

Original Research

Self-Medication Practices for Dysmenorrhea among Health Science Students in Karnali, Nepal

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ABSTRACT:

Background and objectives: Dysmenorrhoea, characterized by painful menstrual cramps occurring before or during menstruation, is one of the most common gynecological complaints among adolescent and young adult females. Despite having access to health-related knowledge, many health-science students rely on self-medication to manage menstrual pain. This study aimed to determine the self-medication practices in dysmenorrhoea and its impact on academic and daily life among students of Karnali Academy of Health Sciences (KAHS), Nepal.

Material and Methods: A descriptive cross-sectional study was conducted among female undergraduate health science students at KAHS. Data were collected using a pretested semi-structured questionnaire. Pain intensity was assessed using the Visual Analogue Scale (VAS). Open-ended responses were analyzed thematically to explore coping mechanisms and expectations.

regarding menstrual health support. Data were entered and analyzed using Microsoft Excel.

Results: Dysmenorrhoea was reported by 108 (89.3%) students. Lower abdominal cramps (83.5%) were the most common symptom, followed by fatigue (67.0%), dizziness (41.3%), nausea (24.8%), headache (12.4%), and diarrhea (7.4%). Self-medication was practiced by 45 (37.2%) respondents with dysmenorrhoea. Among them, 44.4% used medication, while only 13.3% obtained through physician prescriptions. Most students (77.8%) acquired medications over the counter. Mefenamic acid (75.6%) was the most commonly used drug, followed by paracetamol (20.0%). Dysmenorrhoea negatively affected daily functioning and academic performance, with 39% reporting extreme difficulty performing household activities and 43% experiencing difficulty concentrating during lectures. Qualitative findings revealed the use of heat therapy, herbal beverages, yoga, walking, music, and other diversion techniques as coping strategies. Participants also highlighted the need for emotional support, rest facilities, sanitary pad availability, and a more supportive institutional environment.

Conclusion: Dysmenorrhoea is highly prevalent among female undergraduate health science students at KAHS and has a substantial impact on their academic and daily activities. More than one-third of affected students practice self-medication, predominantly using over-the-counter analgesics.

Keywords: Dysmenorrhoea, Self-medication, OTC drug, Nepal.

INTRODUCTION

Dysmenorrhoea is defined as painful menstruation. It is characterized by cramping pain in the lower abdomen occurring before or during menstruation and may be accompanied by symptoms such as nausea, vomiting, fatigue, headache, dizziness, and lower back pain. It is one of the most prevalent gynecological conditions affecting

adolescent and young adult females, particularly undergraduate students. It can significantly impair physical, emotional, and social well-being and adversely affect the quality of life of affected individuals [1].

Globally, dysmenorrhoea affects a substantial proportion of menstruating women, with prevalence estimates ranging from 50% to 90% among adolescents and young adults [2]. Studies conducted in Nepal and India have consistently reported a high burden of menstrual pain among university students. Academic stress, lifestyle changes, irregular dietary habits, sleep disturbances, and inadequate health-seeking behavior have been identified as factors contributing to the high prevalence and severity of dysmenorrhoea in this population [1-4]. Furthermore, dysmenorrhoea is recognized as a major cause of absenteeism, reduced concentration, impaired academic performance, and decreased participation in daily activities among female students [2].

Despite its high prevalence and considerable impact, menstrual pain is frequently normalized and perceived as an inevitable part of menstruation. As a result, many young women tolerate symptoms without seeking professional medical consultation and instead rely on informal treatment methods. Self-medication has emerged as a common approach for managing dysmenorrhoea, particularly among students who have easy access to over-the-counter medications. While self-medication may provide temporary relief, inappropriate drug use can lead to adverse effects, drug interactions, masking of underlying gynecological conditions, and delayed diagnosis and treatment [4].

The issue of self-medication is particularly important among medical and paramedical students. Although these students generally possess greater knowledge of health and disease than the general population, they may be more inclined to self-diagnosis and self-medication due to their familiarity with medications, perceived confidence in managing symptoms, and demanding academic schedules [4]. Such practices may not only affect their personal health but may also influence their future professional attitudes toward prescribing medications and advising patients.

