

Perceptions of clinical benefits through human papillomavirus vaccination in Qatar

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Abstract

Background: Little is known about the public awareness of the Human Papillomavirus (HPV), especially concerning knowledge and understanding of cervical cancer screening, in Qatar.

Materials and Methods: Three hundred people were asked, "Vaccination for the Human Papillomavirus protects against cervical cancer and other HPV-associated cancers?" Responses were examined to the socio-demographic data, health literacy, Pap test and personal knowledge.

Results: Knowledge of the HPV vaccine was good of participating from the EMENA region, (61.0%) women and (42.2%) of younger men knew about the vaccine, compared to (75.9%) of men over 40 years and (73.2%) of all women. Awareness was higher in women and men from other regions (81.6%) and (86.2%) respectively. Over three-quarters of women and more than half of men who knew about cervical cancer; prevention, test and cure are protective, also knew of the vaccine. The Pap test timing did not affect cervical cancer awareness in participants with shared knowledge, particularly in men did not know about the vaccine, and (26.9%) of women who never had a Pap test did not know about the vaccine compared to (21.0%) who previously tested. All participants feedback; (90.3%) women and 93.7% men, agreed or strongly agreed, that they need more information about cervical cancer whether they knew of the vaccine or not.

Conclusions: Gaps in the HPV vaccine awareness were highlighted, and targeted health literacy programs may be appropriate.

Keywords: Human Papillomavirus vaccine, EMENA, Health literacy, Gender.

INTRODUCTION

It is difficult to accurately estimate the incidence of cervical cancer in the Extended Middle East and North Africa (EMENA) region based on opportunistic screening practices without national cancer registries [1]. In Qatar, an EMENA country, the Primary Health Care Corporation (PHCC) offers a Pap test service for a nominal fee. Cervical cancer in Qatar ranks as the seventh leading cause of cancer in women and the fifth most common cancer in women aged 15 to 44 years. There were an estimated 19 new cases and 12 deaths in 2018 [2]. From 1979-1993, malignant



gynaecological tumours constituted 6.88% of all malignancies in Qatar [3].

It has been more than a decade since the Human Papillomavirus (HPV) vaccine was licensed and applied initially in the Australasian region [4]. In the global experience since then, HPV vaccination may prevent up to 70% of HPV-related cervical cancers [5]. By introducing the vaccine against an infectious oncogenic agent such as HPV, in both genders, a significant benefit in public health may be realized, potentially saving many lives.

The pharmacological characteristics of the HPV vaccine are rapidly advancing, but in many countries, there are barriers and uncertainty. The Extended Middle East and North African (EMENA) region, is characterized by nations that share similar cultures, beliefs and religions [6]. However, newer norms and forms of marriage have emerged to accommodate more liberal societal trends [7]. Such trends are being viewed as being concerning in the EMENA, therefore, few countries in this region have planned to introduce the HPV vaccine [8, 9].

In January 2018, the Qatar Cancer Society launched a one-month campaign to raise awareness about cervical cancer and Pap smear tests [10]. The focus was on publicising 3-5 yearly screening for all eligible women [11]. The Ministry of Public Health in Qatar endorsed HPV vaccination in April 2018 [12] but there is very limited data on the level of public knowledge and awareness of HPV vaccination as part of Qatar's cancer prevention program.

This study was designed to acquire some baseline data that might inform future health promotion programs in Qatar.

MATERIALS AND METHODS

The survey asked this primary question, "Vaccination for the Human Papilloma Virus protects against cervical cancer and other HPV-associated cancers?" The responses to the survey question, "Yes", "No" and "Don't Know", were analysed in relation to other questions within four categories: (1) socio-demographic characteristics; (2) health literacy; (3) Pap smear history; and, (4) personal knowledge.

Prior to the main study, the authors conducted a pilot study, inviting staff and clients of Sidra Medicine to identify any difficulties with the questionnaire. The pilot study was also applied to estimate the time needed to fill out the questionnaire. Based on the findings from the pilot study, modification of the questionnaire was performed primarily for the wording of the questions.

The survey was rolled out following approval by the Sidra Medicine Institutional Review Board (IRB) (Protocol number: MoPH-Sidra-IRB-099). Independent evidence-based patient information leaflets of cervical cancer and of HPV vaccine prevention published by the PHCC in Doha (Qatar) were used for inviting Sidra Medicine clients to participate. All participants' consent to participate was registered as per date of data capture, and sequentially numbered 001 through to 300. The inclusion criterion required that participants must be aged 18 years or older to participate in the study. The research surveys were distributed by Sidra Medicine from December 2018 through April 2019, exclusively in hard-copy format in English and Arabic. The research methodology invited both women and men participants at Sidra Medicine as being a relative sample of the community at large.

