dysmenorrhea and assess its impact on quality of life among women of reproductive age.

Study Setting and Duration- The study was carried out in the Department of Obstetrics and Gynaecology, MM Medical College & Hospital, Kumarhatti-Solan, Himachal Pradesh, over a period of six months.

Study Population- The study included female medical students, nursing students, and hospital staff in the age group of 18–35 years. Participants were recruited through purposive sampling after obtaining informed consent.

Sample Size- A minimum sample size of 250 participants was calculated using the formula for prevalence studies:

$$n = \frac{Z^2 \cdot p \cdot (1-p)}{d^2}$$

Where Z = 1.96 (95% confidence interval), p = expected prevalence of dysmenorrhea (0.70 based on previous Indian studies),[1,2] and d = allowable error of 6%. To account for possible non-response, the sample was increased to 250.

Inclusion Criteria

1. Women aged 18–35 years.
2. Regular menstrual cycles (21–35 days).
3. Willing to provide written informed consent.

Exclusion Criteria

1. Known gynaecological disorders (endometriosis, pelvic inflammatory disease, fibroids, and ovarian cysts).
2. Chronic systemic illness (diabetes, thyroid disorders, psychiatric illness).
3. Current use of hormonal therapy or intrauterine contraceptive devices.

Data Collection Tools

1. Structured Questionnaire: Used to record demographic details (age, BMI, educational status), menstrual history (cycle length, duration, flow), and presence or absence of dysmenorrhea.

2. Severity of Dysmenorrhea: Assessed using the Visual Analog Scale (VAS, 0–10 cm), categorized as:

1. Mild: 1–3
2. Moderate: 4–6
3. Severe: 7–10

3. Absenteeism Assessment: Participants were asked whether they missed school/college/work due to pain and the number of days lost per cycle.

4. Quality of Life Assessment: The WHOQOL-BREF questionnaire was administered. It includes 26 items across four domains:

1. Physical health
2. Psychological well-being
3. Social relationships
4. Environmental health

Each domain is scored on a scale of 0–100, with higher scores reflecting better quality of life (3).

Statistical analysis: Data were entered into Microsoft Excel and analyzed using IBM SPSS Statistics version 25.0.

1. Descriptive statistics (mean, standard deviation, frequency, percentages) were used to summarize demographic and clinical characteristics.
2. Chi-square test was applied to compare categorical variables (e.g., prevalence of absenteeism by severity).
3. One-way ANOVA was used to compare mean WHOQOL-BREF scores across severity groups.
4. A p-value <0.05 was considered statistically significant.

RESULTS

The present study was conducted among 250 women of reproductive age to determine the prevalence of

dysmenorrhea and assess its impact on quality of life. The findings are summarized in the following tables.

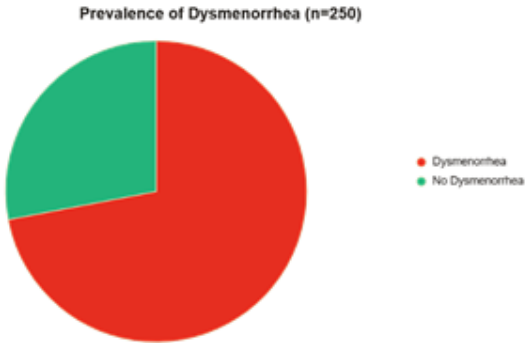

Figure 1- This chart visualizes the prevalence of dysmenorrhea (72%) and no dysmenorrhea (28%) from Table 1.

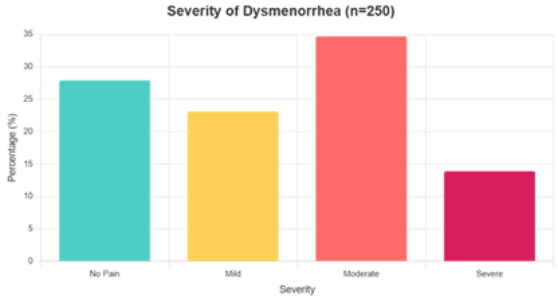

Figure 2- This chart shows the distribution of dysmenorrhea severity (No Pain, Mild, Moderate, Severe) from Table 2.