Understanding the prevalence, patterns, and determinants of self-medication for dysmenorrhoea among future healthcare professionals is therefore essential. Evidence generated from such studies can assist educational institutions and policymakers in developing targeted awareness programs, promoting rational use of medicines, improving patient safety, and strengthening reproductive health support services for young women. Therefore, this study was conducted among female undergraduate medical and paramedical students of Karnali Academy of Health Sciences (KAHS), Nepal to determine the prevalence of self-medication practices, types of medications used for self-management of dysmenorrhea, sources of information influencing self-medication practices and to evaluate the impact of dysmenorrhoea and self-medication on academic performance and daily activities.

MATERIALS AND METHODS

A descriptive cross-sectional study was conducted among female undergraduate students of Karnali Academy of Health Sciences (KAHS), Nepal. Ethical approval was

obtained from the Institutional Review Committee (IRC) of KAHS (Ref. No. 2025/095) before data collection.

A semi-structured questionnaire was developed based on previously published literature and a similar study conducted among undergraduate students with dysmenorrhea [5]. The questionnaire was pretested among a small group of students, and necessary modifications were made to improve clarity and comprehensibility before final administration.

The study population comprised undergraduate female students enrolled in MBBS, Bachelor of Nursing (BN), BSc Nursing, and Bachelor of Public Health (BPH) programs at KAHS. All consenting female students who were present during the period of data collection were eligible for inclusion. Data were collected through face-to-face distribution of questionnaires in classrooms and other designated areas within the college premises. Written informed consent was obtained from all participants before enrollment.

The questionnaire consisted of (a) demographic characteristics, including age, academic program, and level of study; (b) menstrual history, including the presence, duration, severity, frequency, and associated symptoms of dysmenorrhoea, as well as its impact on academic performance and daily activities; (c) self-medication practices for dysmenorrhoea, including the type of medication used, dosage, frequency, duration of use, and source of procurement; and (d) knowledge and awareness regarding self-medication and its potential risks.

The severity of menstrual pain was assessed using the Visual Analogue Scale (VAS)

described by Crichton [6]. The VAS score ranges from 0 to 10, where 0 indicates no pain, and 10 represents the worst imaginable pain. Pain severity was categorised as no pain (score 0), mild pain (scores 1–3), moderate pain (scores 4–6), and severe pain (scores 7–10).

In addition to the structured questionnaire, participants were provided with a free-response section to describe their experiences, coping strategies, feelings, and expectations regarding the management of dysmenorrhoea. A qualitative thematic analysis was performed on these responses. The narratives were transcribed, reviewed, and coded to identify recurring concepts and patterns. The emerging themes were grouped into two broad categories: (1) coping mechanisms adopted by students to manage dysmenorrhoea and (2) expectations and support needs from peers, family members, and educational institutions.

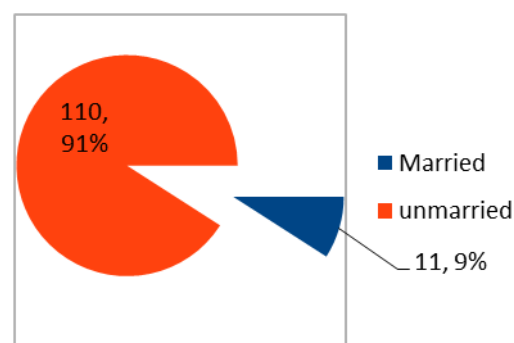
Completed questionnaires were checked for completeness before data entry. The collected data were entered into Microsoft Excel, and analyzed using descriptive statistical methods. Findings are presented as frequencies, percentages, and summary measures where appropriate.

RESULTS

A total of 168 female undergraduate students from MBBS, Bachelor of Nursing (BN), BSc Nursing, and Bachelor of Public Health (BPH) programs were approached for participation in the study. Of these, 121 students returned

completed questionnaires, yielding a response rate of 72.0%.

