

KNOWLEDGE, ATTITUDES, AND ASSOCIATED FACTORS RELATED TO EMERGENCY CONTRACEPTIVE PILLS AMONG SECOND-YEAR STUDENTS AT THE COLLEGE OF MEDICINE AND PHARMACY, TRA VINH UNIVERSITY

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DOI: 10.62831/nckh.2026.405.v1

ABSTRACT:

This study assessed knowledge of and attitudes toward emergency contraceptive pills (ECPs), as well as related factors, among second-year students at the College of Medicine and Pharmacy, Tra Vinh University. The findings indicated that the majority of students had good knowledge of ECPs (70.3%) and positive attitudes toward their use (57.3%). Significant associations were found between students' knowledge and academic major, prior exposure to ECP-related information ($p < 0.001$), and participation in reproductive health courses ($p = 0.002$). In addition, attitudes toward ECPs were significantly associated with academic major ($p < 0.001$). These findings highlight the importance of reproductive health education in improving students' understanding of and attitudes toward emergency contraception.

Keywords: emergency contraceptive pills, contraception, knowledge of emergency contraceptive pills, attitude toward emergency contraceptive pills.

1. Introduction

Unintended pregnancy and abortion among young people have become major public health concerns worldwide. According to the World Health Organization, approximately one-third of pregnancies globally are unintended each year (Thuy Linh, 2023). In Vietnam, the officially reported number of abortions ranges from 250,000 to 300,000 cases annually, posing significant challenges to the reproductive and psychological health of students and young adults (Anh Son et al., 2019; Thuy Linh, 2023).

In this context, ECPs serve as an important second-line option for preventing pregnancy following

unprotected sexual intercourse (My & Hien, 2022). However, previous studies have shown that students' knowledge and attitudes toward this contraceptive method remain limited and often inaccurate. Even among students in health science disciplines, the proportion demonstrating adequate knowledge ranges from only 32.7% to 56.2% (Anh Son et al., 2019; My & Hien, 2022).

For second-year university students, this represents a critical transitional period characterized by substantial changes in lifestyle and sexual perspectives (Thuy Linh, 2023; Siranee et al., 2022). Notably, specialized knowledge related to obstetrics and

gynecology is typically introduced from the fourth academic year onward, resulting in a considerable knowledge gap during the early years of university education. A previous study conducted at CMP, TVU reported that only 27,9% of students demonstrated positive attitudes toward contraceptive methods (Thuy Linh, 2023).

Against this background, conducting the study entitled “Knowledge, Attitudes Toward Emergency Contraceptive Pills and Related Factors Among Second-Year Students of the College of Medicine and Pharmacy, Tra Vinh University” is highly necessary. The findings of this study are expected to provide scientific evidence for the development of appropriate reproductive health education programs, thereby enabling students to better protect themselves and reduce preventable adverse consequences.

2. Materials and methods

Research methods

Study population: The study participants were second-year students majoring in Nursing, Rehabilitation and Medical Laboratory Technology of the CMP, TVU.

Study setting: The College of Medicine and Pharmacy, Tra Vinh University.

Study duration: From December 2025 to March 2026.

Study Design: A cross-sectional descriptive study design.

Data collection method: Based on theoretical frameworks and previously conducted studies in Vietnam, the research team developed a structured questionnaire. A pilot test of the instrument was conducted among 20 second-year students of the CMP, TVU prior to official data collection. The final questionnaire consisted of two sections: Knowledge assessment on ECPs: This section included 10 questions, each with three response options. Each correct answer was scored as 1 point, while incorrect answers or responses of “Do not know” were scored as 0 points. Participants were considered to have good knowledge of ECPs if they achieved more than 60% of the total knowledge score. Attitude assessment toward ECPs: This section comprised 10 items developed using a 3-point Likert scale (1 = disagree, 2 = uncertain, 3 = agree). Participants were classified as having a positive attitude when their total attitude score

reached at least 80% of the maximum possible score. Specifically: 0–23 points: Negative attitude (< 80% of the total attitude score); 24–30 points: Positive attitude (≥ 80% of the total attitude score) (My & Hien, 2022).

Study participants were approached directly and self-administered questionnaires were distributed for completion.

Study sample: Calculated using the following formula (My & Hien, 2022):

$$N = \frac{Z_{1-\alpha/2}^2 p(1-p)}{d^2}$$

With a 95% confidence level ($z = 1,96$), the sample size was calculated based on the proportion of students with good awareness of ECPs. According to a previous study conducted by Thanh Phong & Hien Hao among students at Hanoi Medical College, the estimated proportion was $p = 0,821$. With a margin of error of 5% ($d = 0,05$), the minimum required sample size was calculated to be 226 students. An additional 5% was added to compensate for potential incomplete responses, resulting in a minimum sample size of 238 participants.