RESULTS

The overall response rate was 287 out of the 300 participants. Very few participants (2.1%) responded "No" to the statement, "Vaccination for the Human Papilloma Virus protects against cervical cancer and other HPV-associated cancers?" There were only 6 participants who responded with "No" to this question, so the analysis examined more closely the differences between the categories "Yes" and "Don't Know". A response of "Don't Know" implied to us limited knowledge. The data of most interest is highlighted in bold in all the Tables.

The breakdown of Nationalities is shown in Table I.

Table 1. Breakdown of Nationalities.

	Women	Men	Totals
Nationality	Number (%)	Number (%)	
Qatari	15	32	47
Middle Eastern	20	24	44
African	24	21	45
EMENA	59 (37.6)	77 (72.6)	136 (51.7)
Nth American	10	3	13
European	25	10	35
Asian	63	16	79
NA/Eur/Asia	98 (62.4)	29 (27.4)	127 (48.3)
Total	157	106	263

Although most of the women were from North America, Europe and Asia (62.4%) and most of the men were from the EMENA region (72.6%), when including both women and men, the Nationalities were almost equally split between North America, Europe and Asia versus EMENA, (51.7% v 48.3%). Most women, almost three-quarters knew of the benefits of the HPV vaccine. For men it was roughly half and half for “Yes” and “Don’t Know”.

The responses relating to Socio-Demographics are shown in Tables 2a/b/c.

Table 2a. Participants’ Socio-Demographics - Nationality [(n= (%))].

Vaccination for the Human Papilloma Virus protects against cervical cancer and other HPV-associated cancers				
	Women		Men	
Nationality	Yes	Don’t Know	Yes	Don’t Know
Qatari	9	6	10	22
Middle Eastern	10	10	11	13
African	17	7	7	14
EMENA	36 (61.0)	23 (39.0)	28 (36.4)	49 (63.6)
Nth American	9	1	3	0
European	20	5	10	0
Asian	51	12	12	4
NA/Eur/Asia	80 (81.6)	18 (18.4)	25 (86.2)	4 (13.8)

Knowledge of the benefits of the HPV vaccine was good in EMENA women (61.0%) but not as good as women or men from other regions (81.6%) and (86.2%) respectively. Men from the EMENA region had the lowest awareness (36.4%). Young women in the aged 20-29 were the most likely (82.0%) of any age group to know of the benefit of the HPV vaccine. When combining the 20-29 and 30-39 age groups of women, 73.0% were still aware. Only 42.2% of young men knew about the benefits of the HPV vaccine whereas around three-quarters of men 40 years and older and women of all ages did have awareness.

Table 2b. Participants’ Socio-Demographics – Age Group [(n= (%))].

Vaccination for the Human Papilloma Virus protects against cervical cancer and other HPV-associated cancers				
	Women		Men	
Age Group	Yes	Don’t Know	Yes	Don’t Know
20-29	41	9	15	22
30-39	43	22	20	26
40-49	25	9	13	3
50-59	10	4	7	4
Over 60	4	1	2	0
20-39	84 (73.0)	31 (27.0)	35 (42.2)	48 (57.8)
40+	39 (73.6)	14 (26.4)	22 (75.9)	7 (24.1)
Totals	123 (73.2)	45 (26.8)	57 (50.9)	55 (49.1)

Table 2c. Participants’ Socio-Demographics – Education, Marital, Employment and Insurance Status, [(n= (%))].

Vaccination for the Human Papilloma Virus protects against cervical cancer and other HPV-associated cancers					
		Women		Men	
		Yes	Don’t Know	Yes	Don’t Know
Education level	Middle School	1 (50.0)	1 (50.0)	2 (100)	0
	High School	12 (75.0)	4 (25.0)	3 (23.1)	9 (69.2)
	University	101 (71.1)	39 (27.5)	50 (52.1)	44 (45.8)
	Other	9 (90.0)	1 (10.0)	2 (33.3)	3 (50.0)
Marital status	Never married	44 (78.6)	12 (21.4)	19 (45.3)	15 (42.9)
	Married	73 (70.2)	29 (27.9)	35 (45.5)	39 (50.7)
	Divorced	4 (50.0)	4 (50.0)	1 (33.3)	2 (66.7)
	Widowed	2 (100)	0	2 (100)	0
Employment status	Employed	95 (72.5)	36 (27.5)	44 (57.1)	30 (39.0)
	Unemployed	21 (72.4)	7 (24.1)	11 (33.3)	21 (63.6)
	Other	5 (71.4)	2 (28.6)	2 (40.0)	3 (60.0)
Insurance coverage?	Yes	104 (74.3)	36 (25.7)	41 (48.2)	41 (48.2)
	No	17 (63.0)	9 (33.3)	16 (53.3)	13 (43.3)