The demographic characteristics of the participants are presented in Figures 1–3. The majority of respondents were from nursing programs (BN and BSc Nursing). Most participants belonged to Karnali and



Lumbini Provinces of Nepal. The mean age of the respondents was 22.2 ± 9.5 years.

Fig 1: Marital status of the Participants

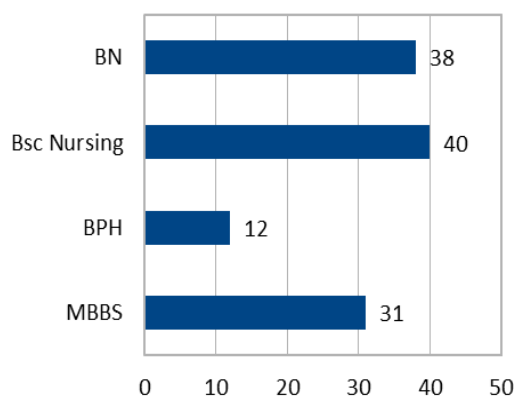


Fig 2: Academic stream of the Participants

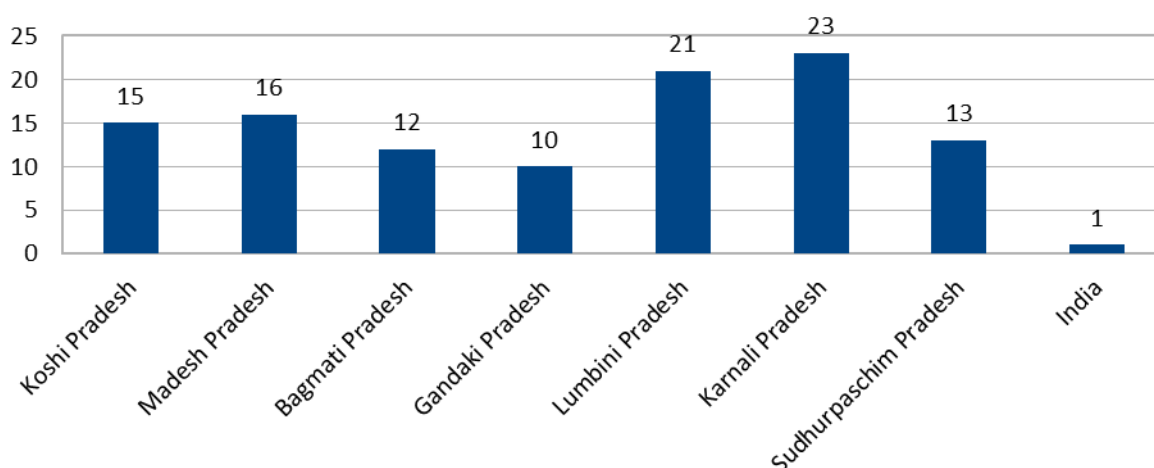


Figure 3: Distribution of respondent according to their Origin

Among the 121 respondents, 108 (89.3%) reported experiencing dysmenorrhoea (Figure 4).

More than half of the affected participants ($n = 65$) had been experiencing menstrual pain for over three years (Figure 5).

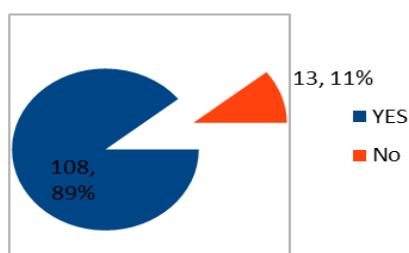


Figure 4. Self-reporting about presence of Dysmenorrhoea

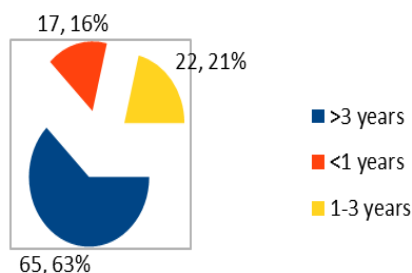


Fig 5: How old is the issue of Dysmennorhoea?

