ORIGINAL ARTICLE

Knowledge and perception of human papilloma virus vaccine among the antenatal women in a Nigerian tertiary hospital

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ABSTRACT

Background: Cervical cancer is a major health problem globally, especially in sub-Saharan Africa, Nigeria inclusive. One of the preventive measures is the vaccination of teenagers against oncogenic human papilloma virus. The aim of this study was to find out the level of knowledge mothers possess about these vaccines and their willingness to administer vaccination to their teenage girls. **Materials and Methods:** This was a cross-sectional descriptive study of 255 consecutive women attending antenatal clinic at the University of Abuja Teaching Hospital, Abuja. They were given either a self-administered questionnaire or interviewer-administered questionnaire containing both closed and open-ended questions. Information recorded includes socio-demographic variables, knowledge of cervical cancer, knowledge of HPV/HPV vaccines and acceptance of these vaccines for their adolescent girls. The data was analysed using descriptive statistics. **Results:** The mean age of the respondents was 26.9 years. Over 90% had at least secondary education. A total of 102 (40%) had the knowledge of cancer of the cervix while 153 (60%) had never heard about it. Overall, 236 (92.5%) of them had no idea about the predisposing factors. The study showed that only 23 (9.0%) out of the total respondents had heard about human papilloma virus (HPV) infection. In the same vein, 20 (7.8%) had knowledge about HPV vaccine. Among the respondents, who had the knowledge of HPV and vaccination, 18.2% and 23.4% of them had secondary and tertiary levels of education respectively. Overall, 160 (62.8%) accepted that the vaccines could be administered to their teenage girls. **Conclusions:** Awareness of cervical cancer, HPV infections, and HPV vaccines is low among antenatal clinic attendees in Gwagwalada, Abuja. However, majority of them would want their girls vaccinated against HPV infections. There is a need for all stakeholders to step up awareness creation for improved HPV vaccination project in Nigeria.

Key words: Antenatal clinic attendees, awareness, cancer, cervical cancer, cervix, HPV infections, vaccines

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INTRODUCTION

Cervical Cancer is a major public health problem globally. Over 560,000 new cases and about 275,000 deaths are recorded each year, with more than 55% occurring in developing countries.[1] It is the most common gynaecological cancer among women in sub-Saharan Africa.[2] It is estimated that 70,722 new cases of invasive cervical cancer occur annually in sub-Saharan Africa.[3]

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Nigeria is the most populous country in Africa with approximately 173 million people.[4] The incidence rate of cervical cancer in Nigeria was reported to be 25/100,000 per year, which translates to a disease burden for an estimated 32 million women in 2005 to about 8000 cases per year.[5] Current estimates indicate that cervical cancer ranks as the second most frequent cancer among women in Nigeria.[6] Every year, 14089 women are diagnosed with cervical cancer.[6] High burden of cervical cancer has been reported in Nigeria's Federal Capital City, Abuja.[7]

Epidemiological, molecular and clinical evidences have shown that cervical cancer is caused by human papilloma virus, a sexually transmitted infection, especially serotype 6, 11, 16 and 18.[8-15] Human papilloma virus infection is common in Nigeria. A study in Ibadan showed an overall prevalence of 26.3% while the prevalence among women without cervical lesions was 24.8%.[16] Currently,

it is estimated that about 23.7% of women in general population in Nigeria harbour cervical HPV infection at a time.[6]

In view of the high burden of cervical cancer, various means of prevention should be encouraged. One way of primary prevention is through vaccination against oncogenic HPV types.[9,14,17,18] Currently, there are two vaccines that have been approved by the U.S. Food and Drug Administration (FDA). These are the bivalent HPV vaccine (Cervarix)) and the quadrivalent HPV vaccine (Gardasil).[18] Both have been found to be nearly 100% effective in preventing cervical intraepithelial neoplasia 2 (CIN 2), CIN 3, and condylomatous vulvar disease related to the HPV genotypes covered by the vaccines.[19-22] The vaccines are approved for administration to females aged 9-26 years.[11,14,18]

The vaccines were licensed and introduced in Nigeria in 2009, but they are being utilised by a few privileged population.[23,24] Studies have shown that the knowledge of HPV infection and vaccine against the infection is quite low and if available, the cost is beyond the reach of average Nigerians.[23,25-27]

Despite the high prevalence of cervical cancer and HPV infection in Nigeria, utilisation of HPV vaccine, which is one of the cardinal preventive measures is low.[23-26] Whereas majority of the studies on the knowledge and perception of HPV vaccine were from the southern part of Nigeria,[23-26] but there is a need to find out how much knowledge mothers have about HPV infection and immunisation against it in Nigeria's Federal Capital Territory. This is necessary since the vaccine should be administered from the age of 9 years. Parents therefore, need to be informed about the features of each vaccine so that the decision to choose one over the other is made with informed consent.[28] Mothers may express fears about safety of the vaccines and so may not provide written consent for their daughters to have the vaccine.[29]

This study, therefore, was aimed at finding out how much knowledge mothers have about these vaccines and the acceptance for their adolescent girls to be vaccinated since the mothers are close to the girls at this stage and can help in decision-making for them.

