

Knowledge, Practice and Attitude Toward HPV Vaccines in Primary Health Nurse

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ABSTRACT

Background: Cervical tumor is regarded as a preventable disease. Nevertheless, it is the 2nd most prevalent form of cancer worldwide, following breast tumor.

Aim: To determine occurrence associated with knowledge, attitude, and practice of HPV vaccination in 1ry health nurse.

Materials and methods: This meta-analysis has been conducted on 7 articles according to the guidelines by the Cochrane Collaboration reporting followed the PRISMA statement (Preferred Reporting Items for Systematic Reviews and Meta-analyses).

Main findings: Major heterogeneity was found in the meta-analysis findings (chi-p <0.001, I2 98%). in the percentage of healthcare professionals (HCW) who have previously recommended the HPV vaccine (or expressed a strong recommendation) in the investigations that were included. We observed a total MD of HCWs expressing willingness to suggest the HPV vaccine equal (0.83 [ninety-five percent CI: 0.69, 0.97]), major heterogeneity was observed among the pooled studies with chi-p <0.001, I2 1000%

Conclusion: In primary healthcare settings, nurses' knowledge, practice, and attitudes toward the HPV vaccine play a crucial role in influencing vaccination rates. This study indicates that while many primary health nurses demonstrate a positive attitude toward recommending the HPV vaccine, significant variations in their knowledge and practices exist. Nurses with a solid understanding of the benefits and safety of the HPV vaccine are more likely to recommend it, highlighting the importance of education and training in enhancing their confidence and competence in vaccine promotion.

Keywords: Knowledge, Practice, Attitude, HPV Vaccines, Primary Health Nurse

INTRODUCTION

Cervical tumor is regarded as a preventable disease. Nevertheless, it is the 2nd most prevalent form of tumors worldwide, following breast cancer. (1).

Cervical tumor is still the primary threat of infection with HPV. The estimated number of new cases and deaths is 604,000, with 342,000 deaths by 2020. It is the 4th most prevalent tumor among females worldwide.3 In 2018, it was accountable for 7.5 percent of all women deaths related to cancer(2).

The human papillomavirus (HPV) is a well-established cause of cervical tumor, other anogenital tumors (vulva, penis, vagina, and anus), and oropharyngeal tumors. It is one of the most prevalent sexually transmitted infections.(3).

The primary objective of human papillomavirus vaccination is to decrease the deaths and morbidity related to human papillomavirus-associated diseases, particularly cervical tumors (4).

The 1st vaccine for the prevention of death and morbidity related to human papillomavirus—associated disease

has been approved in 2006 (4).

Human papillomavirus vaccination, screening, and early management of precancerous lesions are essential 1st and 2nd prevention strategies that are essential for the reduction of death and frequency (5).

Effective cervical cancer screening interventions have enabled high-income countries to reduce the morbidity and death of cervical tumor by seventy percent (5).

Nurses, as specialized healthcare providers, have the potential to address human papillomavirus-related vaccine hesitancy and contribute to the reduction of the high societal and clinical burden generated by human papillomavirus (6).

The successful implementation of 1st prevention of human papillomavirus infection is predicated on an integrated approach that encompasses the analysis and administration of organizational aspects of immunization campaigns, as well as the dissemination of information to the general population and high-risk subjects (7).

This involves active involvement by healthcare workers, who have a key role in promoting the human papillomavirus vaccination and its acceptability, since they may impact the whole health behavior of their cases (7).

Healthcare professionals require comprehensive information on human papillomavirus and guidelines on the best practice to communicate with their case in order to be effective (8).

The successful utilization and promotion of human papillomavirus vaccines are contingent upon a variety of factors, healthcare professionals playing a critical role in the recommendation of this vaccine (9).

As a result, it is of vital importance to make sure that healthcare professionals are adequately informed in order to disseminate comprehensive and precise information to the public, thereby promoting human papillomavirus vaccination in China (9).

Research performed abroad has shown that educational interventions have the potential to enhance healthcare professionals' understanding of human papillomavirus vaccines and alter their attitudes towards them (9),(10).

The goal of this investigation was to determine the occurrence of human papillomavirus vaccination among 1st health nurses in relation to their knowledge, attitude, and practice.

MATERIALS AND METHODS

This meta-analysis has been carried out on 7 articles according to the guidelines by the Cochrane Collaboration reporting followed the PRISMA statement (Preferred Reporting Items for Systematic Reviews and Meta-analyses).

