KNOWLEDGE, ATTITUDE, AND PRACTICES OF CERVICAL CANCER PREVENTION AMONG FEMALE NURSING STUDENTS AT THAI BINH UNIVERSITY OF MEDICINE AND PHARMACY

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ABSTRACT

Objective: To describe the knowledge, attitude, and practices of cervical cancer prevention among female nursing students at Thai Binh University of Medicine and Pharmacy in the academic year 2022-2023.

Method: A cross-sectional descriptive study was conducted with 302 female nursing students from the first to the third year in the academic year 2022-2023.

Results: Nursing students' knowledge of cervical cancer prevention was more than 80%. In which, general knowledge of cervical cancer and positive attitude towards cervical cancer of nursing students were 52,0% and 89.4%, respectively.

Conclusion: There is a need for plans and communication programs to raise awareness among nursing students about cervical cancer, cervical cancer screening, and HPV vaccine, thereby contributing to cervical cancer prevention.

Keywords: *Knowledge, attitude, prevention, cervical cancer, female nursing students.*

I. INTRODUCTION

Cervical cancer is one of the most common types of cancer among women worldwide, ranking second only to breast cancer. Despite a decline in cervical cancer incidence in developed countries in recent years, it remains a significant health problem. In 2020, an estimated 600,000 new cases of cervical cancer were reported globally, accounting for 3.1% of all female cancers [1]. Secondary prevention of cervical cancer includes cytological screening. The WHO recommends using HPV DNA screening at the age of 30 with regular screening every 5 to 10 years. One of the reasons why women do not participate in screening is due to a lack of knowledge about cervical cancer and prevention methods [2]. Additionally, poor awareness of HPV and its link to cervical cancer has been observed [3].

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Numerous studies on knowledge, attitudes, cervical cancer prevention, and related factors have been conducted in our country; however, they often focus on women in the community [4], [5]. Nursing students are future healthcare professionals who will be involved in providing care for the population. Therefore, equipping them with comprehensive knowledge, fostering positive attitudes, and promoting appropriate behaviors will help enhance the quality of this healthcare workforce and set an example for the community. Consequently, we conducted this study: "Knowledge, attitudes, and practices of cervical cancer prevention among female nursing students at Thai Binh University of Medicine and Pharmacy in the academic year 2022-2023".

II. SUBJECTS AND METHODS

2.1. Subject, location, and study period

Subjects: Female students enrolled in the regular Bachelor of Nursing program.

Inclusion criteria:

+ Full-time female nursing students from year 1 to year 3 in the academic year 2022-2023.

+ Both married and unmarried.

+ Agreed to participate in the study.

Exclusion criteria:

+ Students on academic leave or withdrawal during the study period.

+ Those who did not agree to participate in the study.

- Study location and time: From 2023 to 2024 at Thai Binh University of Medicine and Pharmacy.

2.2 Method

Study design: A cross-sectional study was conducted to describe the knowledge, attitudes, and practices of cervical cancer prevention among female nursing students at Thai Binh University of Medicine and Pharmacy.

Sample size: The sample size is determined by selecting all Nursing students from Thai Binh University of Medicine and Pharmacy who meet all the specified inclusion and exclusion criteria.

In fact, our study was conducted with a sample size of 303 students.

Sampling method: A census sampling method was used in this study. The researcher contacted all female nursing students from the first to the third year in the academic year 2022-2023 and a total of 302 female nursing students who met the inclusion criteria were included in the study.

Study Variables and Indicators

General Variables:

+ Age

+ Ethnicity: Kinh, Other

+ Year of study: Year 1, Year 2, Year 3

+ Previous semester's academic performance

+ Class division by language: English, Japanese

+ Family economy: Sufficient/ Surplus, Difficult

+ Family members in the medical profession (Grandfather, grandmother, father, mother, siblings in the medical profession): Yes, No

Variables related to students' knowledge about cervical cancer: Including 15 questions about knowledge of cervical cancer

Variables related to students' attitudes towards cervical cancer: Including 11 variables about attitudes towards cervical cancer and preventive attitudes towards cervical cancer, coded on a 5-point Likert scale from 1-5 (from strongly disagree to strongly agree).

Variables related to cervical cancer prevention: Including 14 questions about the age of sexual debut, the last gynecological examination, cervical cancer vaccination, cervical cancer screening, and plans for cervical cancer vaccination and screening in the next 3 years.

2.3. Data Analysis

Data was analyzed using SPSS 20.0 software.

2.4. Research Ethics

This study was approved by the Science Council of Thai Binh University of Medicine and Pharmacy under Decision No. 781 dated May 29, 2023. Participants were thoroughly informed about the purpose of the study, and their consent was obtained prior to participation. Participants had the right to withdraw from the study at any time. Participant information was kept confidential and used solely for research purposes.