Lower abdominal cramping was the most frequently reported symptom, affecting 83.5% of participants, followed by fatigue (67.0%), dizziness (41.3%), nausea (24.8%), headache (12.4%), and diarrhoea (7.4%) (Figure 6).

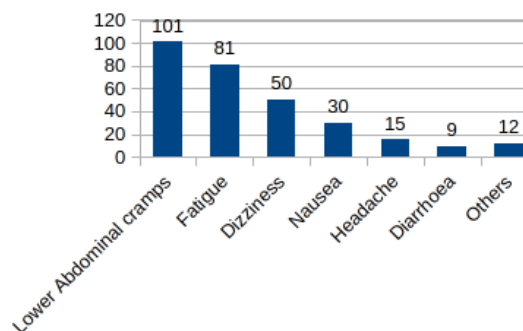


Fig 6: Symptoms reported by participants

The onset of pain during the menstrual cycle is shown in Figure 7. Assessment of pain severity using the Visual Analogue Scale (VAS) revealed varying degrees of menstrual

pain among respondents (Figure 8). A considerable proportion of participants reported moderate to severe pain, indicating a substantial burden of dysmenorrhoea among the study population.

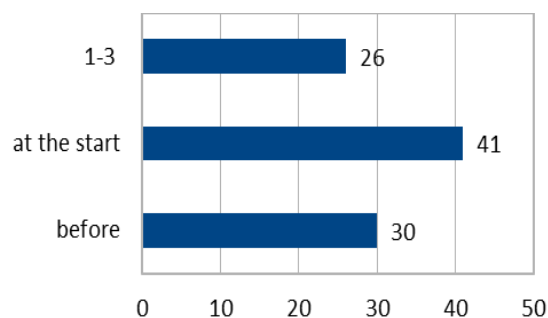


Fig 7: Onset of Dysmenorrhoea during a Cycle

prescription. The majority (77.8%) procured medicines directly from pharmacies as over-the-counter (OTC) products, while others relied on medications recommended by family members, friends, or other informal sources.

Mefenamic acid was the most commonly used medication for dysmenorrhoea, reported by 34 (75.6%) self-medicating participants. Other medications included paracetamol (20.0%), ibuprofen (6.7%), nimesulide (6.7%), paracetamol combined with ibuprofen (4.4%), and drotaverine (2.2%) (Figures 9–12).

