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Original Research Article

A study to evaluate the knowledge of women about the prevention of carcinoma cervix by vaccination

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ABSTRACT

Background: Cervical cancer, characterized by malignant growth in the cervix uteri, often manifests with vaginal bleeding and can progress silently until reaching an advanced stage. It ranks as the most common cancer among women in numerous developing nations. The study aimed to evaluate the knowledge of the women about the prevention of carcinoma cervix by vaccination.
Methods: This cross-sectional observational study was conducted at the outpatient department of obstetrics and gynecology, Dhaka medical college and hospital, Bangladesh from Jan 2020 to Dec 2021. In this study, 100 women attending the mentioned department, were interviewed with a view in mind to find out their knowledge level regarding the vaccination of cervical cancers. Data were analyzed by using MS office tools.
Results: The study revealed a direct correlation between education level and awareness of HPV, underscoring a significant lack of knowledge about cervical cancer vaccination. It emphasizes the urgent need to educate individuals about the vaccine's role in preventing cervical cancer. Education campaigns utilizing local media could effectively disseminate information.
Conclusions: The unavailability and cost of the vaccine pose barriers to its accessibility. Integrating the vaccine program into existing expanded program on immunization (EPI) initiatives could be transformative for community health.

Keywords: Knowledge, Women prevention, Carcinoma cervix, HPV, Vaccination, EPI

INTRODUCTION

Cancers, including cervical cancer, often stem from DNA mutations activating oncogenes or inactivating tumor suppressor genes, prompting abnormal cell division.[1] HPV is the primary risk factor for cervical cancer, spurring abnormal cell proliferation in cervical tissues.[2] Typically, cervical cancer arises from surface cervix cells, mainly affecting squamous cells and early detection of pre-cancerous lesions through Pap smear testing is highly effective and treatable.[3] If left untreated, pre-cancerous lesions can progress to cervical cancer and potentially metastasize to nearby organs like the uterus, ovaries, bladder, intestines, and liver. HPV, primarily transmitted through sexual activity, is the leading cause of almost all cervical cancers.[4] Countries prioritizing prevention efforts, such as developed nations, typically exhibit lower cervical cancer prevalence and mortality rates. Screening for cervical cancer is crucial for early detection of pre-cancerous lesions, aiming to mitigate mortality rates associated with the disease.[5] Every year, there are over 450,000 newly diagnosed cases of cervical cancer, resulting in more than a quarter of a million deaths, with over 80% occurring in developing regions like Africa, South Asia, and Central and South America. The available preventive measures, including Pap smear screening and HPV vaccination, have demonstrated effectiveness in reducing morbidity and mortality from cervical cancer but face challenges in implementation, particularly in resource-limited settings due to insufficient resources and

lack of awareness. This review aims to examine the role of HPV vaccination in cervical cancer prevention.[6] HPV vaccines, whether monovalent, quadrivalent, or multivalent, have shown promise, particularly in the short term, for preventing cervical cancer.[7] The introduction of the HPV vaccine marked a significant achievement, with short-term results showing a reduction in precancerous cervical lesions caused by HPV 16 and HPV 18 strains, particularly among individuals not previously infected with these strains. However, the full impact of the vaccine on cervical cancer rates may take at least a decade to observe. Among women aged 15 to 26 years who completed the vaccination regimen as per protocol, the vaccine demonstrated 100% efficacy in preventing HPV 16 or HPV 18-related CIN2/3 and adenocarcinoma *in situ* (AIS).[8-10] Among women aged 16 to 23 years who completed the vaccination regimen without protocol violations and had no evidence of infection with the respective HPV vaccine type, the vaccine demonstrated 100% efficacy in preventing HPV 6/11/16/18 related cervical lesions of any grade, with an average follow-up time of approximately 1.5 years.[11] However, there is a general lack of awareness among women about screening, prevention, and treatment options for cervical cancer, including vaccination. Disseminating relevant information about cervical cancer vaccination to the general population is crucial. Currently, there is a dearth of studies assessing the knowledge and awareness of cervical cancer vaccination among the general population. So, the objective of this study was to evaluate the knowledge of the women about the prevention of carcinoma cervix by vaccination.