Younger men (aged 20-39) and employed men responded “Don’t Know” more than older men and employed men. There was no clear effect of level of education, marital status or insurance coverage.

Table 3. Participants’ Health Literacy [(n= (%))].

Vaccination for the Human Papilloma Virus protects against cervical cancer and other HPV-associated cancers					
		Women		Men	
		Yes	Don’t Know	Yes	Don’t Know
You have knowledge of cervical cancer	Yes	109 (82.0)	23 (17.3)	43 (64.2)	21 (31.3)
	No	14 (37.8)	22 (59.5)	13 (26.5)	35 (71.4)
Cervical cancer may be preventable	Yes	111 (79.3)	28 (20.0)	54 (55.7)	39 (40.2)
	No	2 (66.6)	1 (33.4)	0	0
	Don’t know	8 (32.0)	16 (64.0)	3 (16.7)	15 (83.3)
Regular Pap tests may protect you from cervical cancer	Yes	115 (79.3)	29 (20.0)	54 (56.3)	38 (39.6)
	No	4 (66.7)	1 (16.7)	1 (50.0)	1 (50.0)
	Don’t know	3 (17.7)	14 (82.3)	2 (11.1)	16 (88.9)
Cervical cancer may be curable	Yes	93 (80.9)	20 (17.4)	46 (63.0)	24 (32.9)
	No	6 (100)	0	2 (100)	0
	Don’t know	24 (49.0)	25 (51.0)	9 (21.4)	32 (76.2)

Most women knew about cervical cancer, that it may preventable and curable and that regular Pap tests may protect against it. Most women with this knowledge were also very likely to know of the benefits of the HPV vaccine. Most men also knew about cervical cancer but the men who did not, were unlikely to know about the HPV vaccine either. Women who did not know about cervical cancer were also less likely to know about the HPV vaccine.

Table 4. Participants’ Pap Test History.

Vaccination for the Human Papilloma Virus protects against cervical cancer and other HPV-associated cancers			
		Women	
		Yes	Don’t Know
Have you had a Pap test before?	Yes	63 (77.8)	17 (21.0)
	No	57 (73.1)	21 (26.9)
	Not applicable	1 (14.3)	6 (85.7)
If you had a Pap test before, when was it performed?	1-3 years ago	44 (75.9)	13 (22.4)
	4-6 years ago	13 (76.5)	4 (23.5)
	Over 6 years ago	6 (100)	0

Only around one quarter of women who have not had a Pap test did not know about the benefits of the HPV vaccine and this compares with one fifth of women who had previously had Pap test. The timing of the Pap test, whether recent or up to six years previously did not adversely affect awareness of the HPV vaccine.

Table 5. Participants’ Personal Knowledge.

		Vaccination for the Human Papilloma Virus protects against cervical cancer and other HPV-associated cancers			
		Women		Men	
		Yes	Don’t Know	Yes	Don’t Know
More information is needed to improve your knowledge of cervical cancer	Strongly agree	62 (69.7)	26 (29.2)	28 (48.3)	27 (46.6)
	Agree	48 (76.2)	14 (22.2)	23 (46.0)	26 (52.0)
	Undecided	6 (60.0)	4 (40.0)	1 (50.0)	1 (50.0)
	Disagree	4 (80.0)	1 (20.0)	5 (100)	0
	Strongly disagree	0	0	0	0

Both men and women, to a large extent, agreed that they needed more information about cervical cancer whether they knew of the benefits of the HPV vaccine or not.

DISCUSSION

To the authors’ knowledge, this is the first survey-based study in Qatar that invited both genders to investigate knowledge, attitudes and barriers pertaining to the HPV vaccination. The study focused on assessing health beliefs where the risk factors for cancer are established. In the survey, we noticed that nearly all the study participants responded either “Yes” or “Don’t Know” to the questions posed and very few “No” responses were recorded. This is a finding for us to consider for the design of future questionnaires.