Impact on Daily Activities and Academic

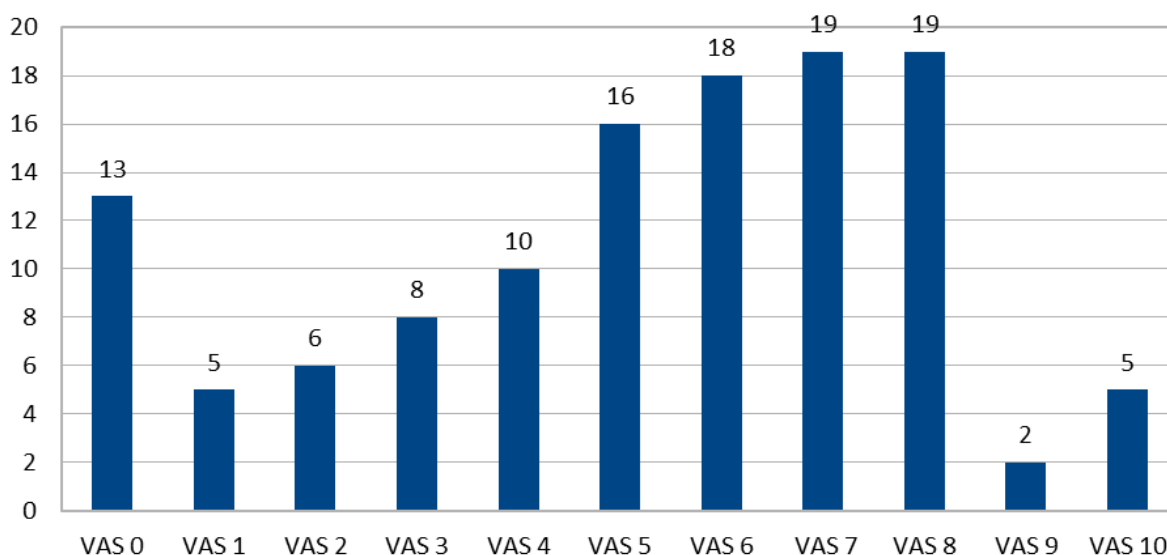


Figure 8: Pain intensity (VAS Score) felt by respondents during a cycle (VAS : Visual Analogue Scale)

Self-Medication Practices:

Of the students experiencing dysmenorrhoea, 45 (37.2%) reported practicing self-medication for symptom relief. Among these, 20 (44.4%) used medication during every menstrual cycle, whereas 7 (15.6%) reported using medication only occasionally. Only 6 (13.3%) participants obtained medications based on a physician's

Performance: Dysmenorrhoea had a noticeable impact on both household activities and academic performance. Nearly two-fifths (39%) of respondents reported that menstrual pain made it extremely difficult to perform routine household tasks. Similarly, 43% of participants indicated difficulty concentrating during classroom lectures because of dysmenorrhoea,

suggesting a significant effect on learning and academic engagement.

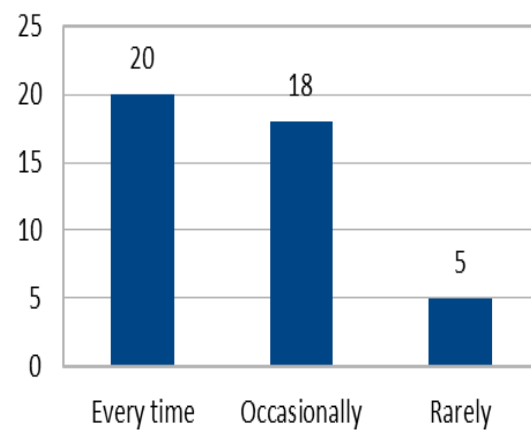
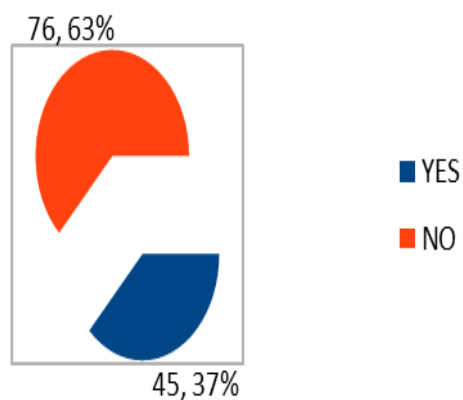
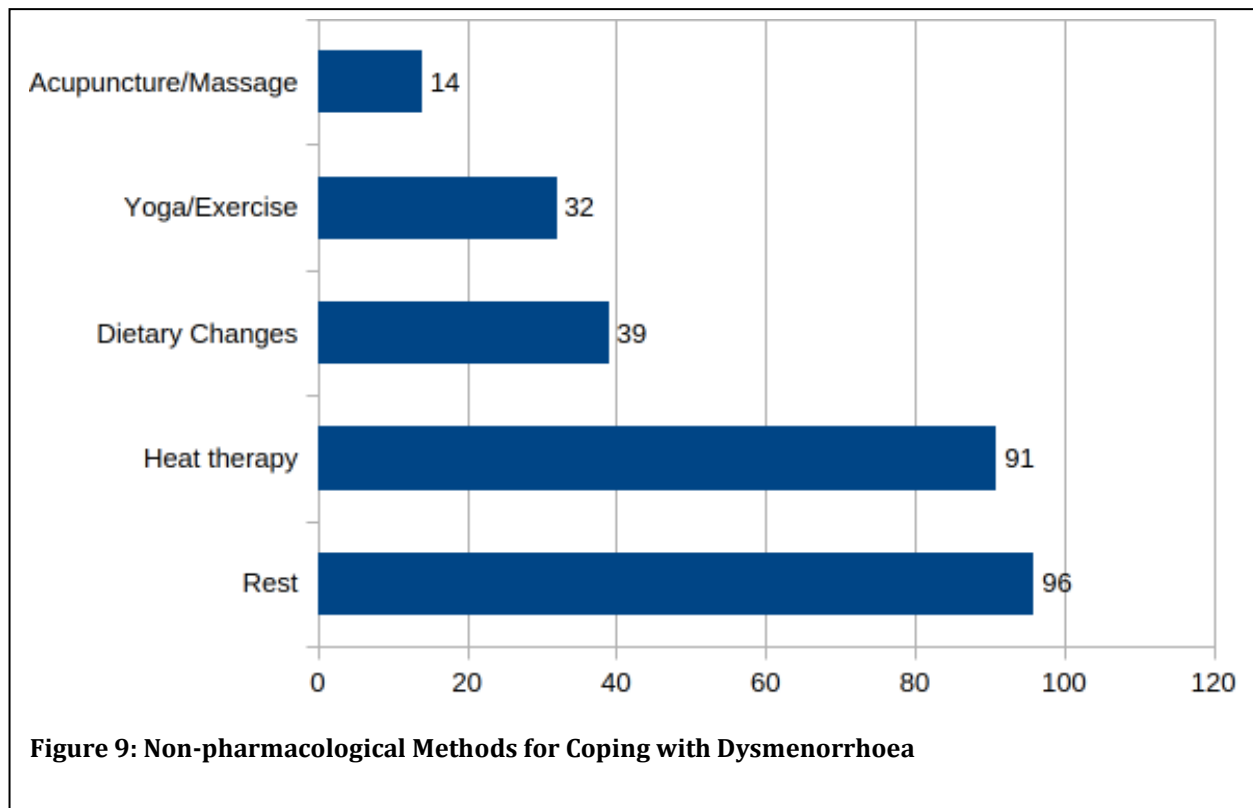


