

Original Article

Knowledge and Acceptance of HPV Vaccination among Women Attending at Out Patient

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Abstract

Vaccination is a part of primary prevention to prevent cervical cancer. The causative agent of cervical cancer is Human Papilloma Virus (HPV). The purpose of this study was to assess the knowledge and awareness regarding cervical cancer prevention by HPV vaccination and acceptance of vaccination among women attending at outpatient department of Dhaka Medical College Hospital. A qualitative study was undertaken using face to face in depth interviews from July 2015 to December 2015. A total of 229 women were included and their mean age was 34.07±7.92 ranging from 18 to 60 years. Awareness and knowledge about cervical cancer was very poor. Only 22.7% participants were aware of HPV vaccination. Knowledge was high among women coming from high socioeconomic condition which was 31.5% (p=0.03). Participants who were highly educated had more knowledge on vaccination about 66.7% (p=0.001). There was a high acceptance (83.8%) of HPV vaccination among participants. The findings focus on the importance of awareness development on cervical cancer and its risk factors. Continuous screening of cervical cancer for early diagnosis and prompt treatment and

publicity of awareness development program by mass-media (television, cable line add etc.), poster, billboard and most importantly through health education could play an important role in cervical cancer prevention.

Key Words: Human Papilloma Virus, vaccination, primary prevention, cervical cancer

INTRODUCTION:

Among the total global cervical cancer 80% occur in developing country.1 Globally– 527 624 new cases - half the global burden is in Asia ,one quarter in Southern Asia.2 In Bangladesh yearly burden of cervical cancer is about 17686 and around 10364 women die from cervical cancer each year. 3 Hospital based data revealed that cervical cancer constitutes 22 -29% of female cancer in Bangladesh.4 Interestingly, the disease is excellently preventable. Cancer prevention is action taken to lower the chance of getting cancer. By preventing cancer, the number of new cases of cancer in a group or population is lowered. Hopefully, this will lower the number of deaths caused by cancer. To prevent new cancers from starting, scientists look at risk factors and protective factors. Anything that increases the chance of developing cancer is called a cancer risk factor; anything that decreases the chance of developing cancer is called a cancer protective factor.

Avoiding risk factors and increasing protective factors may help prevent cancer .Risk factors for cervical cancer are the human papilloma virus infection(HPV) (a common sexually transmitted virus), having sex at an early age, multiple sexual partners, Smoking or using tobacco, using birth control pills for a long time ,weakened immune system- such as those who have human immunodeficiency virus (HIV) infection , been exposed to diethylstilbestrol (DES) before birth. The protective factors that decrease the risk of cervical cancer is HPV vaccination. So vaccination is a part of primary prevention to prevent cervical cancer.

Cervical cancer is almost always caused by human papilloma virus (HPV) infection that spreads through sexual contact.5 There are more than 150 types of human papilloma virus that infect cervix, vagina, vulva, anus and about 30 of these can infect the cervix. Human Papilloma Virus (HPV) type 16 and 18 contributes to over 70% of all cervical cancer cases.6-8

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Bangladesh is a developing country with limited resources. The Government of Bangladesh (GOB) has developed wide cervical cancer screening program through Visual Inspection of Cervix with Acetic Acid (VIA).⁹

The services for cervical and breast cancer screening are currently available as opportunistic screening at 252 facilities including Bangabandhu Sheikh Mujib Medical University (BSMMU), Medical College Hospitals, District Hospitals, Maternal and Child Welfare Centers, Upozilla Health Complexes (UHC), Union Health & Family Welfare Centers (UH&FWC), Urban Primary Health Care centers and Non-Government Organizations (NGO). The trained Family Welfare Visitors (FWVs), Senior Staff Nurses (SSNs) and Doctors offer VIA to detect the pre-cancer or early stages of cervical cancer among women 30 years and above visiting the mentioned centers.¹⁰ VIA positive women are referred to BSMMU and various government MCHs for colposcopic evaluation and necessary management. This service is technically and financially supported by GOB, BSMMU and UNFPA.^{10,11}