METHODS

This was a cross-sectional observational study that was conducted at the Outpatient department of obstetrics and gynecology, Dhaka medical college and hospital, Bangladesh from Jan 2020 to Dec 2021. In this study, 100 women attending the mentioned department, were interviewed with a view in mind to find out their knowledge level regarding the vaccination of cervical cancers. Random sampling was the method of choice to select the sample from the outpatient department during the earlier-mentioned period of study. Expert opinions were sought from specialists in the department of gynecology and obstetrics and pathology at DMCH, Dhaka, Bangladesh. The study's inclusion criteria required participants to be physically and mentally fit for engaging in an interview, ensuring effective communication and research participation. Additionally, participants had to express willingness to engage in face-to-face interviews after providing informed written consent. The research focused on studying main outcome variables, including dichotomous and other variables. Dichotomous variables assessed cervical cancer and vaccination status, categorizing participants accordingly. Other variables explored participants' knowledge about the vaccine and its link to cervical cancer, crucial for understanding awareness and vaccination status. Demographic variables examined in the study included age, marital status, educational status, occupation, and socioeconomic status. Data were analyzed by the MS office tools.

RESULT

In this study, the dominant age group among the 100 sampled individuals was 20-30 years, with minimal representation below the age of 20 or above 50. The mean age of the total study population was 32.06 years. In our study, the majority of respondents received education up to the primary level (37%), followed by illiteracy (19%). Additionally, a substantial proportion (35%) completed secondary school education.

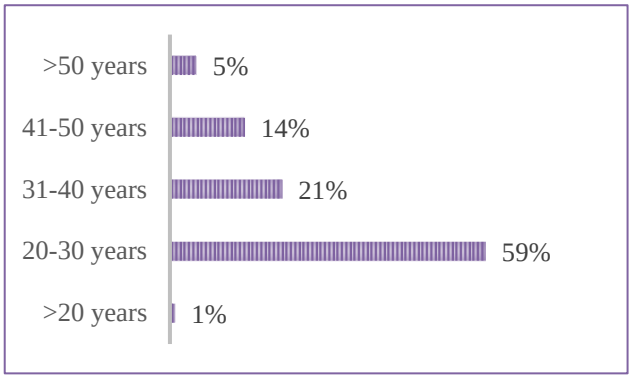

Table 1: Age distribution of participants.

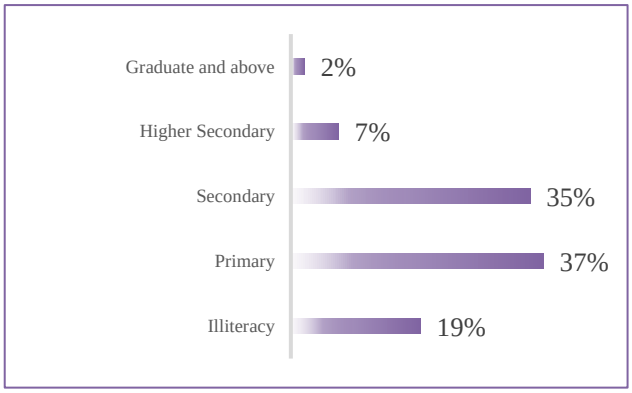

Figure 2: Educational status distribution.