We found least awareness of the HPV vaccine in EMENA men. This might be important because they may be involved in consenting for their daughters to receive the vaccine. Furthermore, amongst age groups, it was the 20-39 year old men who also had the least awareness of the vaccine and this would also tally with the age group of fathers of teenage daughters. There were consistent findings between women and men in terms of knowledge of cervical cancer. A lack of knowledge in both genders correlated with a lack of knowledge of the HPV vaccine. Having said this, it applied to only a minority of the participants.

We did not find a clear effect of educational level but unemployed men had least awareness of the vaccine. It may be that knowledge of the vaccine is not obtained at formal schooling or higher education but through conversations at the workplace.

There was possibly a slight adverse effect on vaccine awareness for women who had never had a Pap smear with around a quarter of women lacking awareness compared with about one fifth if the woman had previously had a Pap smear. It is likely that the Pap smear consultation will at least in some instances include discussion about the HPV vaccine especially as in this community most smears are taken by a Gynecologist.

It was encouraging that nearly all participants, women and men, wanted more information about cervical cancer whether they knew about the HPV vaccine or not. This implies an educational gap rather than a cultural aversion to vaccination.

The importance of including men in education campaigns to decrease the HPV-related cancers and to increase the uptake of HPV vaccination was also highlighted in a survey study that included Singaporean men [15].

Across the MENA region awareness of HPV vaccination is low but acceptability is high [16]. A 2011 study comprising of cross-sectional interviews of women in Qatar reported on the knowledge and practices of cervical cancer screening, but not HPV vaccination [17]. The study showed that low levels of knowledge of cervical cancer, and of Pap testing were statistically significant among those with lower education levels, recently married women and those under the age of 30. Our survey did not demonstrate these findings but we had a smaller number of participants.

In Sharjah, 76.6% of parents were willing to vaccinate their daughters on a background of high income and low knowledge, as only 36.5% had heard of the HPV vaccine [18]. In Saudi Arabia, 82% of physicians stated they would allow their daughters to receive the vaccine [19]. In 2008, the Health Authority of Abu Dhabi introduced the free HPV vaccine for all schoolgirls, becoming the first country in the EMENA region to organize a national cervical cancer immunization program. A study from that region showed 37% of women had knowledge of the HPV vaccine but 80% of those who had heard of it were willing to be vaccinated [20].

In Iran, another EMENA country, there have been studies of medical students and nurses that showed that knowledge of HPV vaccination was low [21]. Less than 5% of female nurses knew that vaccination could prevent cervical cancer [22] but over 70% of medical students reported that they would receive a vaccine if it was available [23].

A different study in the United States revealed that women and non-Hispanic blacks were less likely to have heard of the HPV vaccine [24] with African Americans knowing the least about the vaccine [25] indicating racial differences in knowledge in developed nations.

New Zealand introduced the HPV vaccine when it was licensed. The focus was on both cervical cancer screening and HPV vaccination, the latter free and available for all schoolgirls between 11-12 years [26]. Two-thirds of parents in a New Zealand study indicated they wanted their daughters to receive the vaccine but Maori and Pacific parents were more likely to have concerns [27].

The Health Belief Model (HBM) has been shown to be valuable in raising public and health provider awareness of cervical cancer, as illustrated in a study of women in Saudi where 91.1% of women had lack of knowledge about the vaccine [28]. Similar studies using the HBM assess beliefs and behaviours regarding cervical cancer screening in communities of the EMENA region, and demonstrate that higher-level education and working status is associated with better knowledge of HPV and HPV.

CONCLUSION

There are gaps in awareness about the clinical benefit of the HPV vaccine in EMENA women, women and men who did not know about cervical cancer, men aged under 40 and unemployed men. Targeted health literacy programs may be able to advance the understanding of this important preventive medical procedure. Studies exploring parents' willingness to vaccinate their daughters and sons are also needed.

DECLARATIONS

Authors' contributions: Al-Najar G: investigated the gap concerning HPV vaccination in both genders, helped with the design of the research methods, conducted the study, interpreted the results and wrote the manuscript. Chantziantoniou N: investigated the gaps concerning Pap testing and cervical cancer screening, helped with design of the research, reviewed edited first manuscript, and interpretation of the results. Al Anbari M: helped analyse the research data. Charles A: reviewed and edited manuscript. Clelland C A: ethics application, reviewed and edited manuscript.

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