However, only three lac women have received screening services during the last five years.¹² During evaluation of the 'Cervical Cancer Screening Program of Bangladesh' low coverage of the target population was observed. Lack of awareness about cervical cancer and its prevention, low availability of services may be underlying factors for this low intake of services. In fact, several studies have mentioned that the uptake of screening in developing countries is poor.¹³ Lack of awareness of cervical cancer has been identified as one of the factors contributing to the high prevalence of this condition in the developing world compared to the developed one.¹⁴ Unlike developed countries, cervical cancer prevention program have failed to meet their objectives in developing countries due to financial, social and logistical problems.¹⁵

Vaccination against the human papilloma virus in women before sexual activity also prevents cervical cancer.¹⁶⁻¹⁹ Vaccines are available that can protect against certain HPV infections. HPV vaccines that have been developed are based on recombinant expression and self assembly of the major capsid protein-1 into virus like practical (VPLs) that resemble the outer capsid of whole virus. The HPV VPLs contain no DNA and are not live attenuated virus. Three vaccines are approved by the FDA to prevent HPV infection: Gardasil, Gardasil 9, and Cervarix. All three vaccines prevent infections with HPV types 16 and 18, two high risk HPV types that cause about 70% of cervical cancers and an even higher percentage of some of the other HPV-associated cancers. Gardasil also prevents infection with HPV types 6 and 11, which cause 90% of genital warts. Gardasil 9 prevents infection with the same four HPV types plus five

additional high-risk HPV types (31, 33, 45, 52, and 58).^{20,21}

To decrease the country wise and global burden of the disease, the community perception regarding disease process, progression, screening and prevention by vaccination have to be assessed first. So this study was designed to find out the knowledge regarding prevention of cervical cancer by HPV vaccination and its acceptance among women attending OPD of a tertiary hospital.

METHODS AND MATERIALS:

The present study was conducted among the outdoor patients of Obstetrics & Gynecology department of Dhaka Medical College Hospital (DMCH), Dhaka from July 2015 to December, 2015. The study period was only 6 months. It was a cross sectional, prospective, observational and single centered study. The aim of the study is to assess the level of awareness among the women attending the OPD of Dhaka Medical College Hospital regarding cervical cancer prevention by vaccination.

The sample was collected from the women attending OPD of DMCH by random sampling. The sampling was done to select the patient according to the eligibility criteria. Women of reproductive age group who give consent were enrolled in this study. Then the respondents were explained about the study procedure and assurances were given that no benefit or harm would be occurred for being included in this study from their perspective. Sample unit was selected from the study population and data were collected from the selected patient by preformed structured questionnaire, the questionnaire included how HPV could be caught and what it might cause, what they knew about cervical cancer, what they knew about vaccination and acceptance of HPV vaccination. With the demographic details orientation of risk factors, female preponderance cancer, knowledge about cervical carcinoma, vaccination and other prevention procedure as well as source of information's were observed and recorded.

A consent form was prepared. Questionnaire was filled with informed written consent. Expert opinions were taken from specialists of the Department of Gynae & Obstetrics, pathology, virology department of DMCH, Dhaka. All the data were gathered, accumulated, edited, reduced and decorated. All data were checked and edited after collection. Frequency distribution and normal distribution of all continuous variables were calculated and Chart was prepared by spreadsheet of Windows 7. Data were entered into computer and analyzed with the help of SPSS windows version 17. 'P' values <0.05 was considered as statistically significant.

RESULT:

Table- I: Distribution of Patients by clinical characteristics (n=229)

Characteristics	Frequency	Percent
Age in years		
Below 30 years	65	28.4
30-39	94	41.0
Above 40 years	70	30.6
Mean±SD	34.07±7.92	
Para		
1	5	10.9
2	25	54.3
3	9	19.6
4	7	15.2
Mean ±SD	2.36±0.85	
Age of marriage		
<13 years	65	28.8
14 -18 years	94	55.9
>18 years	70	15.3
Mean ±SD	16.12±2.83	
Education		
Illiterate	23	10
primary	118	51.5
secondary	76	33.2
Above secondary	12	5.2
Monthly income (Taka)		
<10,000	156	68.12
>10,000	73	31.88

Figure-1 shows the psychiatric services provided in the department, 56.32% were neurological, 33.46% were musculoskeletal and 7.25% patients were rheumatologic condition.

