# PATTERNS OF SELF-MEDICATION IN PRIMARY DYSMENORRHEA AMONG NURSING STUDENTS OF PATAN ACADEMY OF HEALTH SCIENCES

*Mayuri Gupta,[1] Mili Joshi,[1] Sushant Aryal,[1] Ram Krishna Shrestha,[1] Sajala Kafle,[1] Tripti Shakya[2]*

[1]Department of Pharmacology, [2]Department of Anatomy, Patan Academy of Health Sciences, Lagankhel, Lalitpur, Nepal

## ABSTRACT

Dysmenorrhea is a common periodic menstrual pain in young women without pelvic pathology characterized by lower abdominal cramps, starting within the first 8 to 72 hours of menstruation. A descriptive, cross-sectional study was conducted among 153 nursing students. They were selected by enumerate sampling technique. Data were collected through a self-administered questionnaire. Point estimate and 95.0% confidence interval were calculated. Among 153 nursing students, 145 had primary dysmenorrhea and self-medication was found in 88 (57.52%) students. Among all the self-medications, paracetamol was most common which was used by 40 (26.1%) students, followed by Mefenamic acid, in 36 (23.5%) students. The prevalence of self-medication in primary dysmenorrhea among undergraduate students was lower. Therefore, health professional consultation must be promoted to help students with dysmenorrhea.

## KEYWORDS

Dysmenorrhea, VAS score, self-medication

## CORRESPONDING AUTHOR

Dr. Mayuri Gupta
Assistant Professor,
Department of Pharmacology,
Patan Academy of Health Science,
Lagankhel, Lalitpur, Nepal
Email: mayurigupta@pahs.edu.np
Orcid No: https://orcid.org/0000-0001-8222-5382
DOI: https://doi.org/10.3126/nmcj.v27i3.84425

***Received on**: May 25, 2025*
***Accepted for publication**: July 10, 2025*

**Cite this paper as:** Gupta M, Joshi M, Aryal S, Shrestha RK, Kafle S, Shakya T. Patterns of self-medication in primary dysmenorrhea among nursing students of Patan Academy of Health Sciences. *Nepal Med Coll J* 2025; 27: 229-32.

## INTRODUCTION

WHO has defined self-medication (SM) as the use of drugs to treat self-diagnosed disorders or symptom's or the intermittent or continued use of a prescribed drug for chronic or recurrent diseases or symptoms.[1] It involves the process of getting and consuming drugs without physician's advice.[2] SM is a common practice and provides cheap, rapid and convenient solutions. Potential risks include incorrect self-diagnosis, improper dosage, inappropriate choice of therapy, masking of severe disease, and drug interactions. Only few adolescent girlsdiscuss dysmenorrhea with family and friends and most of them do not seek medical advice.[3]

Primary dysmenorrhea is a common periodic menstrual pain in young women without pelvic pathology characterized by lower abdominal cramps, starting within the first 8 to 72 hours of menstruation. Almost three-quarters of women are affected at some stage of their reproductive life.[4]Non-steroidal anti-inflammatory drugs (NSAIDs) and hormonal contraceptives are used for the treatment for dysmenorrhoea. Complementary and alternative therapies like exercise, acupuncture, herbal medicines, and dietary supplements are also used for relief of pain in dysmenorrhea.[5] The incidence of self-medication for dysmenorrhoea is very high (38.0–80.0%) and couldbe due to easy accessibility to over the counter drugs.[6]

In Nepal only few studies are conducted on self-medication in dysmenorrhoea among nursing students but it impact on academic performance is not evaluated.[7] Hence, this study will be conducted to find severity of dysmenorrhoea and its impact in their academic performances. And to find prevalence and pattern of self-medication use in dysmenorrhoea.

## MATERIALS AND METHODS

The study was conducted in the Department of Pharmacology, Patan Academy of Health Sciences (PAHS), Lalitpur over a period of six months from July 2024 to December 2024. Ethical approval for the study was obtained from Institutional Review Committee (IRC) of PAHS.