Search Strategy

We prepared database-specific search strategies for MEDLINE/PubMed, ProQuest, EMBASE, CINAHL, Web of science and Cochrane databases. The search strategy has been developed to identify articles that addressed the knowledge, attitude, and practice of 1st health nurses with respect to HPV vaccination. The search strategy has been limited to investigations that were published in the English language. Search strategies were developed using the PEO scheme. The 'P' (1st Health Nurse), the 'E' (HPV vaccine), and the 'O' (knowledge/attitude/practice) were the 1st elements that we utilized during our investigation.

Study selection criteria

Investigations that stated knowledge of any type of HPV vaccine, investigations that stated any type of attitude towards the intake of HPV vaccine, and investigations that stated acceptance/intake of any type of HPV vaccine were included. We included research with women or men participants aged five to seventy-five, investigations that were published in the English language, and the full text of the articles was retrievable.

Data extraction

Investigation details regarding the author, publication year, study location, participants in the investigation, parameters evaluated, main results, and risk of bias were extracted by two reviewers. A standardized data extraction form has been utilized in Microsoft Office Excel to conduct data extraction.

Data analysis

Utilizing proportions and means, we 1st described the key research characteristics. Subsequently, we performed a narrative synthesis of the principal outcomes regarding healthcare professionals' attitudes and behaviors regarding the HPV vaccine. This step included the summarization of the primary results, the identification of documented barriers and facilitators to vaccine recommendation, and the examination of any supplementary pertinent information. Subsequently, we carried out a meta-analysis that encompassed all investigations that documented quantitative measures of either past recommendation practices or current willingness for recommending the HPV vaccine. These papers utilized a variety of measures. As binary variables, we identified the behavior of recommending and the propensity to recommend. Questions about how frequently (i.e. always/never) or how strongly healthcare professionals suggest the HPV vaccine have been utilized for

evaluating recommending behaviors, while willingness to recommend has been defined as an intent or interest in suggesting HPV. We utilized binary measures/responses to determine the proportion of healthcare professionals who recommended or were willing to suggest when a binary measure has been utilized directly. If the authors generated a binary result from a scale (e.g., Likert scale), we utilized it. If no binary measure was supplied in the article, we derived a binary from the top two to three responses (e.g., Always, Almost Always, Sometimes or Strongly Agree, Agree, Neutral).

Quality assessment

The evaluation of the quality of the cross-sectional investigations was conducted using the 11-item checklist developed by the United States (US) Agency for Healthcare Quality and Research (AHRQ) (11). A score of zero to three denotes low quality, four to seven indicates medium quality, and eight to eleven signifies high quality (11). The risk of bias was evaluated by this instrument in accordance with the data collection method and sampling strategy.

RESULTS

Overall, 1017 articles have been returned from the search, 688 duplicate study were removed title and abstract screening involved approximately 329 study, 77 studies were submitted for full text screening, at the end seven articles were selected for final inclusion. Study selection process and PRISMA flow chart were illustrated in Figure 1.

