TRADITIONAL MEDICINE PATTERNS OF DYSMENORRHEA AND TREATMENT NEEDS AMONG FEMALE STUDENTS AT UNIVERSITY OF MEDICINE AND PHARMACY, VIETNAM NATIONAL UNIVERSITY HANOI

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This cross-sectional descriptive study was conducted to investigate the traditional medicine patterns of dysmenorrhea and the need for traditional medicine treatment among female students at the University of Medicine and Pharmacy, Vietnam National University Hanoi, from January to May 2025. The study included 172 female students experiencing primary dysmenorrhea. The results showed that the most common traditional medicine patterns of dysmenorrhea were qi stagnation and blood stasis (37.2%), cold-induced blood stasis (26.2%), and dual deficiency of qi and blood (24.4%). Non-pharmacological treatments were commonly used (76.7%), with abdominal massage being the most frequently applied method; the proportions of students using modern medicine and traditional medicine were comparable (29.7% and 27.9%, respectively). Overall, 72.1% of students expressed a need for traditional medicine treatment, mainly due to its perceived safety, minimal side effects, and long-term effectiveness. The findings indicate a relatively high demand for traditional medicine in the management of dysmenorrhea among female students, suggesting the potential role of traditional medicine in reproductive health care for this population.

Keywords: Dysmenorrhea, traditional medicine, treatment demand, female students.

I. INTRODUCTION

Dysmenorrhea is one of the most common gynecological disorders among women of reproductive age and represents a major cause of reduced academic and work productivity.[1] A recent meta-analysis of 96 studies involving nearly 80,000 students from 1991 to 2021 reported a pooled prevalence of primary dysmenorrhea of approximately 66.1%, with an increasing trend over time, particularly during the past decade. These findings indicate that dysmenorrhea remains a substantial and inadequately controlled health burden that significantly affects students' academic performance and quality of life.[2] Pathophysiologically, primary dysmenorrhea is associated with increased prostaglandin production, intensified uterine contractions, and uterine ischemia, and is influenced by multiple risk factors including age, body mass index, smoking, family history of dysmenorrhea, obesity, inadequate diet, nulliparity, psychological stress, and unhealthy lifestyle habits.[3] Many of these factors are highly prevalent among university students, especially medical students who are exposed to heavy academic workloads, intensive class and clinical schedules, and chronic stress. Current management of dysmenorrhea relies primarily on nonsteroidal anti-inflammatory drugs and

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hormonal therapies, which are generally effective but may cause adverse effects with long-term use, leading to poor adherence or reluctance to continue treatment in some patients.[3] According to traditional medicine, primary dysmenorrhea is classified into various patterns based on pattern differentiation, such as qi stagnation and blood stasis, cold-induced blood stasis, dual deficiency of qi and blood, liver-kidney deficiency, damp-heat accumulation. Treatment principles are determined according to the specific pattern and may include promoting the circulation of qi and blood, warming the meridians and dispersing cold, or tonifying qi and nourishing blood. In this context, non-pharmacological interventions and traditional medicine modalities, such as acupressure, acupuncture, moxibustion, and herbal remedies, have attracted increasing attention as adjunctive treatment options due to their potential analgesic effects and relatively favorable safety profiles. To contribute to the development of safe and appropriate health care strategies that address the practical needs of female students, this study aimed to describe the traditional medicine patterns of dysmenorrhea among female students at the University of Medicine and Pharmacy, VNU Hanoi and to assess their need for traditional medicine treatment. We hypothesized that traditional medicine patterns of dysmenorrhea are commonly observed among female medical students and that there is a high demand for traditional medicine treatment.

II. MATERIALS AND METHODS

1. Subjects

The study population consisted of 18-25 years old female students currently enrolled at the University of Medicine and Pharmacy, VNU Hanoi.

Inclusion criteria

- Female students experiencing menstrual pain during recent menstrual cycles.

- Reporting lower abdominal pain during menstruation interfered with daily activities.

Exclusion criteria

- Cases of secondary dysmenorrhea due to underlying gynecological conditions such as endometriosis, uterine fibroids, pelvic inflammatory disease, cervical stenosis, or other related disorders.

- Incomplete questionnaires.

Secondary dysmenorrhea was excluded based on self-reported medical history, including information on previously diagnosed gynecological conditions provided by the participants.