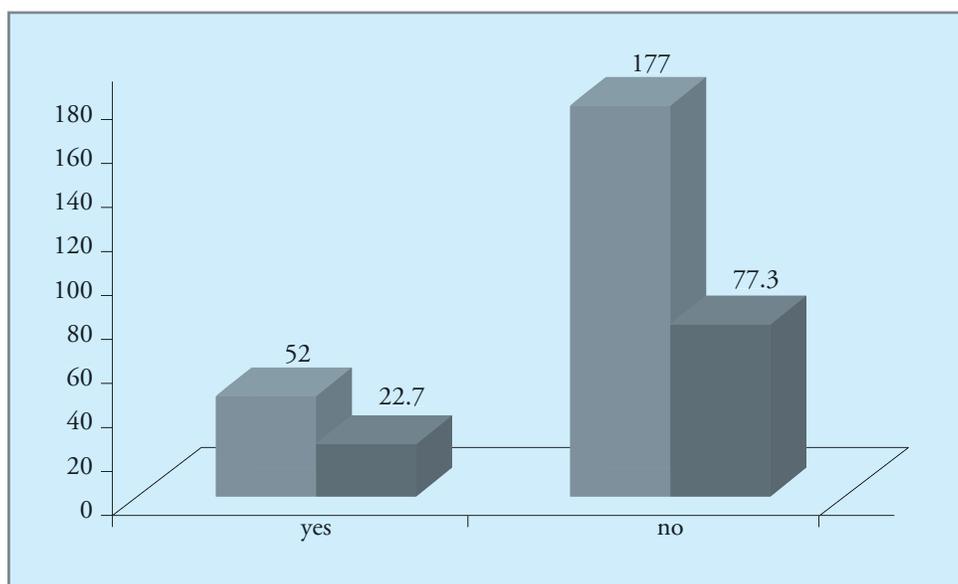


Figure I : knowledge about vaccination (n=229)

Table II: Distribution by the knowledge about cervical cancer and vaccination (n=229)

Questions		no	%
	Had ever heard about HPV	52	22.7
asked to explain how HPV might be caught and what it may cause	Knowledge about how HPV may be caught and what it may cause	40	17.45
	HPV is a sexually transmitted disease	50	21.83
	HPV can cause cervical cancer	22	9.6
	HPV can cause genital warts	2	0.87
	Did not know	170	77.3
asked to explain what they knew about cervical cancer	Knowledge about cervical cancer	58	25.3
	Did not know	171	74.7
asked about vaccines	Knowledge about vaccines	52	22.7
	Did not know	170	77.3
	Acceptance of vaccination against HPV	192	83.8

Table- II shows distribution by the knowledge about cervical cancer and vaccination where 84% respondents accepted usefulness of HPV vaccination and wanted to take it.

Table III: Relationship between age of the respondents and knowledge on vaccine (n=229)

Age	Knowledge on vaccine		X ²	P
	Yes	No		
Below 30 years	13 20.0%	52 80.0%	3.071	0.215
30-39	18 19.1%	76 80.9%		
Above 40	21 30.0%	49 70.0%		
Total	52	177		

Table III shows women aged more than 40 years have more knowledge which is about 30 %.

Table IV: Relationship between education & income of the respondents with knowledge on vaccine (n=229)

	Knowledge on vaccine		X ²	P
	Yes	No		
Education			3.071	0.215
Illiterate	2 8.7%	21 91.3%		
Up to primary	18 15.3%	100 84.7%		
Above primary	28 36.8%	48 63.2%		
Above secondary	10 83.3%	2 16.7%		
Total	58	171		
Monthly income(Taka)				
<10,000	29 18.6	127 81.4		
>10,000	23 31.5	50 68.5		

Table IV shows relationship between education & income of the respondents with knowledge on vaccine, educated respondents who completed above secondary education about 83.3% had more knowledge about vaccine.

