

The Relationship Between Cervical Cancer Knowledge Levels and Interest in HPV Vaccination Among Female Patients at the Obgyn Clinic of RSU Haji Medan

M. Hafiz Iqreza¹, Dona Wirniaty²

¹ Faculty of Medicine, Universitas Muhammadiyah Sumatera Utara, Medan, Indonesia

Article Info	ABSTRACT
Article history: Received September 20, 2026 Revised September 22, 2026 Accepted September 24, 2026 Keywords: Cervical cancer, HPV, Gynecologic cancer, Level of knowledge	Background: Cervical cancer ranks as the highest gynecological malignancy globally. Anatomically, this condition is a malignant process occurring in the cervix or uterine neck, a cylindrical area in the lower third of the uterus that protrudes and connects to the vagina via the external os. Objective: This study aims to analyze the relationship between the level of knowledge regarding cervical cancer and the interest in receiving HPV vaccination among female patients at the Obgyn Clinic of RSU Haji Medan. Methods: This research employed a non-experimental analytical observational design with a cross-sectional approach, where data collection was conducted purely through observation without intervention on 25 study subjects. Results: Among the total respondents, the group with good knowledge and high interest in vaccination comprised 11 individuals (44%), whereas 2 individuals (8%) showed no interest. In the group with sufficient knowledge, 3 individuals (12%) were interested and 2 individuals (8%) were not interested. Meanwhile, in the group with poor knowledge, only 1 individual (4%) expressed interest, while the remaining 6 individuals (24%) had no interest in vaccination. Conclusion: Evaluation using the Mann-Whitney test yielded a p-value of 0.003 (p-value less than 0.05). This proves a statistically significant relationship between the level of knowledge about cervical cancer and female patients' interest in undergoing HPV vaccination. <i>This is an open access article under the CC BY license</i> 

Corresponding Author:

M. Hafiz Iqreza
 Faculty of Medicine, Universitas Muhammadiyah Sumatera Utara,
 Medan, Indonesia
 Email: rzhsbn@gmail.com

1. INTRODUCTION

Globally, cervical cancer is recorded as the gynecological malignancy with the highest incidence rate. This disease is characterized by the growth of malignant cells in the cervix, a cylindrical organ in the lower third of the uterus that protrudes and opens into the vaginal canal via the external uterine os. Overall, the threat posed by cancer is massive; according to the Global Cancer Observatory (GLOBOCAN) 2019 data, there were approximately 18.1 million newly diagnosed cases and 9.6 million cancer-related deaths worldwide..[1].

On a regional scale, the cancer incidence in Indonesia reached 136.2 cases per 100,000 population, positioning the country 8th in Southeast Asia and 23rd in the Asian region. The 2018 GLOBOCAN estimates identified cervical cancer as the malignancy with the second highest number of new cases in Indonesia, reaching 32,469 new diagnoses. Beyond its high incidence rate, this disease also serves as the third leading cause of cancer mortality nationwide, claiming a total of 18,729 lives [1, 2]. The development of cervical cancer is strongly associated with Human Papillomavirus (HPV) infection transmitted through sexual contact. Extensive epidemiological evidence demonstrates that the vast majority of cervical malignancy cases—exceeding 90%—are confirmed to have a direct link with exposure to specific HPV types. [1], [3].

Although HPV infection serves as the primary causative agent of cervical cancer, several contributing risk factors heighten the probability of acquiring the infection. These include age, early age at sexual initiation, smoking habits, high parity, long-term use of oral contraceptives, a history of vaginal discharge, and multiple sexual partners [4]. These risk variables demonstrate a strong correlation with the development of cervical malignancy. As a preventive measure, HPV vaccination utilizes a microorganism suspension to stimulate the immune system through immunization mechanisms. Immunization itself functions to enhance body resistance—both actively and passively—against pathogenic toxins or microorganisms. Nonetheless, the level of knowledge and awareness regarding cervical cancer risks and HPV vaccine efficacy is presumed to remain sub-optimal among female patients at the Obgyn Clinic of RSU Haji Medan.

Various barriers to cervical cancer prevention programs through HPV vaccination are often driven by limited public awareness, influenced by education levels, social media exposure, socioeconomic and cultural conditions, and constraints in accessing healthcare facilities. Given the high morbidity and mortality rates associated with this malignancy, along with discrepancies in prior research findings regarding the link between cervical cancer knowledge and motivation to receive the HPV vaccine, this study was conducted to evaluate the relationship between cervical cancer knowledge levels and interest in HPV vaccination at RSU Haji Medan.

2. METHODS

The study design employed in this research was non-experimental using an analytical observational approach with a cross-sectional design, in which data collection was conducted purely based on observation without applying any intervention or manipulation to the subjects. The cross-sectional approach itself is an observational research method that evaluates and measures study variables simultaneously in a single point of data collection during the same time frame.

3. RESULT AND DISCUSSION

3.1 Result

The summary of research findings evaluating the level of knowledge and interest in HPV vaccination among female patients at RSU Haji Medan is presented in Tables 1 through 4. Based on age categorization, the proportion of respondents was dominated by the 20–29 age group, comprising 18 subjects (72%), while the 30–35 age group accounted for the remaining 7 subjects (28%).

Tabel 1. Distribusi Usia

Umur (Tahun)	Frekuensi (n)	Persentase (%)
20-29 Tahun	18	72%
30-35 Tahun	7	28%
Total	25	100%

The frequency distribution of cervical cancer knowledge levels showed that 13 respondents (52%) possessed good knowledge, 5 respondents (20%) had sufficient knowledge, and 7 respondents (28%) demonstrated poor knowledge.