Eligible participants included second-year students majoring in Nursing, Rehabilitation, and Medical Laboratory Technology of the CMP, TVU who were present at the time of data collection and agreed to participate in the study. The exclusion criteria included: Students who provided identical responses to all questionnaire items; who did not complete 100% of the questionnaire. In practice, a total of 239 valid questionnaires were collected and included in the final analysis.

Statistical analysis: Collected data were cleaned, coded and entered using Microsoft Excel and subsequently analyzed using IBM SPSS Statistics 20.0.

Categorical variables, including academic major, gender, religion, age, relationship status, participation in reproductive health courses, prior exposure to information about ECPs, history of sexual intercourse, use of ECPs and knowledge and attitudes toward ECPs, were presented as frequencies and percentages.

The Chi-square test was applied to determine the associations between the following factors: academic major, gender, religion, age, relationship status, participation in reproductive health courses, prior exposure to information about ECPs, history of sexual

intercourse, use of ECPs and participants' knowledge and attitudes toward ECPs.

3. Results

3.1. Characteristics of the study participants

A total of 239 second-year students majoring in Nursing, Rehabilitation, and Medical Laboratory Technology of the CMP, TVU participated in this study. The characteristics of the study participants were as follows:

Regarding academic major, students in Rehabilitation and Medical Laboratory Technology accounted for the largest proportions, with 82 students each (34,3%), followed by Nursing students with 75 participants (31,4%).

Regarding gender, female students outnumbered male students, accounting for 151 participants (63,2%) and 88 participants (36,8%), respectively.

Regarding religion, the majority of students reported having no religion, with 165 participants (69,0%), followed by Buddhism with 64 participants (26,8%), Catholicism with 9 participants (3,8%), and Cao Dai religion with 1 participant (0,4%).

Regarding age, the mean age of the participants was 20.03 ± 1.47 years. Students aged 20 years accounted for the largest proportion, with 226 participants (94,6%), followed by those aged 21 years with 9 participants (3,8%), aged 22 years with 2 participants (0,8%) and aged 26 and 28 years with 1 participant each (0,4%).

Regarding relationship status, the majority of students were single, with 159 participants (66,5%), followed by those currently in a relationship with 76 participants (31,8%) and married students with 4 participants (1,7%).

Regarding participation in reproductive health courses, most students had never attended such courses, accounting for 160 participants (66,9%), whereas 79 students (33,1%) had previously participated in reproductive health education programs.

Regarding prior exposure to information about ECPs, the majority of students had previously heard about ECPs, with 213 participants (89,1%), while 26 students (10,9%) had never heard about them.

Regarding sexual experience, most students

reported never having had sexual intercourse, accounting for 218 participants (91,2%), whereas 21 students (8,8%) reported previous sexual experience.

Regarding the use of ECPs, the majority of students had never used ECPs, with 228 participants (95,4%), while only 11 students (4,6%) reported prior use of ECPs.

3.2. ECPs knowledge scores

Table 1. ECPs knowledge (N= 239)

Variable	Frequency	Percentage	Mean	SD
Adequate knowledge	168	70,3	6,51	2,90
Inadequate knowledge	71	29,7		

(Source: Authors' calculations)

The results indicated that the majority of students demonstrated adequate knowledge of ECPs, accounting for 70,3%, while the remaining 29,7% had inadequate knowledge.

Most students correctly identified the appropriate indication for ECP use as "Unprotected sexual intercourse or condom breakage" (83,3%). However, 16,7% of students still lacked correct understanding regarding the indications for ECP use, including 9 students who believed that ECPs could be used to "Regulate menstruation."

The majority of students were aware of the most effective time for ECP use (79,1%). In addition, 67,8% correctly recognized that ECPs do not prevent sexually transmitted infections. Regarding common adverse effects of ECPs, including headache, nausea and menstrual irregularities, 74,1% of students provided correct responses.

Importantly, 65,3% of students correctly identified the maximum recommended frequency of ECP use within one month. Furthermore, 63,2% of students demonstrated correct knowledge regarding the contraceptive effectiveness of ECPs when used appropriately and within the recommended timeframe.

