

ORIGINAL ARTICLE

Awareness of human papillomavirus and its vaccine among patients attending Maternity and Children Hospital (MCH) in Hail, Saudi Arabia

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ABSTRACT

This study was an exploratory, cross-sectional study to assess knowledge, attitudes, and practices regarding human papillomavirus (HPV) and vaccination among women attending the Maternal and Child Hospital (MCH) in Hail, Saudi Arabia. A self-administered questionnaire containing multiple-choice questions was designed. 364 patients participated in this study. 38.2% were between the ages of 18 and 25 and almost all (96.2%) were Saudi. More than half (51.9%) were single and 76.6% had a bachelor's degree. Housewives accounted for 54.4%. The majority of patients (69.5%) were aware that HPV can be transmitted through sexual contact. However, only 32.7% of respondents agreed that HPV can infect both men and women. Almost all (83.2%) knew that Pap smears could detect HPV, but 54.7% believed smoking was a risk factor for HPV infection. Only 6% of patients had received the HPV vaccine. 66.1% would like to receive it in the future if possible. Patients attending Hail Maternity and Children's Hospital (MCH) had average knowledge of HPV vaccination to prevent cervical cancer. Most of them had little knowledge about Pap smears and did not consider regular Pap smears to be an important tool for early detection of cervical cancer. Health education should continue to improve knowledge and attitudes about HPV infection and cervical cancer prevention among young people in the Hail region.

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INTRODUCTION

Worldwide, cervical cancer is the second most prevalent malignancy among women, especially in underdeveloped nations where screening opportunities are limited. (1) The incidence rate for CC in Saudi Arabia is 1.9 incidences per 100,000 women, according to the Saudi Ministry of Health (MOH). (2) To prevent cervical cancer and other diseases caused by HPV, the World Health Organization (WHO) suggested adopting HPV vaccination. The greatest way to avoid cervical cancer and its significant effects on future public health is to vaccinate young women before they are exposed to HPV. (3) Cervical cancer can be controlled or even wiped out with the two-pronged approach of prevention and therapy, making it the first cancer that can be prevented by vaccine. (3) The WHO advises that girls and boys between the ages of 9 and 14 take two doses of the HPV vaccine prior to their first sexual experience, Girls and women between the ages of 13 and 26 should also receive catch-up vaccinations. (1) Considering the benefit and effectiveness of the HPV vaccinations and the curability of cervical cancer, the majority of our women present with late stages that call for intensive therapy approaches, decreasing survival rates. (1) Unfortunately, prior regional assessments have revealed that the majority of Saudi females are unaware that the HPV vaccine is available. (2) Only 32.2% of Saudi Arabian women were aware of HPV, according to an observational study conducted at three hospitals, yet 90% of them expressed interest in getting the vaccine. (1) For this reason, raising HPV awareness and promoting vaccination among the Saudi population is a national priority.

The purpose of this study was to gather information from patients at the Maternity and Children Hospital (MCH) in Hail, Saudi Arabia, and assess public knowledge about cervical cancer (CC), its risk factors, such as HPV infection, and methods of prevention (HPV vaccine).

MATERIAL AND METHODS

Study design and sample

This study was cross-sectional and exploratory in nature to evaluate the knowledge, attitudes, and practices of women visiting Maternity and Children Hospital (MCH) in Hail about human papillomavirus (HPV) and its vaccination. Findings from this study will determine the community level of the knowledge, attitude and awareness towards papillomavirus (HPV) and its vaccination, thus it will help in establishment of educational activities to improve the level of awareness. (2/01/2023) approved the study protocol (reference number: H-2023-009), and the study was conducted in conformity with the Helsinki Declaration. The questionnaire was created in Google Forms and made available online by public link, Distribute the link to all women in the Maternity Hospital, patients and all women working in the hospital were asked to complete the questionnaire. Participants were encouraged to distribute the survey link to their networks using social media or instant messaging services within the same time frame. The survey was voluntary, and all responses were kept confidential. At the start of the questionnaire, the study's goals and rationale for data collection were stated explicitly. Participants' consent was also recorded online before any responses were provided. The survey was distributed on April 26, 2023. The intended sample size was determined after a month of data collection.