III. RESULTS

Table 1. Knowledge of cervical cancer risk factors among students (n = 302)

Risk Factors	Correct		Incorrect	
	n	%	n	%
HPV infection	253	83.8	49	16.2
Multiple sexual partners	117	38.7	185	61.3
Early sexual intercourse	112	37.1	190	62.9
Having given birth 3 or more times	65	21.5	237	78.5
Smoking	36	11.9	266	88.1
History of sexually transmitted diseases	133	44.0	169	56.0
Long-term oral contraceptive use (over 5 years)	86	28.5	216	71.9
Poor menstrual hygiene	155	51.3	147	48.7

The highest proportion of students (81.1%) correctly identified "HPV infection" as a risk factor for cervical cancer. Conversely, "smoking" was the least recognized risk factor, with only 11.9% of students identifying it.

Table 2. Students' Knowledge of Cervical Cancer Screening (n = 302)

Knowledge	Correct		Incorrect	
	n	%	n	%
Cervical cancer screening is a secondary prevention method	110	36.4	192	63.6
HPV DNA test	253	83.8	49	16.2
Cervical cytology	92	30.5	210	69.5
Visual inspection with acetic acid	87	28.8	215	71.2
Visual inspection with Lugol's iodine	85	28.1	217	71.9

Knowledge	Correct		Incorrect	
	n	%	n	%
Screening should start at age ≥ 21	220	72.8	82	27.2
Screening should be done every 2-3 years	235	77.8	70	23.7

The most recognized screening method was “HPV DNA test” at 83.8%. Additionally, 72.8% knew that “screening should start at age ≥ 21” and 77.8% knew that “screening should be done every 2-3 years.”

Table 3. Students’ Knowledge of Cervical Cancer Prevention (n = 302)

Knowledge	Correct		Incorrect	
	n	%	n	%
HPV vaccination	253	83.8	49	16.2
Regular cervical cancer screening	285	94.4	17	5.6
Safe sex	253	83.8	49	16.2
Proper genital hygiene and treatment of gynecological infections	244	80.8	58	19.2
Avoiding oral contraceptives	86	28.5	216	71.5
Healthy lifestyle, including no smoking	115	38.1	187	61.9

Majority percentages of students had correct knowledge were more than 80% as regular cervical cancer screening, HPV vaccination,safe sexand proper genital hygiene (94.4%, 83.8%, 83.8% and 80.8%, respectively). However, the knowledges of Avoiding oral contraceptives and Healthy lifestyle, including no smoking were 28.5% and 38.1%, respectively.

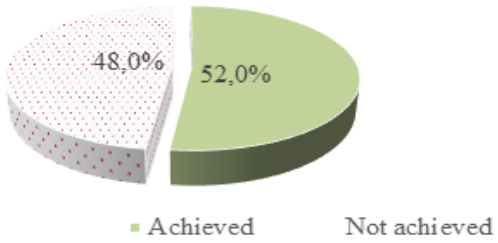

Figure 1. General Knowledge of Students about Cervical Cancer (n = 302)

52.0% of the study subjects achieved general knowledge about cervical cancer and 48.0% did not.

Table 4. Students’ Attitudes towards Cervical Cancer (n = 302)

Attitude	Positive		Negative	
	n	%	n	%
Cervical cancer is a serious disease	302	100	0	0
Any woman can get cervical cancer	272	90.1	30	9.9
I will go for a checkup immediately if I have symptoms	273	90.4	29	9.6
Screening is essential for early detection and treatment	280	92.7	22	7.3

The positive attitude towards cervical cancer as Cervical cancer is a serious disease, Any woman can get cervical cancer, I will go for a checkup immediately if I have symptoms, Screening is essential for early detection and treatment were more than 90%

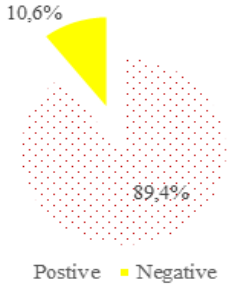

Figure 2. General Attitudes of Students towards Cervical Cancer (n = 302)

The majority of study subjects had a positive attitude towards cervical cancer, accounting for 89.4%, while 10.6% had a less positive attitude.

Table 5. Students' Practices Related to Cervical Cancer Prevention (n = 302) Cervical Cancer Prevention Practices

Prevention Practice	n	Percentage (%)
Sexual activity		
Ever had	39	12.9
Never had	263	87.1
Age at first sexual intercourse (n=9)		19.6 ± 0.8 (17-22)
Gynecological examination		
Ever had	78	25.9
Never had	224	74.1
Time since last exam (n=78)		
Within 6 months	27	34.6
Within 6-12 months	15	19.2
Within 1-3 years	36	46.1
Over 3 years	0	0
Ever had cervical cancer screening	8	2.6
Screening method (n=8)		
Don't remember	8	100
Intention to have cervical cancer screening in the next 3 years	197	65.2

Only 12.9% of students had ever had sexual intercourse, with an average age of 19.6 ± 0.8 years. Only 25.9% had ever had a gynecological exam.