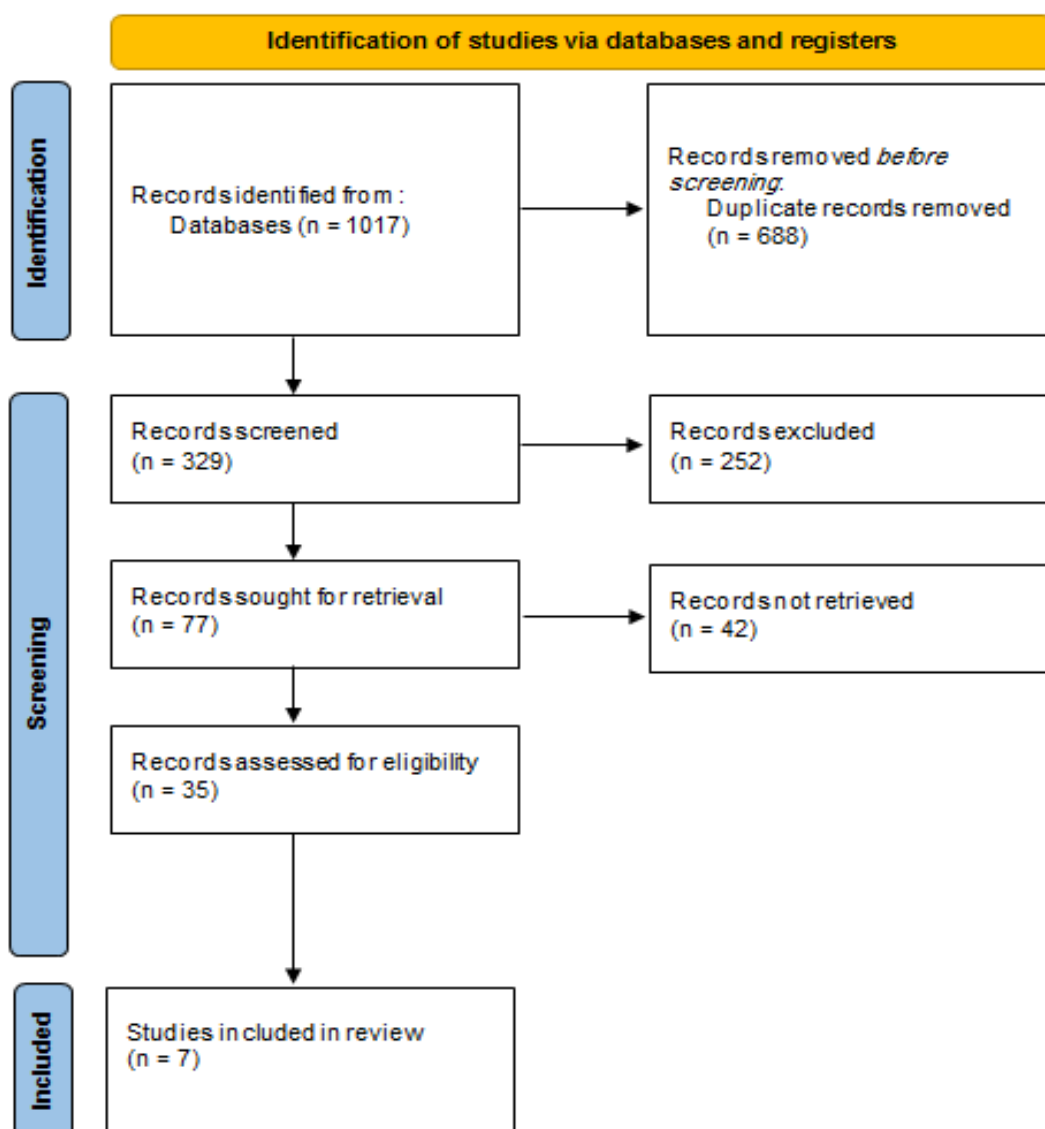


Figure 1: PRISMA flow chart for investigation selection process.

Table 1: demonstrated characteristics of the involved investigation.

Authors and Year	Location	Study Aim	Population	Barriers
Btoush, et. al, (12)	USA	Investigate the factors that are related to the recommendation of HPV by healthcare providers (HCPs) for younger and older adolescents.	Physicians, nurse practitioners, paediatrics, family medicine, and women's health)	Barriers to communicating with parents about the vaccine and system-level barriers (ordering, stocking, admin). Healthcare providers identified safety, long-term effects, medication companies' drive for profit, and experimenting on kids as concerns. Additionally, the vaccine discouraged routine pap smears, increased sexual promiscuity, and decreased the utilization of condoms.
Chawla, et. al, (13)	India	Explore knowledge, attitude, and practice of healthcare providers in India.	Healthcare professionals	N/A
Lee, et. al, (14)	Hong Kong	Examine the practice of recommending the HPV vaccine to attendees between providers at public health clinics in Hong Kong.	Medical nurses and doctors	N/A (article discusses that embarrassment to talk about sex topic and perception of HPV vaccine as a symbol of promiscuity were barriers to HPV vaccine uptake--thus use of STD clinics)
Hoque, et. al, (15)	South Africa	Identify the factors that influence the recommendation of vaccinations to case by nurses at a tertiary hospital in SA	nurses	N/A
Leung, et al. (16)	USA	The objective was to develop a seven-minute interactive online educational instrument that would enhance the knowledge and willingness of nurses to increase the recommendation of HPV.	Nurses	N/A
Maynard, et al., (17)	USA	The objective of this paper is to provide a comprehensive account of the training that was conducted, including its initial results and its implementation.	Nurses, medical assistant, physicians, and advanced practice providers.	N/A
Selvan, et. al, (18)	USA	The objective of the investigation was to evaluate the attitudes, practices, and knowledge of nurses in an urban school district with respect to human papillomavirus vaccination.	Nurses	Some of the barriers to human papillomavirus vaccination involve a lack of doctor recommendation, concern about vaccine safety and adverse impacts, mistrust in the healthcare system, especially

				pharmaceutical companies, a lack of knowledge about cervical tumors HPV and the vaccine, and high costs.
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Table 2: Risk of bias assessment