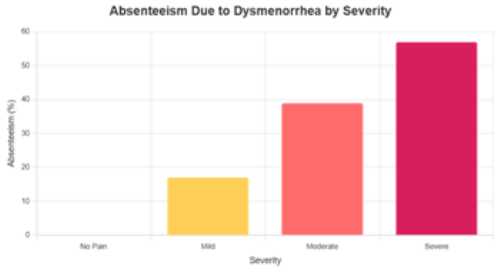

Figure 3- This chart illustrates the percentage of absenteeism by severity level from Table 3.

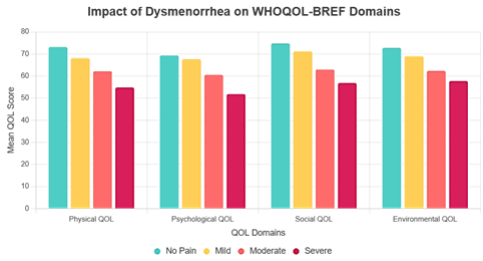

Figure 4- This chart compares the mean WHOQOL-BREF domain scores across severity levels from Table 4.

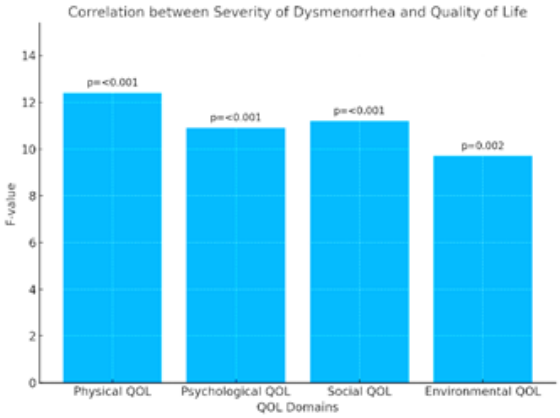

Figure 5- THIS Bar chart for Table 5, showing the F-values for each QOL domain.

Table 1: Prevalence of Dysmenorrhea among Study Participants (n = 250)

Parameter	Frequency (n)	Percentage (%)
Dysmenorrhea	180	72
No Dysmenorrhea	70	28

Table 1: shows that the overall prevalence of dysmenorrhea among participants was 72%, indicating that nearly three-fourths of the study population experienced menstrual pain.

Table 2: Severity of Dysmenorrhea (n = 250)

Severity	Frequency (n)	Percentage (%)
No Pain	70	28.0
Mild	58	23.2
Moderate	87	34.8
Severe	35	14.0

Table 2: shows the distribution of severity among participants. The majority had moderate dysmenorrhea (34.8%), while 14% experienced severe pain that significantly interfered with daily activities.

Table 3: Absenteeism Due to Dysmenorrhea by Severity

Severity	Absenteeism (%)
No Pain	0.0
Mild	17.2
Moderate	39.1
Severe	57.1

Table 3: shows the relationship between severity of dysmenorrhea and absenteeism. More than half (57.1%) of women with severe dysmenorrhea reported missing classes or work, compared to only 17.2% with mild symptoms.

Table 4: Impact of Dysmenorrhea on WHOQOL-BREF Domains (Mean Scores)

Severity	Physical QOL	Psychological QOL	Social QOL	Environmental QOL
No Pain	73.4	69.6	75.0	73.0
Mild	68.4	67.9	71.5	69.3
Moderate	62.4	60.8	63.2	62.6
Severe	55.1	52.1	57.1	58.0

Table 4: shows that increasing severity of dysmenorrhea was associated with progressively lower scores across all quality-of-life domains. The largest decline was observed in physical and psychological domains among women with severe dysmenorrhea.

Table 5: Correlation between Severity of Dysmenorrhea and Quality of Life

QOL Domain	F-value	p-value	Interpretation
Physical QOL	12.4	<0.001	Significant
Psychological QOL	10.9	<0.001	Significant
Social QOL	11.2	<0.001	Significant
Environmental QOL	9.7	0.002	Significant

Table 5 shows that the differences in quality-of-life scores across severity groups were statistically significant ($p < 0.05$), indicating that dysmenorrhea has a measurable and adverse effect on women's quality of life.

