RESEARCH ARTICLE

Knowledge, Attitude and Practice of School Nurses in the United Arab Emirates about HPV Infection and Vaccine

Osman Ortashi[1]*, Musa Shallal[2], Nawal Osman[3], Hina Raheel[3]

Abstract

Background: In 2008, the Health Authority in Abu Dhabi (the capital of the United Arab Emirates) introduced HPV vaccine free of charge for high school girls entering grade 11, becoming the first state in the Middle East to do so. The objectives of this study were to assess the knowledge, attitude and practice of school nurses in the Emirate of Abu Dhabi about HPV infection and the vaccine. Materials and Methods: A quantitative study was designed and conducted from June to August 2012 in Emirate of Abu Dhabi. Data were collected through direct face to face interviews. from one hundred and twenty five nurses. Results: Knowledge of HPV infection and HPV vaccine was almost universal among the school nurses (97%). The majority of the participants (71%) thought that the HPV vaccine was good. Cultural unacceptability (45%) and lack of women's concern about their own health (21%) were rated as the top barriers for the successful introduction of the vaccine in the UAE. More than half of the sampled nurses (58%) have either given this vaccine to school girls or taken it themselves. The majority (95%) did not come across any side effects from the vaccine. The level of qualification and the place of work did not significantly affect the correct knowledge of HPV infection or cervical cancer prevention methods. Conclusions: The knowledge and attitude of the sampled school nurses in Abu Dhabi State about HPV infection and vaccine is very good in both the public and private sectors. However, a knowledge gap in cervical cancer screening methods was identified.

Keywords: HPV vaccine - cervical cancer - school nurses - United Arab Emirates, Abu Dhabi

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Introduction

Cervical cancer is the second commonest cancer in females worldwide. It is also the leading cause of death among middle-aged women. There are approximately 500,000 new cases of cervical cancer and 275,000 related deaths worldwide annually (IACR, 2008). In the United Arab Emirates (UAE), cervical cancer is the second commonest cancer in females. The Ministry of Health reported around 50-55 cases annually in the UAE with an incidence of 7 per 100,000 women; half of these cases occurring in relatively young women aged 35-55 years (HAAD, 2012). Similar incidence and trend was found on other studies from the gulf region (Nooyi et al., 2006).

Human Papilloma Virus (HPV) is a necessary cause for all cases of cervical cancer; it is the commonest sexually transmitted infection in the world (Schiffman and Castle, 2003) with 12% of females being infected at any time worldwide (Kjaer et al., 2008). The prevalence of HPV infection in other gulf countries was found to be similar to world prevalence (Hajja et al., 2006). HPV infection is also responsible for a wide range of cancers and other HPV related diseases. HPV 16 and 18 cause more than 70% of all cases of cervical cancers (Munoz et al., 2003); the rest are caused by other HPV sub-types. Cervical cancer can be prevented effectively with HPV vaccine and screening.

In 2008, the Health Authority-Abu Dhabi (HAAD) has introduced HPV vaccine free of charges for high school girls entering grade 11 in Abu Dhabi State and became the first state in the Middle East to introduce the HPV vaccine. The HPV vaccination in Abu Dhabi is school based program, the uptake of the vaccine has increased significantly over the last three years. The most recent data showed that the uptake of the vaccine is more than 80% (HAAD, 2012).

School nurses are on the frontline of the HPV vaccine campaign, since they provide the vaccine to the girls in schools, deal with any complications and more importantly they are the ones who counsel school girls and their parents on the HPV vaccine. Therefore, school nurses commitment towards the HPV vaccination program has been shown as one of the key elements to the success of the program (Hilton et al., 2011).

Many studies showed that the attitude of school girls towards vaccination was positive but most of them wanted more information before considering vaccination, and more than 30% of them prefer to have this from their school nurses (Gottvall et al., 2009).

A survey in 2003 among female primary care physicians in the UAE regarding cervical screening

*[1]Gynecology Oncology, College of Medicine and Health Sciences, [2]Faculty of Humanities and Social Sciences, [3]Faculty of Medicine and Health Sciences, United Arab Emirates University, Al Ain, UAE *For correspondence: Osman.ortashi@uaeu.ac.ae*

showed only 30% of the sampled physicians believed that cervical cancer can be prevented (Al-Nuimi et al., 2011). More recently a survey in 2008 among 334 secondary schools girls revealed that the most important factor associated with more uptake of the HPV vaccine was the correct knowledge of the HPV vaccine (Nganwai et al., 2008).

The objectives of this study were to assess the knowledge, attitude and practice of school nurses in UAE about HPV infections and vaccine three years after the introduction of the vaccine.

Materials and Methods

A quantitative study was designed and conducted from June to August 2012 in Al Ain City which is the second largest city in the Emirate of Abu Dhabi with population over 500,000. Ethical approval was obtained from UAE University Ethical Committee. A detailed four- sections questionnaire was initially drafted and subsequently modified following advice obtained during piloting. Ten school nurses were interviewed during the pilot phase. Data was collected with direct face to face interview. Data collectors were trained by multidisciplinary team for two days. All interviews were performed with a total of three data collectors.