A semi-structured questionnaire was developed with help of relevant literature.[9] It comprised of socio-demographic data (age and academic year), presence of dysmenorrhea its symptoms, its impact on academic life, pattern of self-medication (name of drug, its dose, duration, and frequency). Any use of non-pharmacological therapy will be noted. To find out the severity of dysmenorrhea, a visual analogue scale was used which consisted of score from 1 to 10.

The principle investigator visited the lecture hall during the morning class and the questionnaires were distributed to students and filled questionnaire were collected in next day without hampering their academic activities. The objectives of the study were briefed to the participants and written informed consent was taken. No incentive was given to the participants. The collected data was checked and reviewed for clarity, accuracy and completeness and then entered into Microsoft Excel. Based on scores from the visual analog scale (VAS), the severity of pain was categorized into mild (score 1-3), moderate (score 4-6) and severe pain (score 7-10).[10]

VAS score will be interpreted as:

- 0= no pain
- 1-3= mild pain
- 4-6= moderate pain
- 7-10= severe pain

## RESULTS

The study included 153 undergraduate nursing students. Out of which 59 (38.6%) students were from 1st year and 94 (61.4%) students were from 2nd year (Table 1). The assessment of pain experienced by visual analogue scale (VAS) showed moderate pain 71 (46.4%) (Table 2). Among various drugs used for self-medication, paracetamol tops the list with 40 (26.1%) followed by mefenamic acid 36 (23.5%), paracetamol and ibuprofen 7 (4.6%) and hyoscinebutyl bromide 5 (3.3%) (Table 3). Most common accompanying symptoms and features were back pain, mood change, and fatigue, which were reported in 113 (73.9%), 105 (68.6%) and 103 (67.3%) students, respectively (Table 4).

**Table 1: Socio-demographic characteristics of the participants**

| Variables | n | % |
|---|---|---|
| **Age (years)** | | |
| 18 | 11 | 7.2% |
| 19 | 22 | 14.2% |
| 20 | 26 | 17.0% |
| 21 | 28 | 18.3% |
| 22 | 16 | 10.5% |
| 23 | 5 | 3.3% |
| 24 | 10 | 6.5% |
| 25 | 35 | 22.9% |
| Total | 153 | 100.0% |
| Academic years | | |
| 1st Year | 59 | 38.6% |
| 2nd Year | 94 | 61.4% |
| **Total** | **153** | **100.0%** |

Besides self-medication other self-care strategies of pain relief common among the students were 101 (66.0%) heat packs, 114 (74.5%) drink hot liquid, 131 (85.6%) rest, 45 (29.4%) massage and 20 (13.1%) exercise (Table 5).

Common drugs were used by the students, mostly paracetamol (39 students), paracetamol and mefenemic acid (71 students) and mefenamic acid, paracetamol + ibuprofen (35 students).

**Table 2: Severity of pain during dysmenorrhea (n=145)**

| Severity of dysmenorrhoea | n | % |
|---|---|---|
| Mild | 39 | 26.9 |
| Moderate | 71 | 49.0 |
| Severe | 35 | 24.1 |
| **Total** | **145*** | **100.0** |

*Out of 153 nursing students, 8 did not have dysmenorrhea, so the total number of nursing student with dysmenorrhea is 145.

## DISCUSSION

The highest number of students with dysmenorrhea was seen in 25 years age with 35 cases (22.9%). However, the study done by Raj *et al*[11] in India, highest number of cases were seen in 13 years age with 37.4% cases. In a study done by Sarraf *et al*,[10] the highest number was seen in 21-24 years age group with 51.2% cases. Similarly, Fatima *et al*[12] and Bharati *et al*[13] found the highest number of cases in 20-22 age group and 21-25 age group with 40.0% and 56.0% cases.

