KNOWLEDGE TOWARDS HPV INFECTION AND RELATED FACTORS AMONG MALE STUDENTS AT THE FACULTY OF NURSING, CAN THO UNIVERSITY OF MEDICINE AND PHARMACY IN 2023

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ABSTRACT

Background: *The Human Papilloma Virus (HPV) has been recognized as a major and common sexually transmitted infection associated with various types of cancer in both men and women. More than 200 genotypes of HPVs were identified, each exhibiting distinct specificity for tissues and infection. In addition, the rate of HPV infection has gradually increased in both males and females. According to research conducted in Vietnam and around the world, men diagnosed with HPV infection may experience various complications, including those affecting the coronal sulcus, semen, as well as the scrotal, perianal, and anal regions. However, there is still limited research on HPV knowledge, especially among male students. In particular, there have been few studies conducted among male healthcare students in Vietnam.* ***Objectives****: To evaluate the knowledge of HP and to identify relevant factors influencing HPV knowledge among male students at the Faculty of Nursing and Medical Technology, Can Tho University of Medicine and Pharmacy.* ***Materials and Methods: A*** *descriptive cross-sectional study was conducted on 174 male students of the Faculty of Nursing and Medical Technology from July to September 2023 using convenience sampling methods. A self-administered anonymous questionnaire established by Susan Mary Sherman in English n and Tran Luong Xuan Phuoc in Vietnamese was used in this study to investigate the demographic information, and knowledge toward HPV.* ***Results:*** *Overall, 174 surveys were completed, representing a response rate of 94.57%. Among male students, 68.39% demonstrated a "good knowledge" of HPV. Academic year was identified as the main factor influencing HPV knowledge, with a significantly higher proportion of fourth-year male students exhibiting greater knowledge compared to other academic levels ($p < 0.05$).* ***Conclusion:*** *While the majority of male students demonstrated a high level of knowledge about HPV, there is still a need for strengthening health education and policies related to HPV knowledge.*

Keywords: *HPV knowledge, HPV, male students.*

I. INTRODUCTION

Human Papilloma Virus (HPV) is the most common viral infection of the reproductive tract and other organs. It is considered one of the leading sexually transmitted diseases both in Vietnam and worldwide. It is estimated that nearly 80% of sexually active men and women will be infected at some point in their lives [1]. In addition, HPV is one of the common causative agents of cervical cancer in females and anal cancer in males [2], [3]. Most research has concentrated on HPV diagnosis, treatment, and prevention in women. The strategies have almost been brought to bear in sexual and reproductive health programs in many countries for women, but tend to ignore the role of men in this infection, despite its high incidence. Some studies suggest that men may be the source of transmission of the disease to women, due to the asymptomatic nature of the disease, thus contributing to the persistence of infection and cancer [4].

A survey carried out on 1000 male students around 14 – 22 years in Italy showed that 54.9% of male students heard about HPV and 78.9% knew HPV can cause infection in both genders. Additionally, the knowledge towards HPV of these participants showed a relatively high rate of recognizing that HPV causes penile cancer at a rate of 70.1%, however, this rate was much lower than be consicious of other cancers like anal cancer and oral cancer which accounted for 6.7% and 5.4% respectively [5]. Salami Kasparov and colleagues conducted a survey in the USA, which revealed that male students had high knowledge on HPV; nevertheless, knowledge about transmission routes and measures to prevent transmission of the disease was low [6].

In Vietnam, most studies have focused on vaccination knowledge and cervical cancer prevention among female students or both genders. Consequently, to establish data for an HPV prevention program targeting both genders effectively and to provide baseline knowledge for male healthcare students, we conducted this study to explore HPV knowledge and identify related factors among male students at the Faculty of Nursing and Medical Technology, Can Tho University of Medicine and Pharmacy.

II. MATERIALS AND METHODS

2.1. Study population

184 male students from the Faculty of Nursing and Medical Technology, Can Tho University of Medicine and Pharmacy in 2023.

Inclusion criteria: male nursing students enrolled in a full-time program.

Exclusion criteria: male students who did not agree to participate in the research or were absent during the study period.

2.2. Methods

Research period: July 2023 - September 2023.

Research design: cross-sectional descriptive study.

Sampling technique: Non-probability sampling was employed. Questionnaires were distributed to all male students, and participants were selected based on their accessibility and willingness to participate.