DISCUSSION

The present study demonstrated that 72% of women of reproductive age experienced dysmenorrhea, with the majority reporting moderate (34.8%) or severe (14.0%) pain. These findings are consistent with global reports, where prevalence ranges between 50% and 90%.[1,2] Indian studies, including those by Sharma et al.[3] and Patel et al.[4], have also reported prevalence rates of 60–75%, confirming that dysmenorrhea is a common yet often underrecognized health problem among young women.

Comparison with Other Studies- The high prevalence observed in this study mirrors the findings of Unsal et al, [5] who reported a prevalence of 72.7% among Turkish university students. Similarly, Schoep et al. [6] in a large survey of 42,879 women, found that 85% experienced menstrual pain, with a significant proportion reporting interference with daily activities. These data reinforce the global burden of dysmenorrhea and its cross-cultural implications. Regarding severity, our results revealed that nearly half of the women (48.8%) had moderate-to-severe dysmenorrhea. This aligns with Dawood, [7] who emphasized that one-third to one-half of women report symptoms severe enough to require medical or pharmacological intervention. Importantly, our study highlighted that 57.1% of women with severe dysmenorrhea reported absenteeism, consistent with earlier Indian research by Nair et al. [8] which showed high rates of school absenteeism among adolescents.

Impact on Quality of Life- A key strength of the present study lies in the use of the WHOQOL-BREF questionnaire to assess the multidimensional impact of dysmenorrhea. Women with severe pain scored significantly lower across physical, psychological, social, and environmental domains, indicating that the burden of dysmenorrhea extends well beyond physical discomfort. Similar findings were reported by Ortiz, [9] in Mexican students and by Iacovides et al. [10] who highlighted the psychological stress and social impairment associated with dysmenorrhea.

The decline in physical and psychological well-being observed in our study is particularly concerning. Poor sleep, fatigue, irritability, and depressive symptoms have all been linked to menstrual pain.[11] Moreover, the association between dysmenorrhea and reduced social functioning emphasizes the need for holistic management strategies that address not only physical but also emotional and social aspects of women's health.

Implications for Public Health and Clinical Practice- The findings highlight the urgent need for awareness programs, menstrual health education, and early interventions. Since many women normalize dysmenorrhea and avoid seeking medical care, [12] there is a risk of underdiagnosing secondary causes such as endometriosis, which can have long-term reproductive implications. Institutions should

consider school- and workplace-based health initiatives to provide support, counselling, and accessible treatment options.

Strengths and Limitations- The strengths of this study include a well-defined sample, standardized assessment of pain using VAS, and use of a validated quality-of-life tool (WHOQOL-BREF). However, the study also has limitations:

1. Being cross-sectional, causal relationships cannot be established.
2. The study population was limited to students and hospital staff, which may not fully represent the general community.
3. Self-reported data may have introduced recall bias.

Future directions- Future studies with larger, community-based samples are warranted to generalize findings. Longitudinal designs could better capture the temporal relationship between dysmenorrhea and psychosocial outcomes. Additionally, interventional studies testing the effectiveness of pharmacological and non-pharmacological measures (e.g., yoga, lifestyle modification, dietary interventions) could provide valuable evidence for improving women's quality of life.

CONCLUSION

Dysmenorrhea is highly prevalent among young women and significantly impairs their quality of life across multiple domains. The study emphasizes the need for greater awareness, timely medical evaluation, and comprehensive management strategies to reduce the burden of dysmenorrhea and improve women's health and productivity.