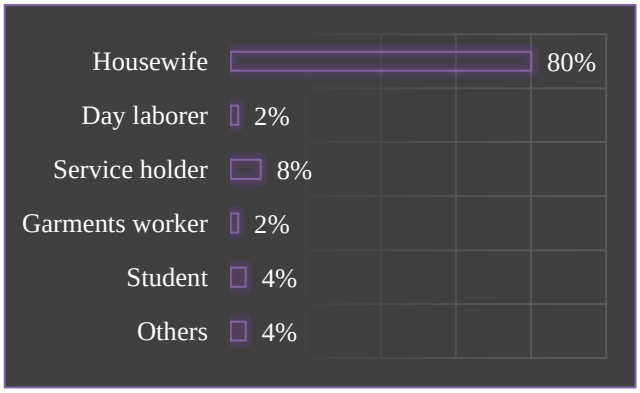

Figure 3: Occupational status distribution.

Among the hundred samples, the most common occupation found was a housewife (80%), reflecting the national scenario. Interestingly, some individuals were also employed as service holders (8%), beyond those in the garment industry (2%). Despite the challenges of gathering socio-economic information through a simple questionnaire, our findings revealed a dominance of representation from the poor and middle-class respondents, accounting for 91% collectively. The remaining 9% were from the affluent class. About 61% of women mentioned that they had heard of cervical cancer. We assessed respondents' knowledge by asking about the transmission route of cervical cancer. While 31% did not know about the issue, over half believed it was transmitted by HPV, and 42% mentioned sexual transmission. Some respondents provided multiple answers. Respondents were asked how they received information about cancer prevention and vaccines. Television emerged as the most popular medium, with 65% mentioning it, followed by radio at 25%. When assessing women's knowledge about vaccines, 61% indicated that they believed vaccines could prevent disease, while 29% stated they did not know about vaccines. The study revealed that the level of information about HPV is directly related to the level of education. The study also showed that knowledge about the vaccine and its role in preventing cervical cancer was directly correlated with the level of education. An intriguing discovery was made that 55% of respondents were aware of HPV and its link to cervical cancer, while 45% were not. Additionally, the majority of participants believed it to be sexually transmitted.

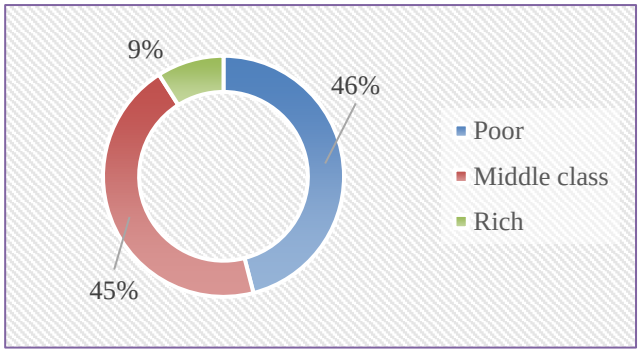

Figure 4: Socioeconomic status.

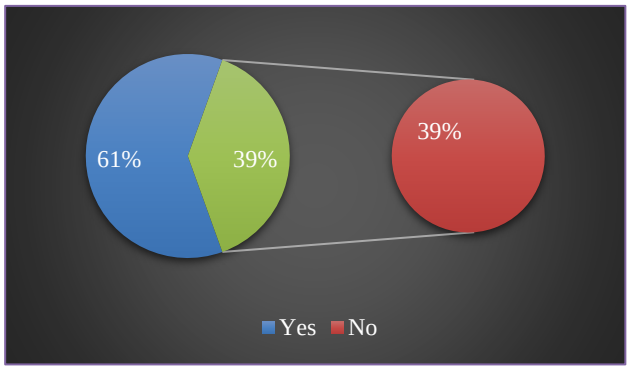

Figure 5: Heard about cervical cancers.

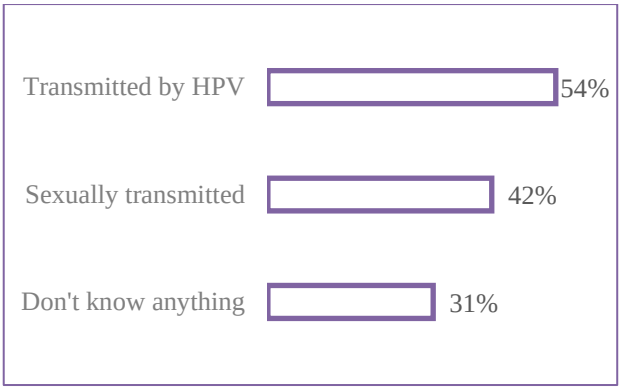

Figure 6: Knowledge about cervical cancer.