Sampling size: our research was calculated with a significance level of 5%, a proportion and absolute error of 0.8 and 0.06 respectively [7]. Therefore, the sampling size for the study was a minimum of 171 male students. The actual sample size in our study was 174 male students.

$$n \geqslant \frac{Z^2_{1-\alpha/2}(1-p)p}{d^2}$$

Data collection tool: A self-completed questionnaire developed by Susan Mary Sherman (2018) was used [7]. The questionnaire was translated and evaluated for reliability by Tran Luong Xuan Phuoc in 2022 with a Cronbach'alpha of 0.84 [8]. The questionnaire includes 26 questions designed to assess knowledge about HPV with response options including "true", "false", "don't know". Each correct answer is assigned 1 point. The highest total score for HPV knowledge content is 46 points. Students are considered to have good HPV knowledge if they answer correctly ≥ 75% of the total score.

Data processing and analysis methods: Despriptive statistics were used to describe participant characteristics with qualitative variables, including frequency and percentage. The Chi-square test was used to analyze the correlation between the characteristics of study subjects and HPV infection knowledge. Data entry and analysis were conducted using STATA 14.2 software. A significance level of $p < 0.05$ was considered statistically significant.

Ethics in research: The research was approved by the Institutional Review Board at Can Tho University of Medicine and Pharmacy under decision number 23.004.SV. Participation in the study was entirely voluntary. Prior to participation, students received both oral and written information about the purpose, content, and scope of the study. They were were assured that their responses were confidential.

III. RESULTS

Table 1. Characteristics of study subjects (n = 174)

Content		Frequency	Proportion(%)
Age	19 years	44	25.29
	20 years	**55**	**31.61**
	21 years	43	24.71
	≥ 22 years	32	18.39
Academic year	1st year	51	29.31
	2nd year	**55**	**31.61**
	3rd year	41	23.56
	4th year	27	15.52
Major	Nursing	46	26.44
	Imaging Technique	31	17.82
	Medical Technology	**97**	**55.75**

The table shows that the majority of participants were 20 years old (31.61%). Most study participants were in their 2nd year (31.61%). Regarding majors, Medical Technology accounted for the highest proportion (55.75%).

Table 2. Knowledge towards HPV

	Frequency (n)	Proportion (%)
Poor	55	31.61
Good	119	68.39

Most of participants had good knowledge about HPV was 68.39%.

Table 3. Association between characteristics of study subjects and knowledge about HPV

	HPV knowledge				p
	Poor		Good		
	n	%	n	%	
Age					
19	35	79.55	9	20.45	0.23
20	37	67.27	18	32.73	
21	26	60.47	17	39.53	
>=22	21	65.62	11	34.38	
Major					
Nursing	31	67.39	15	32.61	0.11
Imaging Technique	26	83.87	5	16.13	
Medical Technology	62	63.92	35	36.08	
Academic year					
1st year	42	82.35	9	17.65	**0.04**
2nd year	34	61.82	21	38.18	
3rd year	28	68.29	13	31.71	
4th year	15	55.56	12	44.44	

Statistically significant differences were found between academic year and knowledge about HPV ($p<0.05$).

IV. DISCUSSION

HPV not only cause cervical cancer in women but also a number of other diseases related to HPV infection in men such as genital warts, penile cancer and some diseases that can be found in both men and women, additionally, both sexes such as oropharyngeal cancer and anal cancer [4]. Currently, in Vietnam, there are few studies that have reported on HPV knowledge among male healthcare students [9]. According to our research results, the majority of male students participating in the study were 20 years old (31.61%), with second-year students and those majoring in medical technology representing the highest proportions at 31.61% and 55.75%, respectively. The results from our study were higher than previous studies. This difference can be attributed to the fact that our study focused solely on collecting data from one department, whereas previous studies encompassed all male and female students within a department or university. Furthermore, differences in the training scale of each university may have also contributed to variations in the results [10].

Our research shows that 68.39% of male students had good knowledge about HPV, which is higher than the percentage reported in the study by Tran Luong Xuan Phuoc (2022), where only 31.2% of male students exhibited good knowledge [8]. Some studies found that students had good knowledge about HPV, with percentages exceeding 60%. However, a study conducted in China showed that only 24.34% of students had good knowledge about HPV. [11]. This difference is explained by male students' interest in HPV and their access to information through health education programs or classroom lectures.

Additionally, a relationship was found between knowledge about HPV and academic year in this study, with 4th year students exhibiting better knowledge than students in other academic years ($p<0.05$). Our research results are similar to those of Farsi (2020) [12], where 4th students had higher knowledge levels. The increased knowledge among 4th year students may be attributed to their prior exposure to basic medicine and pathology related to HPV during their studies. Therefore, providing information about HPV needs to start from the earliest years and have continuous evaluation to enhance HPV knowledge among healthcare students [8], [12].

V. CONCLUSION

The study finds that male students have good knowledge about HPV, but the rate is still not high. This is concerning as these students are future healthcare workers and are currently enrolled in medical program. Based on these findings, it is essential to take some measures to enhance public awareness about HPV, such as health education programs via social media.

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