2. Methods

Study design

Cross-sectional descriptive study.

Study period

From January 2025 to May 2025.

Study location

University of Medicine and Pharmacy, Vietnam National University, Hanoi.

Sample size

The sample size was calculated using the formula for estimating a population proportion:

$$n = Z^2_{(1-\alpha/2)} \frac{p \cdot (1 - p)}{\Delta^2}$$

n: Required sample size.

$Z^2_{(1-\alpha/2)}$ = Standard normal deviate corresponding to the desired confidence level, with $\alpha = 0.05$, the 95% confidence level corresponds to $Z_{1-\alpha/2} = 1.96$.

p: The estimated prevalence of dysmenorrhea was set at 88%, based on the study by Doan Van Minh.[4]

∆: Acceptable absolute margin of error, set at 0.05

Using this formula, the minimum required sample size was calculated to be 162 students. The study involved 172 student participants.

Identification of Traditional Medicine Patterns

Traditional medicine patterns of dysmenorrhea were identified based on symptom patterns described in standard traditional medicine gynecology references, including Traditional Medicine Obstetrics and Gynecology (Tran Thuy, 2016) and Basic Theories of Traditional Medicine (Le Bao Luu & Tang Khanh Huy, 2021).[5,6]

Information on menstrual pain characteristics and associated symptoms was collected through a structured questionnaire developed for this study. Based on the reported symptoms, traditional medicine patterns were classified by the research team according to the diagnostic criteria described in the above references. The main patterns assessed included qi stagnation and blood stasis, cold-induced blood stasis, dual deficiency of qi and blood and liver-kidney deficiency and damp-heat accumulation

Study variables

The study variables included demographic characteristics, traditional medicine patterns of dysmenorrhea, associated symptoms, treatment methods previously used, and the need for traditional medicine treatment.

Data collection procedure

Data were collected using a structured self-administered questionnaire designed to assess menstrual pain symptoms, traditional medicine patterns, treatment practices, and treatment needs.

Statistical analysis

Collected data were processed and analyzed using SPSS software version 25.0 with standard biomedical statistical methods.

3. Research ethics

This study was approved by the University Leadership Board and the Department of Undergraduate Training Management of the University of Medicine and Pharmacy - VNU Hanoi.

All participants were informed about the study objectives and provided electronic informed consent prior to participation. Participation was entirely voluntary, and all responses were collected anonymously. Personal information was kept strictly confidential and used solely for scientific research purposes. The study was conducted in accordance with ethical principles for research involving human participants.

III. RESULTS

1. Traditional medicine patterns of dysmenorrhea

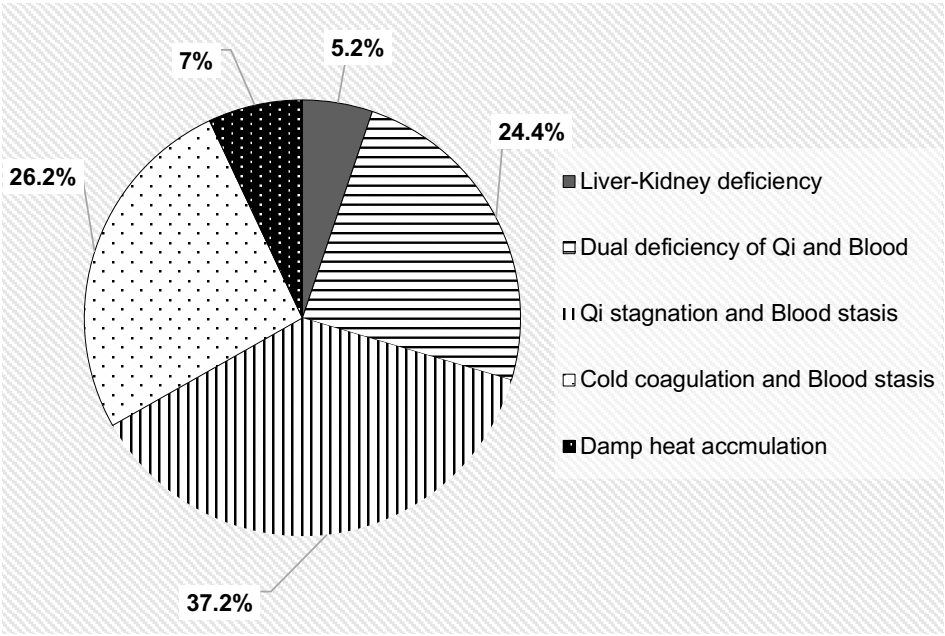

Chart 1. Distribution of dysmenorrhea patterns according to traditional medicine (n=172)