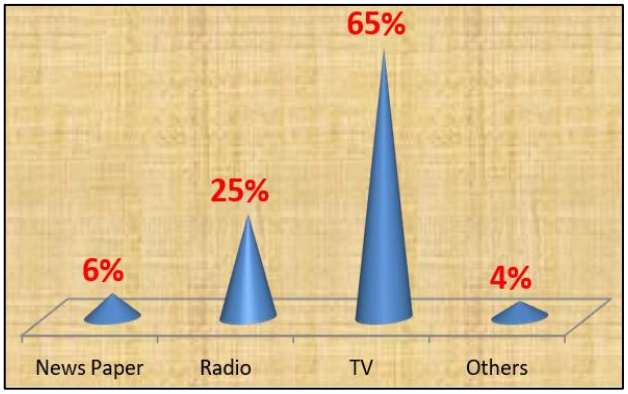

Figure 7: Media exposures.

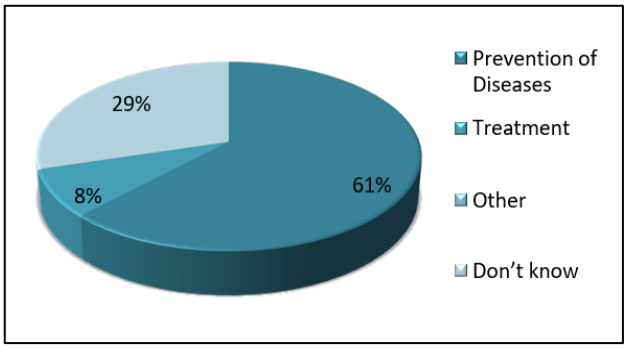

Figure 8: Knowledge about vaccine.

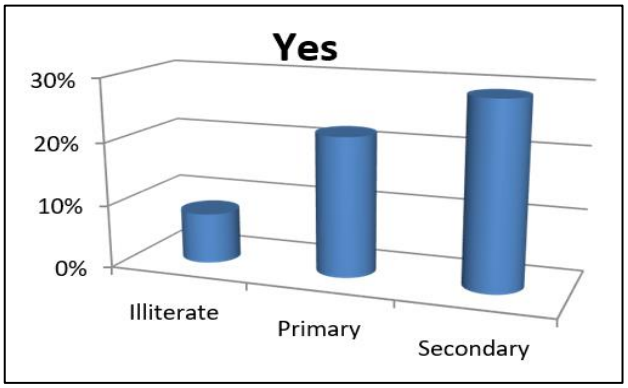

Figure 9: Education vs heard about HPV.

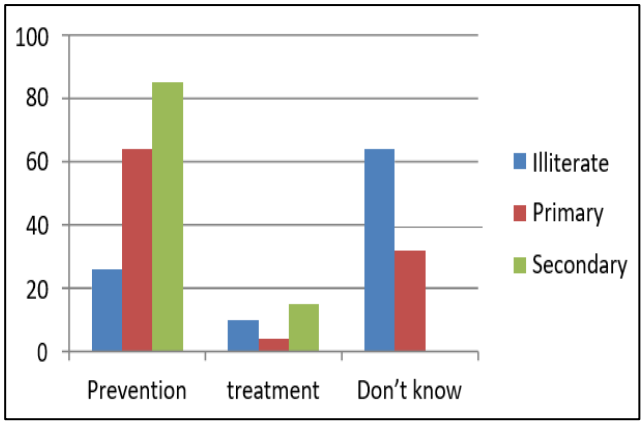

Figure 10: Knowledge about vaccine versus educational level.