A list of all practicing school nurses was obtained from the school health authority in Abu Dhabi; there were 131 registered nurses in Al Ain city. All school nurses were approached in their respective schools by our data collectors. We have included all registered school nurses in Al Ain City both in private and public section. We have excluded nurses who were not practicing at the time of the study and those who cannot speak or understand English or Arabic. After applying the mentioned exclusion criteria, 6 nurses were excluded. All eligible nurses were interviewed, none of them refused or objected to be interviewed.

The sample size was calculated to assess the knowledge of nurses assuming that at least 40% will have good knowledge, keeping 95% Confidence level and 10% bound on error. The sample size achieved was 93. Therefore, the final sample size of 100 nurses was obtained to account for non-responders. A total of 125 nurses were interviewed both from public and private schools.

Data was entered into Epi-data version 3.1 and then transferred to SPSS version 19 for the purpose of analysis. Descriptive statistics were reported using mean ±SD for Age and frequency and percentage for all the rest categorical variables. To measure the association of correct knowledge about HPV infection and cervical cancer prevention, chi square analysis was performed considering a P-value less than 0.05 to be significant.

Results

Between June 2012-August 2012, 125 school nurses from public (45%) and private sector (55%) partook in our survey. Table 1 summarizes the characteristics of the participants. Most of the sampled nurses were less than 40 years of age (74%).

Knowledge of HPV infection and HPV vaccine was almost universal among all school nurses (97%). One fifth of the sampled nurses (20%) did not recognize HPV infection as a sexually transmitted infection. More than three quarter of the nurses in this study (84%) correctly related HPV with any type of cancer and (80%) correctly related it with cervical cancer.

When we inquired about cervical cancer prevention, about 94% responded that it can be prevented, however only 20% knew that cervical cancer can be prevented by cervical smear and similar percentage recognized that it can be prevented by a combination of both cervical smear and HPV vaccine (Table 2).

Table 3 summarizes the attitude of school nurses towards HPV vaccine. Around three-quarters (74%) would recommend it for their family and friends. The majority of the participants (71%) think HPV vaccine is good as it can prevent cervical cancer, few believed that it is good but culturally unacceptable (14%). Cultural unacceptability (45%) and lack of women's concern about their own health (21%) were rated as the top barriers for free introduction of this vaccine in UAE.

More than half of the sampled nurses (58%) have either given this vaccine to school girls or taken it themselves.

The majority (95%) did not come across any side effects from the vaccine; only 5% have reported side effects related to the vaccine, all of these side effects were minors.

Most of the sampled nurses (87%) feel uncomfortable with counseling school girls and parents about HPV vaccine. More than two third (68%) of the participants believe that the acceptability of the vaccine is very good or at least good (Table 4).

The level of qualification and working in private versus public sector did not significantly affect the correct knowledge of the nature of HPV infection or the correct

Table 1. Characteristic of the Participants

		Count n=125	Percentage (%)
Age:	<30	50	40.0%
	30-40	43	34.4%
	>40	29	23.2%
Highest Qualification:	Midwife/ Diploma	36	28.8%
	Bachelors/ Masters	85	68.0%
Place of Work:	Public sector	57	45.6%
	Private sector	68	54.4%

Table 2. The Knowledge of HPV Vaccine among the Nurses in Al Ain-UAE about HPV Vaccine

		Count=125	%
Ever heard of HPV?	Yes	121	96.8%
Ever heard of HPV vaccine	Yes	121	96.8%
Knows the nature of HPV infection as STD	Yes	100	80.0%
Knows the relation between HPV and cancer	Yes	105	84.0%
Knowsthe relation between HPV and cervical cancer	Yes	100	80.0%
Knows that cervical cancer is preventable disease	Yes	118	94.4%
Recognize the following as cervical cancer prevention stratigies			
Cervical smear		25	20.0%
HPV vaccine		93	74.4%
Both		25	20.0%

Table 3. The Attitude of the Nurses in Al Ain-UAE Towards HPV Vaccine

	Count=125	%
Consider taking the HPV Vaccine		
Yes	93	74.4%
Recommending HPV vaccine		
Yes	116	92.8%
Believe about HPV vaccine		
Good	89	71.2%
Good but not safe	13	10.4%
Good but not culturally acceptable	17	13.6%
Not good	1	0.8%
Don't know	1	0.8%
Barriers facing the introduction of HPV vaccine		
No barriers	19	15.2%
Culturally unacceptable	56	44.8%
Religiously unacceptable	4	3.2%
Women are usually least concerned about their own health	26	20.8%
Others	12	9.6%
Don't know	3	2.4%
No response	1	0.8%