Study ID	Chawla, et. al, (13)	Btoush, et. al, (12)	Hoque, et. al, (15)	Lee, et. al, (14)	Leung, et al. , (16)	Maynard, et al., (17)	Selvan, et. al, (18)
1. Were the criteria for inclusion in the sample clearly defined?	Yes	Yes	Yes	Yes	Yes	Yes	No
2. Were the investigation subjects and the setting described in detail?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3. Was the exposure measured in a valid and reliable way?	Yes	Yes	Unclear	Unclear	NA	Yes	Yes
4. Were objective, standard criteria utilized for measurement of the condition?	Yes	Yes	NA	NA	Yes	Yes	Yes
5. Were confounding factors identified?	Yes	No	Yes	Yes	Yes	Yes	No
6. Were strategies to deal with confounding factors stated?	Yes	No	Yes	Yes	Yes	No	No
7. Were the results measured in a valid and reliable way?	Yes	Yes	Unclear	Unclear	Unclear	Unclear	Yes
8. Was appropriate statistical analysis utilized?	Yes	Yes	Yes	Yes	Unclear	Yes	Yes

Outcomes**Meta-analyses of recommendation behavior**

Major heterogeneity was found in the meta-analysis findings (chi-p-value less than 0.001, I² 98%). in the percentage of HCW who have previously recommended the HPV vaccine (or expressed a strong recommendation) in the investigations that were involved. Figure 2 illustrates the Forest plot for the HPV recommendation behavior of HCWs, with two articles presenting this data. The aggregated mean distinction was 0.5 (ninety-five percent CI: 0.43, 0.56).

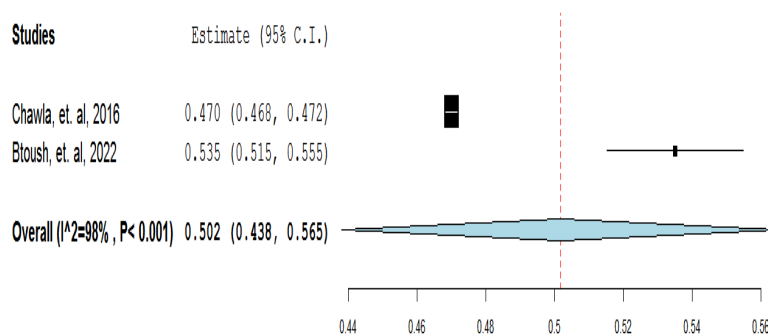


Figure 2: presents the overall Forest plot for HCWs’ HPV recommendation behavior.

We found an overall MD of HCWs expressing willingness to suggest the HPV vaccine equal (0.83 [ninety-five percent CI: 0.69, 0.97]), major heterogeneity was observed among the pooled studies with chi-p <0.001, I² 1000%. Figure 3 present The forest plot for healthcare worker’s recommendation willingness Across these studies.

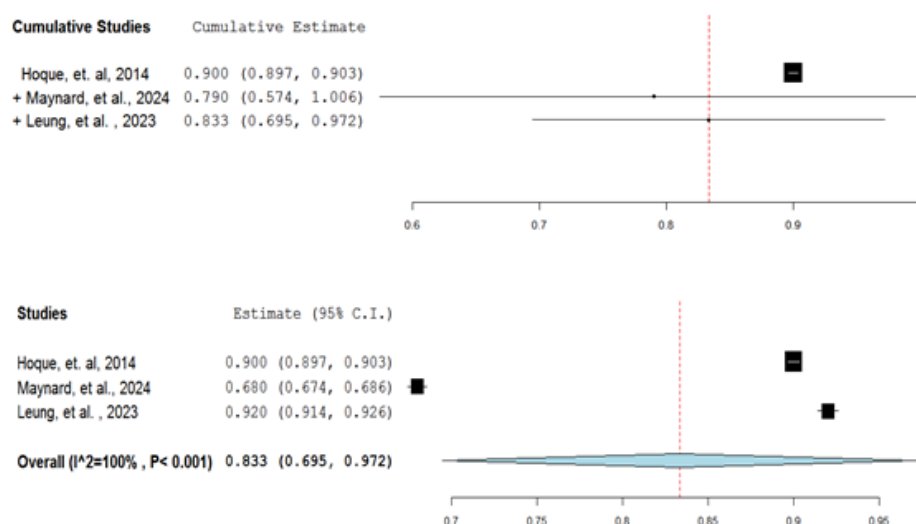


Figure 3: forest plot representing healthcare worker’s recommendation willingness.