Fig 10: Whether participants use self-medication or not

Fig 11: How frequently they use self-medication

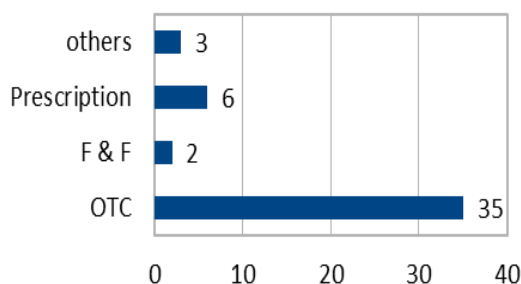


Fig 12: How they acquire self- medication

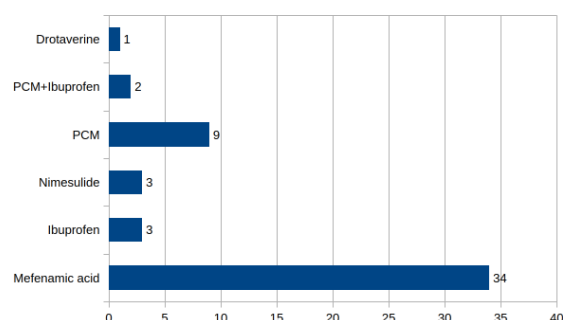


Fig 13 : Drugs used for self-medication

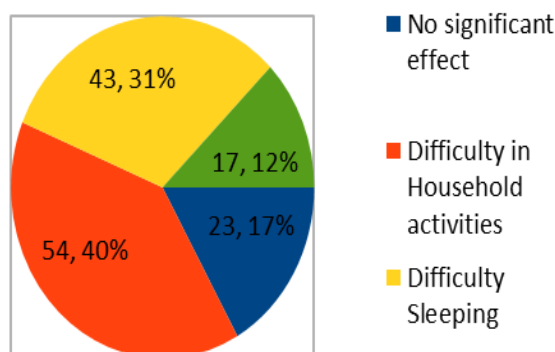


Fig14 : Effect of Dysmenorrhoea on households

Non-Pharmacological Coping Strategies:

Various non-pharmacological methods were employed by participants to alleviate menstrual discomfort (Figure 9). Commonly reported approaches included the application

of heat, rest, increased fluid intake, and physical activity.