Table 4. The Practice of HPV Vaccine among Nurses in Al Ain - UAE

	Count=125	%
Experience with the vaccine		
Self	2	1.6%
School girl	71	56.8%
Both	1	0.8%
None	45	36.0%
No response	2	1.6%
Experience of any side effects		
Yes	6	4.8%
Comfortable in counseling about HPV vaccine		
Yes	16	12.8%
Overall acceptability from experience		
Very good	33	26.4%
Good	53	42.4%
Equivocal	13	10.4%
Bad	6	4.8%
Don't know	13	10.4%
No response	3	2.4%

Table 5. Factors Associated with Correct Knowledge of HPV Infection and Cervical Cancer Prevention

	Knowledge Of HPV as STI (n=100)	P- value	Correct knowledge of Cx cancer prevention (n=118)	P- value
Qualification				
Midwife/ Diploma	28	0.898	31	0.144*
Bachelors/ Master's	70		82	
Working sector				
Public	49	0.087	56	0.521*
Private	51		60	

*Sparse data problem, yate's correction applied; Cx=Cervix

knowledge of cervical cancer prevention methods (Table 5).

Discussion

The objectives of this study were to assess the knowledge, attitude and practice of school nurses in Al –Alin district regarding HPV infection and vaccine three years after the introduction of the HPV vaccine in the Emirate of Abu Dubai free of charge.

The vaccine was introduced as part of the school based program in 2008. We conducted face to face interview with 125 registered school nurses. Most of nurses were younger than 40 years old (78%). The majority of them have nursing (85%) rather than midwifery qualification. Almost equal percentages are working in private and public sectors. Nearly all of the sampled nurses (97%) have heard of HPV infection and all of those heard of HPV infection have also heard of HPV vaccine.

An in-depth knowledge about the HPV infection and vaccine is a key to successful introduction of HPV vaccine. In this study we measure the in-depth knowledge by question on the nature of HPV infection and method of transmission; we found that the in-depth knowledge of HPV was good among the sampled nurses. Eighty percent of our interviewed nurses correctly recognized HPV as an STI. This, in fact, comparable and slightly better than what was found by Nganwai and his colleagues in Thailand, where 72% of the sampled nurses correctly classify HPV as an STI (Nganwai et al., 2008).

Also, the majority of the sampled nurses (84%) related HPV to cancer in general and 80% correctly related it to cervical cancer which is again comparable with what was found in other studies (Phianmongkhol et al., 2011).

The majority of the nurses in our study (94%) did recognize cervical cancer as a preventable disease. However, only 20% of nurses knew that cervical cancer can be prevented with both cervical smear and HPV vaccine together.

Interestingly, the majority knew that the newly introduced HPV vaccine can prevent cervical cancer (74%) while only 20% recognized the long established cervical smear as a preventive tool from cervical cancer. This represents a clear gap in the knowledge which needs to be addressed.

The good knowledge of HPV infection and vaccine among the school nurses in Abu Dhabi is reflected in the good uptake of HPV vaccine among school girls, which has increased to 80% (HAAD, 2012). This is better than the HPV uptake in many of Western countries including UK where the coverage is still below 80% (DOH-UK, 2011). Interestingly preliminary studies prior to the introduction of the vaccine in UAE suggested that the uptake will be as low as 53% (Al-Nuaimi et al., 2011)

Abu Dhabi Health Authority (HAAD) has worked hard over the last three years to train all health care professionals and public about HPV vaccine through workshops and media programs. This strategy is a well-known method to increase the uptake of HPV vaccine (Reiter et al., 2011). Unfortunately, education of health care professionals about HPV vaccine has been ignored by many of countries where the vaccine uptake is still very low.

Hence, Abu Dhabi's successful experience in introduction of this highly recommended but controversial vaccine should be a model for other countries.

We also enquired about the personal attitudes of the sampled nurses towards the HPV vaccine. Nearly three

quarter of the nurses would take the vaccine themselves and 93% would recommend it for relatives or friends. This is a more positive attitude than what Songthap A and his colleagues found in Thailand (Songthap et al, 2009). The main barrier, however, to the successful introduction of the vaccine in the view of the sampled nurses was the cultural acceptability (45%). This is different from the barriers to HPV vaccine in countries like the USA and Western countries in which the cost, logistics, and false perception of the HPV risk were rated the top barriers (Keating et al 2008; Perkins 2012).

Over half of the sampled school nurses have practical experience of giving the vaccine to school girls (57%), only two had the vaccine themselves. Only 5% of the nurses have come across side effects related to the vaccine, none of these side effects were major. Despite the intensive training program for school nurses and good knowledge about HPV infection and vaccine, only 13% feel comfortable in counseling school girls and parents about HPV vaccine. This might reflect the nature of HPV vaccine and it is relation to sexuality which is considered to be a difficult issue to be discussed in such a conservative country.

We found that neither education nor working sector (public versus private) has any impact on the in-depth knowledge of HPV and cervical cancer prevention strategies.

In conclusion, the knowledge and attitude of the sampled school nurses in Abu Dhabi State about HPV infection and vaccine is very good, in both the public and private sector. Despite good knowledge about HPV infection and vaccine, the majority of the sampled nurses found it difficult to counsel school girls and parents about HPV vaccine.

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