**Table 3: Pattern of self-medication (drug, duration and frequency; n=88*)**

| Drugs used for self-medication | n (%) | Mean duration** (days) (SD) | Mean frequency*** (SD) |
|---|---|---|---|
| Mefenamic acid | 36 (23.5%) | 2.03 (+/- 1.276) | 1.58 (+/- 0.732) |
| Paracetamol | 40 (26.1%) | 1.48 (+/- 1.012) | 1.38 (+/- 0.586) |
| Paracetamol and ibuprofen | 7 (4.6%) | 2 (+/- 1.41) | 1.43 (+/- 1.447) |
| Hyoscinebutyl bromide | 5 (3.3%) | 1.40 (+/- 0.894) | 1.6 (+/- 0.894) |
| **Total** | (57.5%) | | |

*Out of 153 students, 65 students did not take the medication, **Mean duration is the average number of days of SM, ***Mean frequency is the average number of times of SM

**Table 4: Symptoms associated with dysmenorrhea**

| Symptoms | n* | % |
|---|---|---|
| Nausea | 36 | 23.5 |
| Back pain | 113 | 73.9 |
| Vomiting | 16 | 10.5 |
| Tiredness (fatigue) | 103 | 67.3 |
| Mood change | 105 | 68.6 |
| Dizziness | 23 | 15.0 |
| Loss of appetite | 29 | 19.0 |
| Headache | 34 | 22.2 |
| Abdominal bloating sensation | 79 | 51.6 |

* Students presented with more than one symptom

**Table 5: Home remedies/ non-pharmacological used during dysmenorrhoea**

| Home remedies | n* | % |
|---|---|---|
| Heat Packs | 101 | 66 |
| Drink hot liquid | 114 | 74.5 |
| Rest | 131 | 85.6 |
| Message | 45 | 29.4 |
| Exercise | 20 | 13.1 |

* Students have used more than one remedy.

In our study, severity of dysmenorrhea according to visual analogue scale was 5.2%, 25.5%, 46.4% and 22.9% and in VAS scale it was none, mild, moderate and severe respectively. Similar finding was seen in a study done by Sarraf *et al*[10] with 26.19%, 29.76% and 44.05% in mild, moderate, and severe VAS scale respectively. In contrast to our finding, a distinct finding was seen in study done by Shrestha *et al*[14] showing 32.05%, 44.87% and 23.08% cases in mild, moderate, and severe VAS scale, respectively.

In our study, most of the students during dysmenorrhea, SM with paracetamol (26.1%) followed by mefenamic acid (23.5%), combined paracetamol and ibuprofen (4.6%) and hyoscinebutyl bromide (3.3%). In a study done by Sarraf *et al*,[10] most of the students self-medicate with mefenamic acid (90.4%), followed by combined paracetamol and ibuprofen (7.14%) and paracetamol (4.76%). Similar findings were seen in study done

in Nepal by Bharati *et al*[13] showed students self-medicate with mefenamic acid (48.0%), ibuprofen (20.3%), paracetamol (16.0%), combined mefenamic acid with dicyclomide (6.0%) and diclofenac (4.8%). Another study done in Nepal by Shrestha *et al*[14] showed self-medication was common with mefenamic acid (57.69%), paracetamol (14.1%) and combined paracetamol with ibuprofen (11.54%).

In our study, common symptoms associated with dysmenorrhea were back pain (73.9%), mood change (68.6%), tiredness (67.3%), abdominal bloating sensation (51.6%), nausea (23.5%), headache (2.2%), loss of appetite (19%), dizziness (15%) and vomiting (10.5%). In a study done by Bharati *et al*[13] showed common symptoms were nausea (7.2%), back pain (16.3%), vomiting (2.4%), loss of appetite (8.0%), and headache (6.4%). In a study done by Shrestha *et al*[14] common symptoms associated with dysmenorrhea were nausea (38.4%), vomiting (20.5%), dizziness (34.6%), loss of appetite (42.3%), headache (35.9%) and abdominal bloating (70.51%).

Home remedies/ non pharmacological methods used during dysmenorrhea in our study included rest (85.6%), drinking hot liquid (74.5%), applying heat pack (66.0%), massage (29.4%) and exercise (13.1%). Similar findings were found in studies done by Sarraf *et al*[10] in India and Shrestha *et al*[14] in Nepal.