Data collection and analysis

A self-administered questionnaire was designed with multiple-choice format questions. The questionnaire included three sections. The first comprised demographic information about the participants: age, Nationality, Marital status, level of education, occupation. The second section included the Assessment of awareness of HPV and its vaccine. The third section included Assessment of attitude toward HPV vaccine and cervical cancer screening. Finally, we compared the differences in the score of awareness in relation to the Socio-demographic characteristics of the patients. Data were entered and analyzed using the Statistical Package for Social Sciences (SPSS), version 23.0 (IBM Corp., Armonk, NY).

RESULTS

Table 1: Socio-demographic characteristics of the patients (n=364)

Study Data	N (%)
Age group	
• 18 – 25 years	139 (38.2%)
• 26 – 30 years	97 (26.6%)
• 31 – 40 years	60 (16.5%)
• 41 – 50 years	56 (15.4%)
• >50 years	12 (03.3%)
Nationality	
• Saudi	350 (96.2%)
• Non-Saudi	14 (03.8%)
Marital status	
• Single	189 (51.9%)
• Married	161 (44.2%)
• Divorced	10 (02.7%)
• Widowed	04 (01.1%)
Educational level	
• Elementary school	03 (0.80%)
• Middle school	04 (01.1%)
• High school	74 (20.3%)
• Bachelor's degree	279 (76.6%)
• Postgraduate	04 (01.1%)
Occupational status	
• Employed in healthcare sector	57 (15.7%)
• Employed in non-healthcare sector	109 (29.9%)
• Housewife	198 (54.4%)

This survey enrolled 364 female patients. Table 1 presents the socio-demographic characteristics of the patients. 38.2% were aged between 18 to 25 years old, with nearly all being Saudis (96.2%). More than

half (51.9%) were single, and 76.6% were bachelor's degree holders. Additionally, 54.4% were housewives.

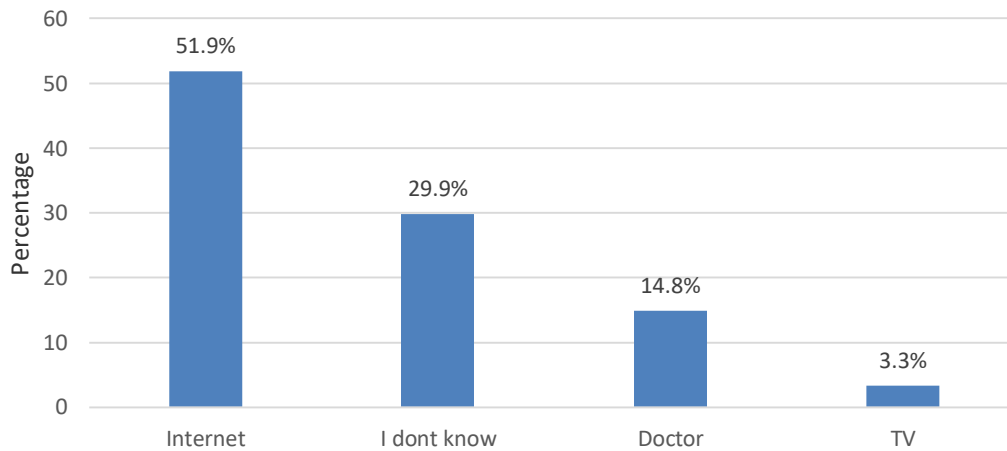


Figure 1: Source of HPV information

In Figure 1, the most common source of HPV information was the Internet (51.9%) and the doctor (14.8%).

Table 2: Assessment of awareness of HPV and its vaccine (n=364)