DISCUSSION:

Only 25.3% and 22.7% of our respondents had some knowledge about cervical cancer and vaccination respectively. Both these figures are very poor. Surveys conducted previously and before the regulatory approval of HPV vaccines also showed a low level of awareness of HPV (30-40%)²²⁻²⁵. The results of the present study are in line with other recent studies, carried out after regulatory approval of HPV vaccination, that showed limited levels of awareness of HPV. In the United Kingdom and Italy (where HPV vaccine is free of charge for girls of 12 years of age), only about 24% and 30% of respondents, respectively, reported awareness of HPV^{26,27}. We also studied the relationship between HPV awareness and several factors. In this study awareness increased with increase age and education (Table III & IV). Women from high income group have more knowledge about 31.5%. According to some authors report increasing age (women 14-24 years) and having had a personal, familiar, or friendly history of previous STI or cervical cancer were associated with an increased awareness of HPV and accurate knowledge of the HPV-cervical cancer link^{24,25,27}. In a study only 19% and 7% of the participants, respectively, knew that HPV is an STI and that it can cause cervical cancer.²⁸ Another study, carried out in north-eastern Brazil, assessing young women (16-23 years) showed similar results to the that study: less than 10% of participants acknowledged that HPV might lead to cervical cancer; however, a higher proportion of those women (67%) knew that HPV is sexually transmitted.²⁹ This difference might be explained by the fact that these women had higher educational levels than women in that study (61% and 50% respectively had high school education or above).

Regarding acceptability of the vaccine, despite the inadequate knowledge of HPV and cervical cancer, 83.8% participants reported that they would accept vaccination if the HPV vaccine was available. As other studies have reported, there was a generally favorable attitude toward HPV vaccines; despite the low level of knowledge about the link between HPV and cervical cancer, 91% and 88% of women would agree to receive the vaccine in surveys that found that only 15%³⁰ and 38%³¹, respectively, had heard of HPV.

It was in 2006 that HPV vaccines were licensed in the USA for use in females 9 to 26 years of age with the aim of preventing cervical cancer, precancerous lesion and genital warts by HPV 16 & 18.³² It was indeed an important milestone. The studies demonstrate 100% efficacy in the prevention of persistent specific type HPV infections and CIN 2/3, with follow up data available for up to 4 to 5 years among subjects who were strictly adherent to the study protocol. Gardasil also protect against HPV 6, 11, 16 & 18 related external genital lesion .

Among women aged 15 to 26 years who completed the vaccination regimen, did not violate the protocol and had no virological evidence of infection with respective HPV type at study entry through 1 month after the third dose (vaccine-5301 versus placebo-5258) vaccine efficacy was 100%(97.96% confidence interval[CI], 76% to100%) for preventing HPV 16 OR 18 related CIN 2/3 and adenocarcinoma in situ. Fifteen of the placebo cases had CIN 3.³³⁻³⁶

These vaccines only work to prevent HPV infection, not treat the infection that already there.^{37,38} That is why to be most effective, vaccines should be given before a person exposed to HPV (through sexual activity).

It is important to realize that no vaccine provides complete protection against all cancer causing types HPV, so routine cervical cancer screening is still necessary. In spite of having preventive measures (screening and vaccination) that can reduce morbidity and mortality from cervical cancer it is difficult to implement, especially in developing countries due to lack of knowledge and partly due to lack of resources. As like success of EPI vaccination program we have to be successful to prevent cervical cancer through HPV vaccination of 9 to 13 aged girls. This study highlights the importance of awareness creation about cervical cancer and its risk factors, screening and importance of vaccination through television, cable line advertisement, poster, billboard and most importantly through health education to prevent cervical cancer.

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