REFERENCES

1. Ju H, Jones M, Mishra G. The prevalence and risk factors of dysmenorrhea. Epidemiol Rev. 2014;36(1):104–13. doi:10.1093/epirev/mxt009
2. De Sanctis V, Soliman AT, Elsedfy H, Soliman NA, El Kholy M, Soliman R, et al. Dysmenorrhea in adolescents and young adults: A review in different countries. Acta Biomed. 2016;87(3):233–46. PMID:28108555
3. Sharma P, Malhotra C, Taneja DK, Saha R. Problems related to menstruation amongst adolescent girls. Indian J Pediatr. 2008;75(2):125–9. doi:10.1007/s12098-008-0018-5
4. Patel V, Tanksale V, Sahasrabhojanee M, Gupte S, Nevrekar P. The burden and determinants of dysmenorrhoea: a population-based survey of 2262 women in Goa, India. BJOG. 2006;113(4):453–63. doi:10.1111/j.1471-0528.2006.00874.x
5. Unsal A, Ayranci U, Tozun M, Arslan G, Calik E. Prevalence of dysmenorrhea and its effect on quality of life among a group of female university students. Ups J Med Sci. 2010;115(2):138–45. doi:10.3109/03009730903457218
6. Schoep ME, Nieboer TE, van der Zanden M, Braat DDM, Nap AW. The impact of menstrual symptoms on everyday life: a survey among 42,879 women. Am J Obstet Gynecol. 2019;220(6):569.e1–569.e7. doi:10.1016/j.ajog.2019.02.048
7. Dawood MY. Primary dysmenorrhea: advances in pathogenesis and management. Obstet Gynecol. 2006;108(2):428–41. doi:10.1097/01.AOG.0000230214.26638.0c
8. Nair P, Grover VL, Kannan AT. Awareness and practices of menstruation and dysmenorrhoea among adolescent girls of a secondary school in Delhi, India. Indian J Community Med. 2007;32(2):156–7. doi:10.4103/0970-0218.35668
9. Ortiz MI. Primary dysmenorrhea among Mexican university students: prevalence, impact and treatment. Eur J Obstet Gynecol Reprod Biol. 2010;152(1):73–7. doi:10.1016/j.ejogrb.2010.04.015
10. Iacovides S, Avidon I, Baker FC. What we know about primary dysmenorrhea today: a critical review. Hum Reprod Update. 2015;21(6):762–78. doi:10.1093/humupd/dmv039
11. Baker FC, Driver HS, Rogers GG, Paiker J, Mitchell D. High nocturnal body temperatures and disturbed sleep in women with primary dysmenorrhea. Am J Physiol Endocrinol Metab. 1999;277(6):E1013–21. doi:10.1152/ajpendo.1999.277.6.E1013
12. Chen CX, Shieh C, Draucker CB, Carpenter JS. Reasons women do not seek health care for dysmenorrhea. J Clin Nurs. 2018;27(1-2):301–8. doi:10.1111/jocn.13864
13. Harlow SD, Campbell OM. Epidemiology of menstrual disorders in developing countries: a systematic review. BJOG. 2004;111(1):6–16. doi:10.1046/j.1471-0528.2003.00012.x
14. Banikarim C, Chacko MR, Kelder SH. Prevalence and impact of dysmenorrhea on Hispanic female adolescents. Arch Pediatr Adolesc Med. 2000;154(12):1226–9. doi:10.1001/archpedi.154.12.1226
15. Bernardi M, Lazzeri L, Perelli F, Reis FM, Petraglia F. Dysmenorrhea and related disorders. Fertil Steril. 2017;108(4):666–73. doi:10.1016/j.fertnstert.2017.08.001
16. Proctor M, Farquhar C. Diagnosis and management of dysmenorrhoea. BMJ. 2006;332(7550):1134–8. doi:10.1136/bmj.332.7550.1134
17. Singh A, Kiran D, Singh H, Nel B, Singh P, Tiwari P. Prevalence and severity of dysmenorrhea: a problem related to menstruation, among first- and second-year female medical students. Indian J Physiol Pharmacol. 2008;52(4):389–97. PMID:19585764
18. Habibi N, Huang MS, Gan WY, Zulida R, Safavi SM. Prevalence of primary dysmenorrhea and factors associated with its intensity among undergraduate students: a cross-sectional study. Pain Manag Nurs. 2015;16(6):855–61. doi:10.1016/j.pmn.2015.07.001.