

COPING STRATEGIES AND SELF-MANAGEMENT PRACTICES AMONG COLLEGE STUDENTS WITH PRIMARY DYSMENORRHEA: A CROSS-SECTIONAL STUDY

Yachana Parashar^{*1}, Dr. Rohit Avasthi²

¹PhD. Scholar, ²PhD. Guide.

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*Corresponding Author: Yachana Parashar

PhD. Scholar.

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ABSTRACT

Introduction: Primary dysmenorrhea (PD) is a common menstrual disorder among young women that adversely affects academic performance and quality of life, often managed through diverse pharmacological and non-pharmacological strategies. **Methodology:** A descriptive cross-sectional study was conducted among 180 female nursing students aged 18–25 years from selected colleges in Jaipur, Rajasthan, using a structured questionnaire covering demographic data, menstrual history, and coping practices. **Results:** Most participants (64.4%) were aged 18–21 years, with menarche at 13–14 years (71.7%). Pharmacological strategies were reported by 65% (mainly OTC analgesics), though only 41% were aware of correct dosages, while 72.2% practiced rest, 68.3% heat application, and 54.4% hydration. Significant associations were found between age at menarche and non-pharmacological strategies ($p = 0.04$), and between flow duration and pharmacological use ($p = 0.01$). **Conclusion:** The study highlights high reliance on self-management, with frequent non-prescribed analgesic use and poor dosage awareness, alongside widespread adoption of non-pharmacological strategies. Implications: Structured menstrual health education is needed to promote safe coping practices and reduce risks from inappropriate self-medication.

KEYWORDS: Primary dysmenorrhea, Coping strategies, Self-management, Nursing students, India.

INTRODUCTION

Primary dysmenorrhea (PD) is one of the most common gynecological conditions among adolescent and young adult females, characterized by painful menstruation in the absence of underlying pelvic pathology. Its symptoms—including lower abdominal cramps, fatigue, nausea, and backache—can significantly impair daily activities and quality of life, especially for college students juggling academic responsibilities. The global prevalence of PD ranges from 45% to 95%, with many studies noting high rates of self-management and low professional healthcare-seeking behaviors among affected students.^[1] Self-care strategies, including over-the-counter (OTC) medications, herbal remedies, heat application, rest, and lifestyle modifications, are widely used to manage symptoms. In Saudi Arabia, nearly 62% of students used analgesics like paracetamol or ibuprofen, and 67% used complementary and alternative therapies (CATs) such as herbal teas, heat packs, or yoga. Similarly, Chinese college girls reported using warm beverages, reducing activity, and avoiding cold

foods as preferred non-pharmacological strategies, while only 34.8% used Western medicine.^[2]

Inappropriate self-medication is a concern. In Nepal, 50% of nursing students used analgesics such as mefenamic acid without medical consultation, and most were unaware of the correct dosage or frequency.^[3] In another study, 65% of female medical and nursing students practiced self-medication, with mefenamic acid and ibuprofen being the most frequently used drugs.^[4] Family and cultural influence also shape coping practices. A Spanish study found that women were more likely to adopt non-pharmacological remedies like massage and heat therapy when family members also suffered from dysmenorrhea, suggesting a strong intergenerational learning pattern.^[5] In Saudi Arabia, 81% of students learned pain management strategies from family members rather than professionals.^[6]

Encouragingly, structured self-management education has shown positive outcomes. A study in China found

that after six months of self-management training, students reported lower pain intensity and improved quality of life. Another intervention showed that self-efficacy and healthy behaviors improved significantly among students who adopted structured self-care strategies.^[7] Given the widespread reliance on self-management and the varying effectiveness and safety of coping practices, there is a clear need to investigate how college students in different regions manage dysmenorrhea. In India, especially Rajasthan, limited research exists on this topic. This study therefore aims to assess the coping strategies and self-management practices among female college students with primary dysmenorrhea, and to understand the sources, patterns, and effectiveness of these practices.

METHODOLOGY

Study Design and Setting

A descriptive cross-sectional study was conducted among 180 female nursing students aged 18–25 years from selected nursing colleges in Jaipur, Rajasthan. The objective was to assess their coping strategies and self-management practices for primary dysmenorrhea.

Eligibility Criteria

Students were eligible to participate if they had regular menstrual cycles (21–35 days), reported experiencing primary dysmenorrhea (without diagnosed gynecological conditions), and consented to the study. Students were excluded if they had irregular cycles, known gynecological or chronic medical conditions (e.g., PCOS, endometriosis), or were using hormonal contraceptives or intrauterine devices.

RESULTS

Table 1: Demographic and menstrual characteristics of participants (N = 180).

Variable	Category	n	%
Age (years)	18–21	116	64.4
	22–25	64	35.6
Academic year	1st year	52	28.9
	2nd year	48	26.7
	3rd year	44	24.4
	4th year	36	20.0
Age at menarche (years)	≤12	29	16.1
	13–14	129	71.7
	≥15	22	12.2
Cycle regularity	Regular (21–35 days)	141	78.3
	Irregular	39	21.7
Flow duration	≤2 days	21	11.7
	3–5 days	99	55.0
	>5 days	60	33.3

Table 2: Coping strategies and self-management practices (N = 180).