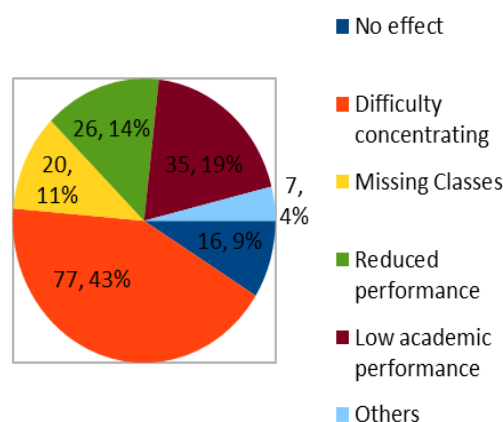


Fig 15: Effect of Dysmenorrhea on academics

Qualitative responses further revealed several coping mechanisms. Diversion techniques such as listening to music, chatting with friends, drawing, writing, yoga, light exercise, and walking were frequently mentioned as helpful in reducing pain perception and improving mood. Many participants also reported consuming hot beverages, including warm water, ginger tea, herbal tea, and locally prepared remedies such as hot water mixed with ghee, fennel, cinnamon, and marigold leaf tea.

Qualitative Findings:

Analysis of the free-text responses identified two major themes: (1) coping mechanisms and (2) expectations from peers, family members, and educational institutions. Participants commonly described feelings of irritability, mood swings, physical exhaustion, and emotional distress during menstruation. Several respondents expressed disappointment regarding the lack of understanding and empathy from peers and family members. Some participants reported feeling that their menstrual pain was

minimized or dismissed by others despite its significant impact on their daily lives.

Many students emphasized the need for greater institutional support. Frequently suggested measures included the establishment of a dedicated menstrual rest room, availability of sanitary pads on campus, provision of hot-water bags, and the development of a more supportive and understanding environment for female students experiencing menstrual discomfort.

DISCUSSION

The present study explored the prevalence of dysmenorrhoea, self-medication practices, coping mechanisms, and the perceived impact on academic and daily activities among undergraduate female health science students. The findings demonstrated a high prevalence of dysmenorrhoea, substantial use of self-medication, and considerable psychosocial and academic implications among the respondents.

In this study, 89% of the respondents reported experiencing dysmenorrhoea. This finding is comparable to studies conducted among university students in Nepal and neighbouring countries, where the prevalence ranged from 70% to 90% [1-4]. A study conducted among nursing students in Kathmandu reported that dysmenorrhoea affected more than three-fourths of female students and significantly interfered with daily functioning [1]. Similarly, a study among medical students in eastern Nepal also documented a high prevalence of menstrual pain and associated absenteeism [2]. The high prevalence observed in the present study may be related to stress, irregular dietary habits, sedentary lifestyle, and academic pressure among health science students.

Most respondents in this study had experienced dysmenorrhoea for more than three years, suggesting that menstrual pain is often a chronic and recurring issue among young women. Similar findings were reported in studies from India, where 39% of the participants who experienced menstrual pain reported feeling these symptoms since their very first period (menarche). Additionally, nearly half of these individuals (50%) stated that the symptoms began within one year of attaining menarche [7]. Chronic menstrual pain may negatively influence physical wellbeing, emotional stability, and academic productivity if not adequately managed.

Lower abdominal cramps were the most commonly reported symptom, followed by fatigue, dizziness, nausea, headache, and diarrhoea. These findings are consistent with previous literature that identifies abdominal pain and systemic symptoms as common manifestations of primary dysmenorrhea [8, 9]. Such symptoms may occur due to increased prostaglandin production leading to uterine contractions and systemic effects [10].