The findings revealed that only approximately half of the students demonstrated adequate knowledge in several specific aspects of ECPs. Specifically, 52,3% of students correctly identified Postinor as a brand name of ECPs, whereas 47,7% mistakenly identified Marvelon as an ECP product. Regarding the active ingredient of ECPs, 51,9% of students correctly

recognized levonorgestrel.

Concerning the nature of ECPs, 44,4% of students believed that ECPs function as abortifacient agents. In addition, when asked about the primary harmful effects associated with frequent use of ECPs, 41,0% of students demonstrated inadequate understanding regarding the consequences of ECP misuse or overuse.

The results showed that the majority of students demonstrated a favorable attitude toward ECPs, accounting for 57,3%, while the remaining 42,7% exhibited an unfavorable attitude toward ECPs.

Specifically, 42,3% of students agreed that the use of ECPs is not an unethical behavior that promotes sexual activity. Regarding the statement "Using ECPs is equivalent to abortion," 57,3% of students disagreed. In addition, 42,3% of respondents were either uncertain or held misconceptions regarding the statement that ECP use does not increase the risk of sexually transmitted infections.

The majority of students supported the dissemination of knowledge about ECPs, with 93,3% agreeing that people should be informed about ECPs and 94,1% stating that individuals should know how to use them properly. Furthermore, 65,3% of students agreed that this topic should be included in high school education.

Regarding attitudes toward ECP use, 43,9% of students disagreed that using ECPs is inappropriate

Table 2. ECPs Attitudes (N = 239)

Variable	Frequency	Percentage	Mean	SD
Favorable attitude	137	57,3	24,44	3,53
Unfavorable attitude	102	42,7		

(Source: Authors' calculations)

behavior, 84,5% agreed that correct use helps prevent unintended pregnancy and 63,6% considered it a matter of personal freedom. Additionally, 72,4% of students reported no embarrassment when discussing or seeking information about ECPs, indicating that the majority held a relatively open attitude toward this issue.

3.3. Factors associated with knowledge and attitudes

The results indicated statistically significant associations between knowledge and academic major, as well as between knowledge and prior exposure to information about ECPs ($p < 0.001$). In addition, knowledge was significantly associated with participation in reproductive health education courses ($p = 0.002$). Furthermore, a statistically significant relationship was observed between attitudes toward ECPs and academic major ($p < 0.001$).

4. Discussion

4.1. Characteristics of the study participants

The mean age of students was 20,03 years, which is comparable to findings at Hanoi Medical University (20.1 years) (Anh Son et al., 2019) and the University of Medicine and Pharmacy at Ho Chi Minh City

Table 3. Factors (academic major, gender, religion, age) associated with knowledge and attitudes

	Academic major	Gender	Religion	Age
Knowledge	$p < 0,001$	$p = 0,303$	$p = 0,715$	$p = 0,901$
Attitudes	$p < 0,001$	$p = 0,083$	$p = 0,244$	$p = 0,496$

(Source: Authors' calculations)

Table 4. Factors associated with knowledge and attitudes

	Relationship status	Participation in reproductive health courses	Prior exposure to information about ECPs	History of sexual intercourse	Use of ECPs
Knowledge	$p = 0,670$	$p = 0,002$	$p < 0,001$	$p = 0,527$	$p = 0,522$
Attitudes	$p = 0,485$	$p = 0,471$	$p = 0,518$	$p = 0,964$	$p = 0,645$

(Source: Authors' calculations)

(20,43 years) (My & Hien, 2022), suggesting an appropriate period for strengthening reproductive health education.

The proportion of students who had heard about ECPs was high (89,1%), higher than in Ethiopia (72,5%) (Mamuye et al., 2021) and Thailand (Siranee et al., 2022). However, only 33,1% had attended reproductive health courses, lower than in Hanoi (43,6%) (Anh Son et al., 2019), indicating that students mainly obtain information from informal sources, which may lead to misconceptions.

Regarding behavior, the proportions of students who had ever had sexual intercourse (8,8%) and used ECPs (4,6%) were much lower than those reported in Hanoi (17-49% and up to 38,8%, respectively) (Anh Son et al., 2019). This suggests a lower behavioral risk among second-year students at Tra Vinh University School of Medicine and Pharmacy, providing an opportunity to strengthen reproductive health education early.