Statement	N (%)
1. HPV can be transmitted via sexual intimacy	
• Yes *	253 (69.5%)
• No	111 (30.5%)
2. Who can get infected with human papillomavirus?	
• Females	244 (67.0%)
• Males	01 (0.30%)
• Both *	119 (32.7%)
3. HPV can be detected by Pap smear?	
• Yes *	303 (83.2%)
• No	61 (16.8%)
4. Smoking can increase the risk of HPV infection	
• Yes *	199 (54.7%)
• No	165 (45.3%)
5. Is there a vaccine against HPV?	
• Yes *	330 (90.7%)
• No	34 (9.3%)
6. When can I get vaccinated against HPV?	
• 9 years and above *	66 (18.1%)
• 12 years and above	131 (36.0%)
• 18 years and above	167 (45.9%)
7. HPV can cause cervical cancer	
• Yes *	313 (86.0%)
• No	51 (14.0%)
8. HPV vaccination can protect against cervical cancer	
• Yes *	294 (80.8%)
• No	70 (19.2%)
9. Can cervical cancer be cured when detected early?	
• Yes *	342 (94.0%)
• No	22 (6.0%)
Total awareness score (mean ± SD)	6.37 ± 1.46
Level of awareness	
• Poor	40 (11.0%)
• Moderate	251 (69.0%)
• Good	73 (20.0%)

* Indicates correct answer.

Table 2 shows that the majority of the patients (69.5%) were aware that HPV can be transmitted through sexual contact. However, only 32.7% were correct that HPV can infect both males and females. Nearly all (83.2%) knew that a Pap smear could detect HPV, while 54.7% believed that smoking is a risk factor for HPV infection. Most of the patients (90.7%) believed that there is an available vaccine for HPV, whereas only 18.1% had the knowledge that vaccination against HPV is started at 9 years or older. A great proportion of the patients (86%) were aware that HPV could lead to cervical cancer, and 80.8% were confident that HPV vaccination is protection against cervical cancer. In addition, most of the patients (94%) agreed that cervical cancer can be cured if detected early. Based on the above statement, the overall mean awareness score was 6.37 (SD 1.46), with poor, moderate, and good awareness levels found in 11%, 69%, and 20%, respectively (see also Figure 2).

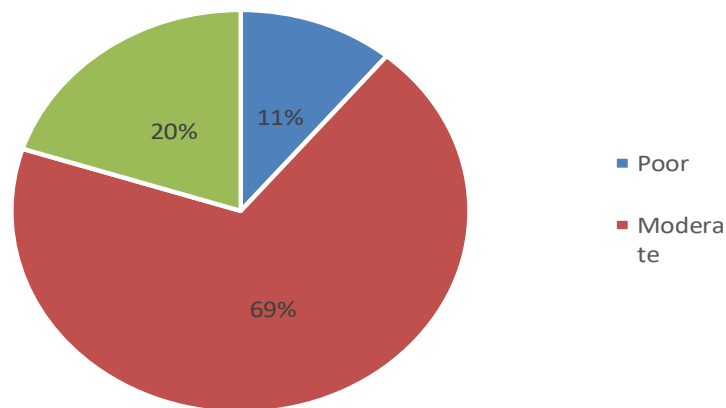


Figure 2: Level of awareness toward HPV and its vaccine

Table 3: Assessment of attitude toward HPV vaccine and cervical cancer screening (n=364)

Statement	N (%)
1. Did you receive the HPV vaccine?	
• Yes	22 (06.0%)
• No	342 (94.0%)
2. If "no", would you get the vaccine if it was available? (n=342)	
• Yes	226 (66.1%)
• No	116 (33.9%)
3. Would you have your daughter HPV-vaccinated?	
• Yes	249 (68.4%)
• No	115 (31.6%)
4. Do you have information about cervical cancer?	
• Yes	171 (47.0%)
• No	193 (53.0%)
5. Do you undergo Pap smears?	
• Yes	45 (12.4%)
• No	319 (87.6%)

In Table 3, 6 only % of the patients had ever received the HPV vaccine. Among those who did not receive (n=342), 66.1% would like to receive it in the future if available. Approximately 68.4% would agree to let their daughter be vaccinated for HPV. 47% received information about cervical cancer, while 12.4% underwent a pap smear test.