The present study found that 37% of respondents practiced self-medication for dysmenorrhoea. This finding is similar to studies among university students in Nepal and South Asia, where self-medication practices ranged from 30% to 70% [4, 11]. The tendency toward self-medication among health science students may be due to easier access to medicines, pharmacological knowledge, previous experiences, and perceived mildness of symptoms. However, only a small proportion of respondents used medicines prescribed by physicians, while the majority obtained medications over the counter. Similar patterns were observed in a Nepalese study where community

pharmacies were the major source of analgesics used for menstrual pain management [12]. Easy accessibility of over-the-counter medications and lack of professional consultation may increase the risk of inappropriate drug use, adverse effects, and delayed diagnosis of underlying gynaecological conditions.

Interestingly, nearly half of the respondents were uncertain about the safety of self-medication, while one-third perceived it as unsafe. This indicates inadequate awareness regarding rational drug use despite being health science students. Similar findings have been reported in studies conducted among medical and nursing students in Nepal, where students demonstrated positive attitudes toward self-medication but insufficient knowledge about adverse drug reactions and long-term consequences [11, 13]. This highlights the need for educational interventions focusing on safe medication practices and menstrual health awareness.

The findings also revealed that dysmenorrhoea affected students' academic activities and daily functioning. Menstrual pain can impair concentration, reduce participation in classroom activities, and contribute to absenteeism. Similar observations were reported among university students in Nepal [2], Turkey [8] and Australia [14], where dysmenorrhoea was associated with poor academic performance and reduced quality of life. Since the study population consisted of health science students with demanding academic schedules, unmanaged dysmenorrhoea may significantly hinder their educational outcomes.

Non-pharmacological coping strategies were commonly practiced by participants. Diversion therapies such as listening to

music, chatting, drawing, yoga, light exercise, and walking were frequently used to manage pain and emotional discomfort. Previous studies have also documented the effectiveness of relaxation techniques, physical activity, and heat therapy in reducing menstrual pain severity [15, 16]. Additionally, the use of herbal remedies such as ginger water, fennel, cinnamon, and herbal teas was commonly reported in this study. Evidence suggests that some herbal products, particularly ginger, may help reduce dysmenorrhoea symptoms due to their anti-inflammatory properties [17].

The qualitative findings provided deeper insight into the emotional experiences and expectations of students during menstruation. Many participants expressed feelings of irritability, mood swings, isolation, and lack of understanding from peers and family members. Similar psychosocial concerns have been highlighted in qualitative studies where menstrual pain affected emotional wellbeing and interpersonal relationships [18]. Participants also emphasized the need for institutional support such as rest rooms, period-friendly environments, sanitary pad availability, and access to medications. These findings suggest that educational institutions should adopt supportive menstrual health policies and create a more empathetic environment for female students.

This study has several important implications. First, menstrual health education programs should be strengthened among university students to promote safe self-medication practices and appropriate healthcare-seeking behavior. Second, colleges and universities should consider establishing menstrual support services including counseling, rest facilities, and emergency

sanitary products. Finally, further large-scale studies involving diverse populations are recommended to better understand the long-term impact of dysmenorrhoea on academic and psychosocial wellbeing.

Despite its important findings, this study has certain limitations. The study was conducted in a single institution with a relatively small sample size, which may limit generalizability. Self-reported data may also introduce recall and reporting bias. Nevertheless, the study provides valuable insights into dysmenorrhoea experiences and self-medication practices among female health science students in Nepal.

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CONCLUSIONS

Dysmenorrhoea was common among female undergraduate health science students at KAHS and significantly affects their academic performance and daily activities. More than one-third of the affected students reported self-medicating, mainly with over-the-counter painkillers.

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AUTHOR'S CONTRIBUTION: Concept, literature review, data collection, analysis and preparation of manuscript-**SHT**; Concept and revision of manuscript-**BA**; Overall supervision and involvement in Concept, literature review, data collection, analysis and preparation of manuscript-

KUD. All authors agreed to publish with this final version.

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