Tabel 2. Distribusi Tingkat Pengetahuan Kanker Serviks

Tingkat Pengetahuan	Frekuensi (n)	Persentase (%)
Baik	13	52%
Cukup	5	20%
Kurang	7	28%
Total	25	100%

The frequency distribution based on interest in HPV vaccination revealed that 15 respondents (60%) were interested, while 10 respondents (40%) expressed no interest.

Tabel 3. Distribusi Sampel Berdasarkan Minat Vaksinasi HPV

Minat	Frekuensi (n)	Persentase (%)
Minat	15	60%
Tidak Minat	10	40%
Total	25	100%

The analysis of the correlation between cervical cancer knowledge levels and motivation for HPV vaccination uptake demonstrated that within the good knowledge category, the majority of respondents expressed interest, accounting for 11 subjects (44%), while the remaining 2 subjects (8%) were not interested. In the moderate knowledge group, 3 subjects (12%) showed interest and 2 subjects (8%) were not interested. Meanwhile, in the low knowledge group, the largest proportion was represented by respondents who were not interested, comprising 6 individuals (24%), whereas only 1 individual (4%) expressed interest.

Tabel 4. Hubungan Tingkat Pengetahuan Kanker Serviks dengan Minat Vaksinasi HPV

Tingkat Pengetahuan	Minat n (%)	Tidak Minat n (%)	Total n (%)	p-value
Baik	11 (44%)	2 (8%)	13 (52%)	0,003
Cukup	3 (12%)	2 (8%)	5 (20%)	
Kurang	1 (4%)	6 (24%)	7 (28%)	
Total	15 (60%)	10 (40%)	25 (100%)	

Statistical testing using the Mann-Whitney U test yielded a significance value of $p = 0.003$ (p-value less than 0.05). This finding proves a statistically significant correlation between the level of understanding regarding cervical cancer and the respondents' interest in receiving the HPV vaccine.

3.2 Discussion

This study involved 25 subjects to evaluate the relationship between cervical cancer knowledge levels and motivation for HPV vaccination. Age group categorization revealed a predominance of participants in the 20–29 age bracket, comprising 18 individuals (72%), followed by the 30–35 age group with 7 individuals (28%). Age reflects the lifespan of an individual from birth to the time of observation. In epidemiological studies, the age variable plays a crucial role as it directly correlates with exposure levels, susceptibility, and disease incidence. In the context of HPV vaccine acceptance, younger women generally exhibit a higher inclination and receptivity toward immunization compared to older age groups [18].

The association between age and the rate of acceptance as well as series completion of the HPV vaccine is further supported by study findings from the United States in 2023. Vaccine administration in younger

age groups is considered to yield optimal efficacy because it occurs prior to individual exposure or contact with HPV [19].

Research data indicated that the distribution of respondents' cervical cancer knowledge was dominated by the good knowledge category with 13 individuals (52%), followed by the sufficient knowledge category with 5 individuals (20%), and the poor knowledge category with 7 individuals (28%). Conceptually, knowledge is the product of an individual's observation and comprehension of an object. This element plays a vital role in guiding the formation of attitudes and actions. Individuals are generally more open and likely to adopt new behaviors when these actions are grounded in accurate understanding, self-awareness, and constructive attitudes [7].

A prior literature review noted that the majority of respondents possessed a good level of cervical cancer knowledge, reaching 79.3%, with knowledge concerning preventive measures also falling into a high category at 97.4% [20]. The findings of this study align with that previous scientific report, where the largest proportion of respondents demonstrated optimal knowledge regarding cervical cancer preventive methods. Public understanding of cervical malignancy is influenced by various variables, including age, educational level, economic status/income, and a family history of cervical cancer. Furthermore, educational interventions have been proven to significantly accelerate understanding and foster positive attitudinal responses toward disease prevention [21, 22].

Data regarding the intent to undergo HPV vaccination demonstrated that the majority of the sample fell into the interested category, accounting for 15 individuals (60%), whereas the remaining 10 individuals (40%) reported no interest. According to prior literature, an individual's intent is generally shaped by two main determinants: intrinsic and extrinsic factors. Intrinsic aspects encompass physical condition, psychological readiness, age, personal drive, and knowledge level. Meanwhile, extrinsic aspects include environmental conditions, social support or encouragement, and exposure to information media [23].

The findings of this study confirm previous research on the drive for HPV vaccination among adolescent girls, which indicated that most respondents possessed strong motivation to receive the vaccine [23]. A similar report was identified in an analysis of Sari Mulia Hospital staff, where the majority of workers exhibited positive motivational attitudes toward HPV immunization, proving a significant correlation between knowledge levels and the motivation to undergo vaccination [24].

Based on statistical calculations using the Mann-Whitney test, a p-value of 0.003 (p-value less than 0.05) was obtained. These results prove a statistically significant correlation between the level of understanding regarding cervical cancer and the public's interest in receiving the HPV vaccine. Thus, obtaining a p-value below this significance threshold confirms that depth of knowledge is directly linked to an individual's motivation to undergo HPV vaccination.

This association aligns with previous research findings among women aged 15 to 26 years, which confirmed a positive correlation between knowledge levels and the actual realization of HPV vaccination [25]. Other scientific reports regarding staff at Sari Mulia Hospital further reinforce this evidence, identifying a statistically significant relationship between an individual's knowledge and their motivation to receive HPV vaccination [24].

4. CONCLUSION

A statistically significant correlation was identified between the level of understanding regarding cervical cancer and the interest in receiving the HPV vaccine among female patients at the Obgyn Clinic of RSU Haji Medan, yielding a p-value of 0.003 (p-value less than 0.05).

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