Among all study participants, the most common traditional medicine pattern of dysmenorrhea was qi stagnation and blood stasis, accounting for 37.2%. This was followed by cold-induced blood stasis (26.2%) and dual deficiency of qi and blood (24.4%). The least common pattern was liver-kidney deficiency, accounting for 5.2%.

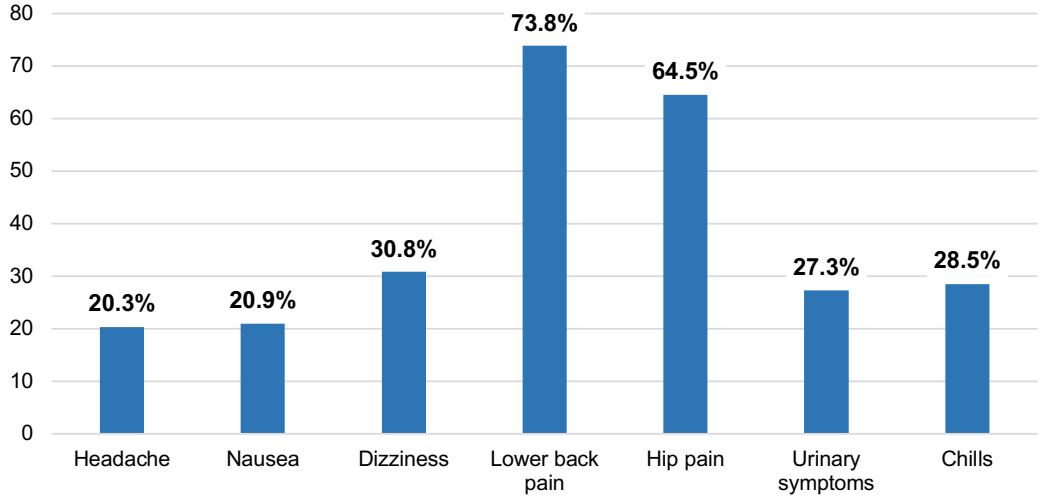

Chart 2. Associated symptoms during menstruation (n = 172)

The most frequently reported accompanying symptom was lower back pain (73.8%), followed by hip pain (64.5%). Dizziness and urinary symptoms such as dysuria and frequent urination were reported at nearly similar rates. Headache and nausea were less common, while chills were reported as the least frequent symptom among the study participants.

2. Need for traditional medicine treatment of dysmenorrhea

Table 1. Previously used treatment methods

	Methods	Number (n)	Percentage (%)
Use of modern medicine **(n = 50)**	Paracetamol	25	50.0
	Nonsteroidal anti-inflammatory drugs (NSAIDs)	16	32.0
	Antispasmodic drugs	5	10.0
	Hormonal therapy	4	8.0
Use of traditional herbal medicine **(n =48)**	Herbal decoctions	19	39.6
	Herbal pills	20	41.7
	Powdered herbal formulations	9	18.7
Non-pharmacological methods **(n =132)**	Acupuncture	41	31.1
	Abdominal massage	99	75.0
	Warm compresses	64	48.5

Among the 172 participants, 132 students (76.7%) reported having used non-pharmacological treatment methods. Among these, abdominal massage was the most commonly applied method, accounting for 75.0%. The proportions of students using modern medicine and traditional medicine were comparable, at 29.7% and 27.9%, respectively.

Among modern medicine users, paracetamol was the most frequently used medication (50.0%), followed by nonsteroidal anti-inflammatory drugs (32.0%). Regarding traditional medicine, decoctions and pills were used at similar rates (approximately 40%), while powdered formulations accounted for a lower proportion.