4.2. Knowledge and attitudes toward ECPs

The overall knowledge level of ECPs among students in this study was relatively high (70,3%) compared with the general level reported among health science and non-health science students in both domestic and international settings. This proportion is similar to that reported at Vietnam National University, Hanoi (69,6%) (Hoang Thanh et al., 2025). However, it is considerably higher than findings from University of Medicine and Pharmacy at Ho Chi Minh City (56,2%) (My & Hien, 2022), female students in Hanoi (32,7%) (Anh Son et al., 2019), as well as students in Thailand (47,5%) and India (41,6%) (Siranee et al., 2022). This difference may be attributed to better access to health information among students at CMP, TVU, which has been identified as a key factor associated with knowledge levels (My & Hien, 2022).

Regarding attitudes toward ECPs, 57,3% of students demonstrated a favorable attitude, which represents a positive outcome when compared with a previous study conducted in Hanoi (42%) (Hoang Thanh et al., 2025), although it remains lower than the rate reported among students in Ho Chi Minh City (87,1%) (My & Hien, 2022). A notable psychological barrier was the misconception that ECPs are abortifacients, reported by 44,4% of participants. This proportion is higher than that reported in Thailand (36,7%) (Siranee et al., 2022), Ethiopia (38,9%)

(Mamuye et al., 2021) and Hanoi (39,1%) (Hoang Thanh et al., 2025), indicating that misconceptions about the mechanism of action of ECPs remain a significant issue among students.

4.3. Factors associated with knowledge and attitudes

Knowledge of emergency contraceptive pills (ECPs) was significantly associated with academic major, prior exposure to ECP information ($p < 0,001$), and participation in reproductive health courses ($p = 0,002$). These findings are consistent with a study at University of Medicine and Pharmacy at Ho Chi Minh City (My & Hien, 2022). Access to information and formal training plays an important role in improving knowledge, as also shown in a study in Thailand, where educational exposure was a key determinant of higher knowledge levels (Siranee et al., 2022). In addition, attitudes toward ECPs were significantly associated with academic major ($p < 0,001$), supporting previous findings from Tra Vinh University School of Medicine and Pharmacy, which identified academic major as an important factor influencing contraceptive attitudes ($p < 0,05$). (Thuy Linh, 2023)

5. Conclusion

The study findings indicated that the majority of students had adequate knowledge of ECPs (70,3%) and a favorable attitude toward ECPs (57,3%). Regarding associated factors, a statistically significant relationship was observed between knowledge and academic major, as well as between knowledge and prior exposure to information about ECPs ($p < 0,001$). In addition, knowledge was significantly associated with participation in reproductive health education courses ($p = 0,002$). Furthermore, a statistically significant association was found between attitudes toward ECPs and academic major ($p < 0,001$). Based on these findings, educational institutions should enhance communication and reproductive health education programs to improve students' knowledge and attitudes toward ECPs, especially among those without prior exposure to related information or training.

Acknowledgements: We would like to express our sincere gratitude to all second-year students of the Nursing, Rehabilitation and Medical Laboratory Technology programs (cohort 2024) at CMP, TVU for their direct participation in the survey and their valuable support during the data collection process ■

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Received date: April 6, 2026

Revised date: April 27, 2026

Accepted for publication date: May 2, 2026

KIẾN THỨC, THÁI ĐỘ VỀ VIÊN THUỐC TRÁNH THAI KHẨN CẤP VÀ CÁC YẾU TỐ LIÊN QUAN CỦA SINH VIÊN NĂM HAI TẠI TRƯỜNG Y DƯỢC, ĐẠI HỌC TRÀ VINH

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TÓM TẮT:

Nghiên cứu này nhằm đánh giá kiến thức, thái độ đối với viên thuốc tránh thai khẩn cấp và các yếu tố liên quan của sinh viên năm hai tại Trường Y Dược, Đại học Trà Vinh. Kết quả nghiên cứu chỉ ra phần lớn sinh viên có kiến thức tốt về thuốc tránh thai khẩn cấp (70,3%) và thái độ tích cực đối với thuốc tránh thai khẩn cấp (57,3%). Về mối liên quan giữa các yếu tố, kiến thức - ngành, kiến thức - việc từng nghe về thuốc tránh thai khẩn cấp có mối liên quan có ý nghĩa thống kê với $p < 0,001$. Cùng với đó, kiến thức - tham gia khóa học sức khỏe sinh sản, cũng có mối liên quan với $p = 0,002$. Đồng thời, thái độ - ngành có mối liên quan và có ý nghĩa thống kê với $p < 0,001$.

Từ khóa: thuốc tránh thai khẩn cấp, biện pháp tránh thai, kiến thức về thuốc tránh thai khẩn cấp, thái độ đối với thuốc tránh thai khẩn cấp.