The prevalence of self-medication in primary dysmenorrhea among undergraduate students in our study was 57.5% of the total participants (60.7% among those reporting dysmenorrhea). This is lower than the findings from Sarraf *et al*[10] (90.4%), Bharati *et al*[13] (48.0-57.0%), and Shrestha *et al*[14] (57.7%) conducted in similar settings. Paracetamol was the most common drug used (26.1%), followed by Mefenenic acid (23.5%), combined paracetamol and ibuprofen (4.6%) and hyoscinebutyl bromide (3.3%). The relatively lower prevalence in our study, along with variation in drug choice compared to other studies, highlights the importance of promoting awareness regarding appropriate drug selection, correct dosing and the need for professional medical consultation for dysmenorrhea management.

**Conflict of interest:** None
**Source of research fund:** None

## REFERENCES

1. WHO (2000) Guidelines for the regulatory assessment of medicinal products for use in self-medication., Geneva. 2013.
2. WHO. Role of pharmacists in self-care and self-medication the fourth consultative group meetings on the role of the pharmacist in the health care system organized by WHO in collaboration with the International Pharmaceutical Federation. The Hague, The Netherlands: WHO 1998.
3. De Sanctis V, Soliman AT, Daar S *et al*. Prevalence, attitude and practice of self-medication among adolescents and the paradigm of dysmenorrhea self-care management in different countries. *Acta Biomed* 2020; 91: 182-9.
4. Osayande AS, Mehulic S. Diagnosis and initial management of dysmenorrhea. *Am Fam Phys* 2014; 89: 341–46.
5. Campbell MA and McGrath PJ. Non-pharmacologic strategies used by adolescents for the management of menstrual discomfort. *Clin J Pain* 1999; 15: 313–20.
6. Sugumar R, Krishnaiah V, Channaveera GS, Mruthyunjaya S. Comparison of the pattern, efficacy, and tolerability of self-medicated drugs in primary dysmenorrhea: a questionnaire based survey. *Indian J Pharmacol* 2013; 45: 180-3.
7. Chaurasia L, Shah L, Paudel G, Shraff DP, Shah P, Singh JK. Self-medication practice in primary dysmenorrhea among nursing students: a cross sectional study. *J Med Med Sci* 2021; 1: 67-75.
8. Sunitha S, Dharman D, Manohar D, Daran SS, Vinod VA, Roy A. The self-medication practice in primary dysmenorrhea among pharmacy students-a cross-sectional questionnaire study. *Int J Res Hosp Clin Pharm* 2019; 1: 97–100.
9. Unsal A, Ayranci U, Tozun N, 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: 138-45.
10. Sarraf DP, Karn BK, Singh S. Pattern of self-medication in primary dysmenorrhea among nursing students at a nursing college in Eastern Nepal. *Nepal J Health Sci* 2022; 2: 1-8.
11. Raj PN and Gautham SN. A study of the prevalence of self medication pattern for primary dysmenorrhea among undergraduate medical and dental students in a teaching hospital in telangana. *Int J Pharm Pharm Sci* 2024; 16: 15-20
12. Fatima A, R MK, Ambika B, Rajarathna K. Self-medication practice in primary dysmenorrhea among medical and paramedical students - a cross-sectional questionnaire study. *Nat'l J Physiol Pharm Pharmacol* 2017; 7: 458-63.
13. Bharati JP, Ulak S, Vaidya S M, Dixit SM, Acharya A, Bhattarai A. Self-medication in primary dysmenorrhea among medical and nursing undergraduate students of a tertiary care hospital: a descriptive cross-sectional study. *J Nepal Med Assoc* 2021; 59: 537-41.
14. Shrestha R, Bhandari MS, Shrestha SS, Shrestha JTM, Shrestha U. Self-medication in primary dysmenorrhea among undergraduate students in a medical college: a descriptive cross-sectional Study. *J Nepal Med Assoc* 2022; 60: 1011-5.