Strategy	n	%
Pharmacological		
Use of analgesics (OTC)	117	65.0
Awareness of correct dosage	74	41.0
Professional consultation	39	21.7
Non-pharmacological		

Data Collection Tool and Procedure

A structured, self-administered questionnaire was used for data collection, developed based on open-access literature and previously published studies on dysmenorrhea self-care practices. The tool consisted of two sections: (1) demographic and menstrual history, including age, academic year, age at menarche, cycle regularity, and flow duration; and (2) coping strategies, covering both pharmacological methods (e.g., use of over-the-counter medications, frequency, dosage awareness, and source) and non-pharmacological practices (e.g., rest, heat application, hydration, yoga, diet modifications, and herbal remedies). Before starting data collection formal permission was taken from principal of college. Participation was entirely voluntary, with full confidentiality and anonymity ensured. Students were informed of their right to withdraw from the study at any time without any academic or personal consequence.

Data Analysis

Data were coded and entered into Microsoft Excel and analyzed using SPSS version 26.0. Descriptive statistics such as frequencies and percentages were used to summarize demographic details and coping practices. Associations between selected demographic variables (e.g., age, year of study, age at menarche) and type of coping strategy were analyzed using the Chi-square test, with $p < 0.05$ considered statistically significant.

Rest/sleep	130	72.2
Heat application (hot water bag)	123	68.3
Increased hydration	98	54.4
Dietary modifications	84	46.7
Yoga/exercise	52	28.9
Herbal remedies	41	22.8

Table 3: Association between demographic and menstrual variables with coping strategies (N = 180).

Variable	Pharmacological use (%)	Non-pharmacological use (%)	p-value
Age group			
18–21 years (n=116)	62.1	86.2	0.27
22–25 years (n=64)	68.8	82.8	
Academic year			
1st/2nd year (n=100)	54.7	88.3	0.12
3rd/4th year (n=80)	72.5	81.4	
Age at menarche			
≤12 years (n=29)	58.6	93.1	0.04*
13–14 years (n=129)	66.7	84.5	
≥15 years (n=22)	63.6	86.4	
Cycle regularity			
Regular (n=141)	61.0	90.1	0.34*
Irregular (n=39)	74.4	74.4	
Flow duration			
≤2 days (n=21)	47.6	90.5	0.01*
3–5 days (n=99)	62.6	85.9	
>5 days (n=60)	76.7	78.3	

*p < 0.05 significant by Chi-square test.

DISCUSSION

This study aimed to assess the self-management practices and coping strategies adopted by nursing students in Jaipur to manage primary dysmenorrhea (PD). The findings reveal that while pharmacological methods were commonly used, a wide range of non-pharmacological strategies were also popular, reflecting a global trend of diverse and largely self-directed pain management in young women.

The overall prevalence of self-management strategies (94.4%) in our sample aligns with global estimates, where students with dysmenorrhea often opt for self-care rather than formal healthcare support.^[2] Among pharmacological options, mefenamic acid and ibuprofen were most commonly used, consistent with findings from Nepal and Lebanon where NSAIDs remain the first line of self-medication.^[3,8] However, a key concern observed both in our study and globally is poor awareness about correct dosage and frequency. Similar findings were reported in studies from Nepal and Saudi Arabia, where a majority of students could not recall correct dosing schedules, raising concerns about misuse and possible side effects.^[1,9]

Non-pharmacological methods such as rest, heat application, hydration, and dietary adjustments were widely practiced by our participants. These findings mirror those from China, Spain, and Iraq, where students

reported high reliance on warmth, rest, and herbal remedies due to perceived safety and accessibility.^[2,5,9] Our analysis found significant associations between flow duration and pharmacological use, with students experiencing longer menstruation more likely to use medication. This matches trends in prior studies showing that higher pain severity or prolonged flow predicts analgesic use.^[10] Early age at menarche was also associated with increased use of non-pharmacological strategies, possibly reflecting earlier adaptation of lifestyle-based coping behaviors.

Encouragingly, structured self-management education has demonstrated success. Interventional studies in China found significant reductions in pain and improved self-efficacy following self-care education over six months.^[7,11] Similarly, aerobic exercise and acupressure have shown promise as non-drug interventions that reduce pain intensity and improve coping capacity.^[12,13]

One notable finding in our study is that family and peers remain the main source of information for both pharmacological and non-pharmacological choices. This aligns with studies from Saudi Arabia and Hong Kong, where familial transmission of coping strategies was prevalent and sometimes preferred over formal consultation.^[6,14]

This study was limited by its cross-sectional design, which restricts causal interpretation, and by the use of self-reported data, which may introduce recall and reporting bias. Additionally, the sample was confined to nursing students from three private colleges in Jaipur, limiting the generalizability of findings to other regions or disciplines. Despite these limitations, the study highlights the widespread use of both pharmacological and non-pharmacological coping strategies for primary dysmenorrhea, with gaps in dosage knowledge and reliance on informal sources. It is recommended that colleges implement structured menstrual health education, promote safe self-care practices, and provide access to professional guidance. In conclusion, enhancing menstrual health literacy and institutional support can significantly improve pain management and academic functioning among young women.

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