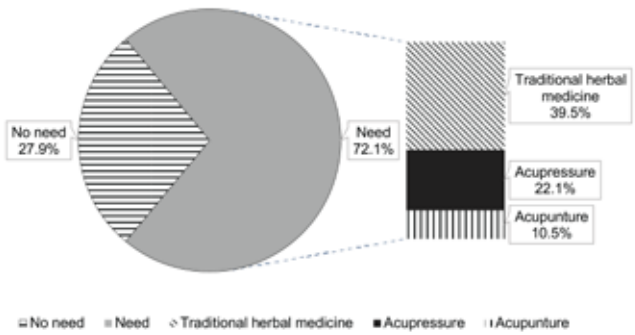

Chart 3. Need for traditional medicine treatment of dysmenorrhea (n=172)

A total of 124 students (72.1%) expressed a need for traditional medicine treatment of dysmenorrhea. Among them, 39.5% preferred treatment with traditional herbal medicine, while the proportions of students wishing to receive acupressure and acupuncture were 22.1% and 10.5%, respectively.

Table 2. Factors influencing the decision to use traditional medicine

	Influencing factors	Number (n)	Percentage (%)
Motivating factors (n=124)	Perceived safety and minimal side effects	82	66.1
	Long-term effectiveness	38	30.6
	Convenience	23	18.5
	Professional recommendations	25	20.2
Barriers (n = 48)	Concerns about side effects	18	37.5
	Lack of understanding of treatment methods	13	27.1
	Unpleasant taste of traditional herbal medicine	6	12.5

Among students who chose traditional medicine treatment, the main reasons were perceived safety and minimal side effects (66.1%), followed by long-term effectiveness (30.6%). Convenience (18.5%) and recommendations from others (20.2%) were also reported as influencing factors.

In contrast, among students who did not choose traditional medicine treatment, the most common reasons were concerns about side effects (37.5%) and insufficient understanding of traditional medicine treatment methods (27.1%). Unpleasant taste of traditional herbal medicine was reported by 12.5% of participants.

IV. DISCUSSION

In our study, the three most prevalent traditional medicine patterns of dysmenorrhea were qi stagnation and blood stasis (37.2%), cold-induced blood stasis (26.2%), and dual deficiency of qi and blood (24.4%). These findings are consistent with the study by Doan Van Minh (2021) conducted at Hue University of Medicine and Pharmacy, which reported corresponding proportions of 30.9%, 38.3%, and 18.3%, respectively.[4] According to traditional medicine theory, dysmenorrhea due to qi stagnation and blood stasis commonly occurs in individuals with an inherently depressive temperament or prolonged psychological stress, which impairs the liver's function of regulating qi flow. This dysfunction leads to qi stagnation and blood stasis in the Chong and Ren vessels, resulting in pain during menstruation. The high prevalence of this pattern among medical students may be associated with a high-pressure academic environment and chronic psychological stress, which disrupt qi dynamics. The second most common pattern was cold-induced blood stasis, which may be attributed to lifestyle habits such as consumption of cold foods and beverages, inadequate clothing in cold conditions, limited physical activity, and frequent exposure to air-conditioned environments.[5] These factors can weaken yang qi, leading to stagnation of qi and blood during menstruation. The pattern of dual deficiency of qi and blood also accounted for a considerable proportion of cases, which

aligns with the finding that 43.0% of participants were underweight and reported poor dietary quality.[7] This condition may result in spleen and stomach weakness, leading to insufficient qi and blood, manifested by symptoms such as fatigue, dizziness, and pale menstrual blood.[6] The low prevalence of liver-kidney deficiency (5.2%) may be attributed to the relatively young age of the study population (18-25 years). In traditional medicine theory, liver-kidney deficiency typically develops over time due to chronic depletion of essence and blood, and is more commonly observed in older women with a history of multiple pregnancies or prolonged illness rather than in young nulliparous students.

Regarding accompanying symptoms, lower back pain (73.8%) and hip pain (64.5%) were the most frequently reported, followed by dizziness and urinary symptoms such as dysuria and frequent urination at comparable rates. Headache and nausea were less common, while chills were the least frequently reported symptom. This distribution is consistent with the symptoms of the identified traditional medicine patterns: lower back and hip pain are associated with widespread qi stagnation and blood stasis affecting the Chong and Ren vessels; dizziness and urinary disturbances reflect dual deficiency of qi and blood; whereas cold-related symptoms tend to be more localized and less prevalent.