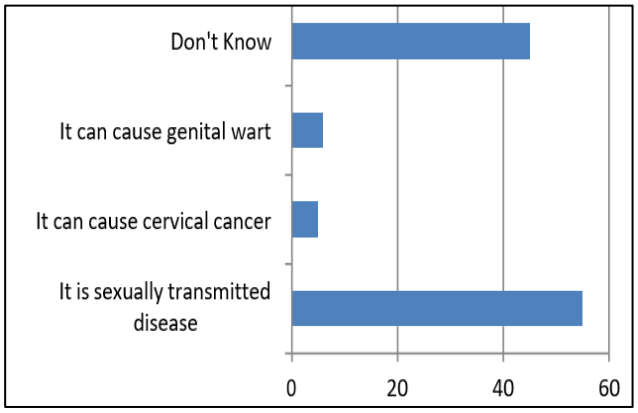

Figure 11: Knowledge of HPV and its association with cervical cancer.

DISCUSSION

In this study, only 61% of respondents were aware of cervical cancer. Among them, 54 individuals attributed its cause to HPV, while 31 did not know about it. Additionally, 42 respondents believed it to be a sexually transmitted disease. Television was the primary source of information for 65% of respondents, followed by radio at 25%. Newspapers played no significant role. Regarding vaccine knowledge, 61% believed it could prevent disease, while 29% did not know about it. Most participants in our study had completed education up to the primary level (37%), followed by those who were illiterate (19%). A significant portion (35%) had completed secondary school. The analysis revealed that knowledge about HPV and its association with cervical cancer prevention is directly proportional to the level of education. Similarly, understanding of the vaccine and its role in preventing cervical carcinoma also increased with education level. Several studies have reported that knowledge of HPV was low in developing countries compared with some developed countries.[12-14] The observed gap may be attributed to efforts aimed at educating the population about HPV and vaccination. Our findings align with existing literature on HPV knowledge, indicating that approximately 66% of individuals had heard of HPV, yet none had received the vaccine. In contrast, a study in Australia, benefiting from a school-based national HPV vaccination and information program, reported that the majority (88.9%) of women were aware of HPV.[16] Our study underscores the significance of popular media channels like TV and radio in disseminating knowledge about cervical cancer and HPV, echoing findings from similar low-resource settings.[17] Our study didn't evaluate the content or accuracy of these messages, highlighting a potential avenue for future research. Existing studies on message framing of the HPV vaccine have primarily centered on the USA, underscoring the importance of exploring cultural preferences in diverse contexts.[18,19] Our findings regarding perceived barriers to vaccination echo similar concerns raised in other studies, particularly highlighting financial barriers as a significant obstacle.[20,21] Despite expectations for free vaccination, addressing the financial burden associated with access remains crucial, suggesting the need for policy-level interventions to enhance accessibility, especially for individuals outside the typical age range seeking vaccination.[22] Future research could delve into conducting in-depth interviews or focus groups to explore men's attitudes toward the HPV vaccine and assess general attitudes toward vaccinating boys. Additionally, it would be valuable to revisit attitudes and barriers post-educational and social mobilization campaigns in these areas and examine the framing and effectiveness of vaccine messages.

Limitation

The study's limitations include its cross-sectional descriptive nature, short study period, single-center design, and small sample size. These factors constrain its ability to represent the entirety of the country, emphasizing the need for careful interpretation of the findings within this context.

CONCLUSION

Our research underscores the widespread lack of awareness surrounding cervical cancer vaccination, emphasizing the urgent need for public education on its significance in preventing the disease. Higher education levels correlate with a better understanding of vaccination. Utilizing local media for educational campaigns could effectively disseminate information. However, barriers such as unavailability and cost hinder access. Integrating the vaccine into existing immunization programs, like the EPI, could significantly impact communities. There's a pressing need for enhanced education through school curricula and various media platforms, alongside incorporating the HPV vaccine into national immunization initiatives.

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Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethics Committee

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