Table 6. Students' HPV Vaccination Practices (n = 302)

Prevention Practice		**n**	**Percentage (%)**
HPV Vaccination	Completed all doses	31	10.3
	Currently being vaccinated	19	6.3
	Never vaccinated	252	83.4
Average age at vaccination (n = 50)			17.3 ± 2.3 (10-22)
Intention to vaccinate in the next 3 years (n = 252)	Yes	207	82.1
	Unsure	45	17.9

Only 16.6% of students had received the HPV vaccine, and 82.1% of those who had not yet been vaccinated planned to do so in the next 3 years.

IV. DISCUSSION

The most commonly known risk factor for cervical cancer among the study subjects was "HPV infection" at 81.1%. In contrast, "smoking" was the least recognized risk factor, with a rate of only 11.9% (Table 4). Compared to studies conducted on women in the community or at medical facilities, our results were higher. According to Pham Thi Thu's study [7], the most frequently mentioned risk factors for cervical cancer were improper genital hygiene (77.8%), sexually transmitted infections (55%), and multiple sexual partners (36.5%). Nguyen Thi Hong Hanh's study [8] reported that genital tract infections (37.5%), age over 30 (37%), and unsafe sex (34.5%) were common risk factors. Tadesse A's study [9] found that multiple sexual partners (40.5%), early sexual intercourse (21.9%), HPV infection (29.5%), and smoking (9.1%) were significant risk factors.

The proportion of students aware of HPV testing as a screening method was higher than that reported by Nguyen Thi Thuy Hanh (2020) [10] at 77.4% but lower than some studies conducted on nursing students at Ho Chi Minh City University of Medicine and Pharmacy, such as those by Trinh Thi Bich Ngoc and Bui Dinh Hoan (2023) at 96.2% [11], and Huynh Giao and Nguyen Hong Khanh (2022) at 96.6% [12]. According to Sajan A S and colleagues (2022) [13], who conducted a study comparing knowledge and awareness of cervical cancer among medical and non-medical students in South India, 235 out of 600 female students (78.3%) had heard of cervical cancer and screening (164 [54.6%]). Many non-medical students had never heard of cervical cancer (248 [82.6%]) or screening (283 [94.3%]). Nearly 61% of medical students and 1.1% of non-medical students had heard of Pap smears. The authors found that medical students had better knowledge and awareness of cervical cancer than non-medical students.

When assessing the overall knowledge of students regarding cervical cancer prevention and detection, our study found that 52.0% of the study subjects had general knowledge about cervical cancer and 48.0% did not (Figure 1). The results showed that overall, students' knowledge of cervical cancer prevention and detection still had many gaps. In particular, many students still provided incorrect answers regarding cervical cancer screening and risk factors. However, compared to the results of studies by authors such as Zeliha Koc (2015) [14] and Phan Thi Thanh Tam [15], the knowledge scores of the students in our study were relatively higher.

The attitudes of students towards cervical cancer are very important for their ability to convey information about cervical cancer to their patients in the future. The results of our study showed that all the attitudinal characteristics of students towards cervical cancer were positive, ranging from 79-100%. A large proportion of the study subjects had a positive attitude towards cervical cancer, accounting for 89.4%, while 10.6% had a less positive attitude (Figure 2). This will help medical students provide appropriate advice to patients. Our results are consistent with the findings of Pui Woo Angela Yam and colleagues (2017), who showed that medical students had a more positive attitude towards cervical cancer than non-medical students, especially regarding HPV vaccination [16].

In addition to HPV, which has been proven to be a major cause of cervical cancer, early sexual activity, smoking, immunosuppression, endocrine disorders (such as HIV/AIDS, chronic hepatitis, diabetes, connective tissue diseases), long-term use of certain medications, and other factors such as poor hygiene, genetic susceptibility, and nutritional deficiencies (lack of vitamins A, C, folic acid, fruits, and vegetables) are considered risk factors that increase the incidence of cervical cancer. In our study, 12.9% of participants reported having had sexual intercourse, with an average age at first intercourse of 19.6 ± 0.8 years. Our results were significantly lower than those of a study by Sara Villanueva and colleagues (2019) conducted on Spanish nursing students, where 88% of students reported having had sexual intercourse [17]. This difference could be attributed to the cultural differences between the two populations.

When asked about the proportion of students who had undergone gynecological examinations, our study found that 25.9% of participants had, and all of them had their last exam within 3 years. This result was lower than that of a study by Lai Thi Thu Huong and colleagues conducted on 636 married or sexually active female workers in Go Vap district, Ho Chi Minh City [18]. This difference could be due to the age and characteristics of the study population, as Lai Thi Thu Huong's study included married or sexually active women, leading to a higher rate of gynecological examinations compared to our study population of mostly single or dating students with lower rates of sexual activity.

V. CONCLUSION

Nursing students' knowledge of cervical cancer prevention was more than 80%. In which, general knowledge of cervical cancer and positive attitude towards cervical cancer of nursing students were 52,0% and 89.4%, respectively.

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