In the management of dysmenorrhea, modern analgesic medications, particularly paracetamol and NSAIDs, are commonly preferred due to their widespread availability and ease of access. Their analgesic effects are primarily mediated through inhibition of cyclooxygenase enzymes, resulting in reduced prostaglandin synthesis, which plays a central role in the pathophysiology of dysmenorrhea. Paracetamol is often used as a first-line option because it has minimal effects on COX-1 activity and is therefore associated with a lower risk of gastrointestinal adverse effects compared to NSAIDs. In traditional medicine treatment, oral herbal formulations such as decoctions and pills were more commonly used than powdered forms, reflecting a preference for familiar, convenient dosage forms suitable for prolonged symptom management.

Non-pharmacological interventions were also widely applied, with simple and easily performed methods such as rest and abdominal massage being preferred over more interventional techniques such as warm compresses or acupuncture. Comparisons with previous studies suggest variability in the utilization of non-pharmacological approaches, which may be related to differences in study populations. Medical and pharmacy students tend to be more proactive in selecting and combining multiple treatment modalities compared with populations from diverse occupational backgrounds, in which such interventions may be less emphasized.

Our findings indicate a relatively high demand for traditional medicine treatment of dysmenorrhea among students (72.1%), reflecting growing interest in and trust toward traditional medicine approaches for managing a recurrent and chronic condition such as dysmenorrhea. This proportion appears higher than that reported in some previous studies conducted among female university students, where treatment-seeking behavior for dysmenorrhea was common but interest in traditional medicine varied across study settings.[8] The holistic nature of traditional medicine, which emphasizes regulation of the whole body, harmonization of qi and blood, and is associated with fewer adverse effects, may partly explain this preference, particularly in a medical university context where students

are more frequently exposed to traditional medicine education and clinical practice. Among traditional medicine modalities, herbal medicine was preferred over non-pharmacological methods such as acupuncture (39.5% vs. 10.5%). This preference may reflect students' limited familiarity with acupuncture and concerns about needling procedures, as well as the difficulty of attending repeated clinic visits given demanding academic schedules. In contrast, herbal medicine can be conveniently self-administered at home and allows greater autonomy in use. Moreover, herbal decoctions can be individualized based on pattern differentiation, enabling adjustments in herbal composition and dosage according to the patient's condition and symptom progression, which may enhance therapeutic effectiveness.

Students who chose traditional medicine treatment were primarily motivated by perceptions of safety and long-term effectiveness. Given the chronic and recurrent nature of dysmenorrhea, prioritizing a treatment approach with minimal adverse effects and regulatory benefits is considered appropriate. Additionally, convenience and recommendations from family members or others also contributed to the decision to use traditional medicine. Conversely, students who did not choose traditional medicine treatment cited concerns about potential side effects and insufficient understanding of traditional medicine therapies as the main barriers. The unpleasant taste of traditional herbal medicines was also identified as a practical factor limiting acceptance and use in dysmenorrhea management

The findings of this study have several practical implications. Given the high proportion of students reporting a need for traditional medicine treatment, universities may consider establishing accessible traditional medicine consultation or clinic services and implementing menstrual health education programs. In addition, preventive approaches, including lifestyle guidance and early regulation of qi and blood according to traditional medicine principles, may help reduce the burden of dysmenorrhea among university students.

This study has several limitations. First, the cross-sectional design precludes establishing causal relationships between traditional medicine patterns, associated factors, and treatment preferences. Second, the reliance on self-reported data may introduce recall bias and subjectivity in reporting symptoms and treatment history. Third, the exclusion of secondary dysmenorrhea was based on self-reported medical history rather than clinical diagnosis, which may result in potential misclassification. Finally, the study was conducted in a single institution, VNU, Hanoi - University of Medicine and Pharmacy, which may limit the generalizability of the findings to other student populations or geographic regions.

V. CONCLUSION

Dysmenorrhea among female students at the University of Medicine and Pharmacy, Vietnam National University, Hanoi was characterized by diverse traditional medicine patterns, with qi stagnation and blood stasis being the most prevalent (37.2%), followed by cold-induced blood stasis (26.2%), and dual deficiency of qi and blood (24.4%). A total of 72.1% of students reported a need for traditional medicine treatment. These findings suggest the potential relevance of traditional medicine in reproductive health care for female students in similar academic settings. These findings also highlight the importance of improving access to traditional medicine services and menstrual health education within university environments.

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