Table 4: Differences in the score of awareness in relation to the Socio-demographic characteristics of the patients (n=364)

Factor	Awareness Score (9) Mean ± SD	Z-test	P-value §
Age group			
• ≤30 years	6.49 ± 1.40	1.900	0.037 **
• >30 years	6.16 ± 1.55		
Marital status			
• Never been married	6.52 ± 1.41	1.1687	0.092
• Been married	6.22 ± 1.51		
Educational level			
• High school or below	5.91 ± 1.87	2.133	0.033 **
• Bachelor or higher	6.51 ± 1.30		
Occupational status			
• Employed	6.49 ± 1.30	1.401	0.161
• Unemployed	6.27 ± 1.58		
Did you receive the HPV vaccine?			
• Yes	6.23 ± 1.48	0.524	0.600
• No	6.38 ± 1.46		
Would you have your daughter HPV-vaccinated?			
• Yes	6.58 ± 1.31	3.450	0.001 **
• No	5.93 ± 1.67		
Do you have information about cervical cancer?			
• Yes	6.61 ± 1.26	3.067	0.002 **
• No	6.16 ± 1.59		
Do you undergo Pap smears?			
• Yes	6.42 ± 1.23	0.115	0.908
• No	6.37 ± 1.49		

§ P-value has been calculated using Mann Whitney Z-test.

** Significant at p<0.05 level.

When measuring the differences in the score of awareness in relation to the socio-demographic characteristics of the patients (Table 4), it was found that a higher awareness score was more associated with being younger in age (Z=1.900; p=0.037), being more educated (Z=2.133; p=0.033), allowing their daughter to have HPV vaccination (Z=3.450; p=0.001) and having adequate information about cervical cancer (Z=3.067; p=0.002). However, there were no significant differences in the score of knowledge regarding marital status, occupational status, receiving HPV vaccine, and undergoing Pap smear screening test (p>0.05).

DISCUSSION

The purpose of this study is to analyze patients' awareness, knowledge, and views concerning HPV infection, cervical cancer, and HPV vaccine, as well as the acceptability of HPV vaccination, at Maternity and Children Hospital in Hail, Saudi Arabia. The study's findings will determine the community level of knowledge, attitude, and awareness among participants about HPV and its vaccine, which will serve to raise the level of awareness to aid in timely recognition and management to prevent its sequels. Our study is one of a small number that examined Saudi women's perceptions about HPV and HPV vaccination. With 90.7% of the participants knowing about the HPV vaccine, our survey showed that our revealed had a wealth of knowledge about HPV infection and vaccination. This finding differed from those of earlier research (4,5) from various regions of Saudi Arabia that revealed unfavorable outcomes. Only a small percentage (6%) of the study's female participants had received the HPV vaccine, despite the fact that 66.1% of them had a positive opinion toward it. These results less those of other researcher. (6) (38.2%) of participants in this study were between the ages of 18 and 25. Participants in another local study(29.8%) were aged between 25 and 34 years (2). When compared, the majority of participants in our study (51.9%) were single, while the majority of participants in the local study (52.5%) were married (2).Most participants (76.6%) hold a bachelor's degree. On the other hand, research conducted in India revealed that (51%) only possessed a high school degree or less (8). (54.4%) of our participants are unemployed, which is the majority. In another survey, Bahrain had a (53.3%) unemployment rate (6). This study showed that the majority of the patients (69.5%) were aware that HPV can be transmitted

through sexual contact which is very high in compare with a previous local study which showed that 78.9% of females did not know that HPV is transmitted sexually (2). In the other hand, only 32.7% were correct that HPV can infect both males and females which indicate moderate awareness level about HPV. Moreover, the Pap smear was not popular among our study participants, as it shows only 12.4% who underwent a pap smear test which is in contrast of women in the United States and Europe as they had much better regular testing (7). Attitude and acceptance levels were significantly low obviously among females and with low education levels. The findings of the current study are consistent with two studies conducted in Saudi Arabia. The first study conducted in the capital of Saudi Arabia, Riyadh, reported a significant low attitude and acceptance level which was the lowest rate among other studies [1]. The second one in Jazan showed similar findings regarding attitude and acceptance level with our study [9]. 68.4% of women had a positive attitude toward vaccinating their daughters compare with a previous local study which showed that 29.1% of women had a positive attitude toward vaccinating their daughters [1].

CONCLUSION

In conclusion, knowledge of HPV vaccination for cervical cancer prevention was average among patients attending Maternity and Children Hospital (MCH) in Hail. The majority of them had poor knowledge about Pap smear and did not think regular Pap smear as an important cervical cancer screening tool. Health education should be continued to improve the knowledge and attitude about HPV infection and cervical cancer prevention among young adults in Hail community.

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