DISCUSSION

Major heterogeneity was found in the meta-analysis results (chi-p-value less than 0.001, I² 98%). in the proportion of HCW who have previously recommended the human papillomavirus vaccine (or expressed a strong recommendation) in the investigations that were involved.

In agreement with Chawla et al. (13) who conducted an investigation to investigate the knowledge, attitude, and practice (KAP) of healthcare providers in India regarding HPV vaccination, they revealed that only forty-seven percent of respondents suggested that young females receive the HPV vaccine.

In addition, Btoush et al. (12) investigated the factors that have been related to the recommendation of human papillomavirus vaccination for younger and older adolescents. Their findings indicated that the HCW’s recommendation rates for human papillomavirus vaccination were fifty-six percent for younger adolescents (eleven to thirteen years old) and seventy-three percent for older adolescents (fourteen to seventeen years old).

Additionally, Selvan et al. (18) investigated the knowledge, attitudes, and perceived professional responsibility of school nurses in an urban, various school district in the United States. They also sought to identify disparities in knowledge, attitudes, and perceived professional responsibility with regard to the human papillomavirus vaccine based on the number of years of experience in a school environment and the grade level at which they served. According to the report, the majority of school nurses (seventy-six percent), either agreed or firmly agreed, that the human papillomavirus vaccine is a critical component of the health of children and adolescents.

We found an overall MD of HCWs expressing willingness to recommend the human papillomavirus vaccine equal (0.83 [ninety-five percent CI: 0.69, 0.97]), major heterogeneity was observed among the pooled studies with chi-p <0.001, I² 1000%. Figure 3 present the forest plot for healthcare worker’s recommendation willingness Across these studies.

Btoush et al. (12) found that interventions targeting HCPs should concentrate on enhancing their knowledge about the vaccine, reducing their apprehensions about its safety, and utilizing facilitator strategies, especially among non-pediatric providers. They also identified that 252 HCWs expressed a willingness to recommend the HPV vaccine.

Chawla et al. (13) illustrated that MD of HCWs expressing willingness to suggest the HPV vaccine was 277, which is pertinent for a successful human papillomavirus vaccination program in the country. Their results encourage continued medical education of HCPs, especially those from the government sector on human papillomavirus vaccination for cervical tumors prevention and public education.

In their study, Selvan P et al. (18) found that the majority of nurses had favorable attitudes toward the vaccine; however, fewer have been interested in administering the HPV vaccine in schools. They also discovered that educational resources for school nurses might raise awareness of the vaccine and promote linkages to care outside of school. They also found that MD of HCWs expressed willingness to suggest the HPV vaccine was 159.

Hoque ME et al. (15) stated that the majority (90.9 percent) of the nurses intended to suggest the vaccine to their cases, and almost all of the nurses disagreed that the vaccines must be given to girls prior to beginning of sexual activity. Additionally, less than half (44.3 percent) of the nurses stated that the best age for a universal immunization program would be fourteen years of age.

CONCLUSION

In primary healthcare settings, nurses' knowledge, practice, and attitudes toward the human papillomavirus vaccine play a crucial role in influencing vaccination rates. This study indicates that while many primary health nurses demonstrate a positive attitude toward recommending the human papillomavirus vaccine, significant variations in their knowledge and practices exist. Nurses with a solid understanding of the benefits and safety of the HPV vaccine are more likely to recommend it, highlighting the importance of education and training in enhancing their confidence and competence in vaccine promotion.

However, gaps in knowledge, as well as differing attitudes toward vaccination, were observed, which may impact their ability to consistently advocate for the vaccine. Therefore, targeted interventions are needed to improve education, address misconceptions, and standardize practices related to HPV vaccination. By fostering a more uniform understanding and approach among primary health nurses, we can strengthen the delivery of HPV vaccination services and contribute to higher vaccination rates, ultimately reducing the incidence of HPV-related cancers.

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