MATERIALS AND METHODS

This was a cross-sectional descriptive study of 255 consecutive women attending antenatal clinic at the University of Abuja Teaching Hospital, Abuja. The hospital is a 350-bedded referral Federal Government tertiary.

Data was collected between the months of March and April 2013. Approval for the study was obtained from the Research Ethics Committee of the Hospital. Informed consent was obtained from the women and they were given self-administered, 18-item questionnaire with both closed and open-ended questions. For those who were unable to understand the questionnaire very well or illiterate, the interviewer-administered questionnaire was used. The questionnaire had four main sections: Socio-demographic variables, knowledge of cervical cancer, knowledge of HPV/HPV vaccines and acceptance of these vaccines for their adolescent girls. The data was analysed using descriptive statistics.

RESULTS

There were 255 respondents recruited for the study. Their mean age was 26.9 years. Table 1 shows there were more respondents within the age bracket of 25-29 years. Majority of the respondents (32.2%) were civil servants, whereas 22.3% of them were full-time housewives (they were not involved in any gainful employment). Majority (74.3%) were multiparous women of paras 1-4. About 89.4% of the respondents had at least secondary level of education (30.6% secondary, 58.8% tertiary).

One hundred and two (40%) had knowledge about cancer of the cervix while 153 (60%) had never heard about the vaccine [Table 2]. Table 2 also shows that overall, 236 (92.5%) of the respondents had no idea about the predisposing factors while

Table 1: Sociodemographic characteristics

	Age group distribution	
Age group (yrs)	Frequency	%
15-19	20	7.8
20-24	76	29.8
25-29	81	31.8
30-34	49	19.2
35-39	25	9.8
40-44	4	1.6
Total	255	100
Occupation		
House wife	57	22.3
Civil servant	82	32.2
Business	41	16.1
Contractors	15	5.9
Petty trading	40	7.8
Others	20	100
Total	255	100
Parity		
0	43	16.9
1	53	20.8
2	75	29.4
3	43	16.9
4	19	7.4
≥5	22	8.6
Educational Status		
None	7	2.8
Primary	20	7.8
Secondary	78	30.6
Tertiary	150	58.8
Total	255	100

19 (7.5%) could mention one or more predisposing factors. This section of respondents comprise to 18.6% who had the knowledge of cervical cancer.

Table 3 shows that 23 (9.0%) responders have heard about HPV infection while 232 (91%) had not. Out of the 23 respondents, 19 had knowledge that it is sexually transmitted, while 4 had heard that it can cause cancer of the cervix. Overall, 7.5% and 5.5% of the total respondents knew that it is sexually transmitted and can cause cancer of the cervix respectively. Only 20 (7.8%) out of the total respondents had knowledge about HPV vaccine.

When educational status was compared with knowledge of HPV and vaccination amongst the respondents, 18.2% respondents comprised of those who had the knowledge of cancer of the cervix with no formal education and those who had no knowledge with primary level of education and 23.4% of respondents of those with secondary and tertiary level of education had the knowledge of HPV infection and the vaccines.

When asked if they would recommend the vaccines to be given to their daughters as shown in Table 4, 160 (62.8%) said *yes*, 48 (18.8%) said *no* while 47 (18.4%) were indifferent. Those who said no gave reasons bothering on ignorance, fear of side effects and possibility of the vaccines affecting future fertility.

Table 2: Knowledge of cervical cancer

Ever heard of cancer of cervix?		
Yes	102	40%
No	153	60%
Total	255	100%
Idea about predisposing factor(s)		
Yes	19	7.5%
No	236	92.5%
Total	255	100%

Table 3: Knowledge of HPV/HPV vaccine

Knowledge of HPV		
Knowledge	**Frequency**	**%**
Yes	23	9.0
No	232	91.0
Total	255	100
Awareness of the vaccine		
Awareness		
Yes	20	7.8
No	235	92.2
Total	255	100

Table 4: Recommend it to your daughter?

Recommendation	Frequency	%
Yes	160	62.8
No	48	18.8
Do not know	47	18.4
Total	255	100

DISCUSSION

This study highlights the awareness and perception of mothers about HPV/HPV vaccination in our community. The fact that about 30.6% of the respondents had secondary school education and 58.8% had tertiary level of education meant that their literacy level was high. Inspite of this, awareness of cancer of cervix and HPV infection amongst them was low. This finding is similar to that from a community based pilot survey in Gwagwalada Area Council in the Federal Capital Territory, Abuja, where very small proportion of respondents knew about the disease.[27] However, about 63% of the participants in that study were educated up to primary school level, whereas about 90% of the respondents in this study had secondary and tertiary levels of education. One would have thought that awareness of this disease should have been higher amongst them. This is in contrast to community studies carried out in Lagos and Ibadan, respectively, wherein it was discovered that awareness of cancer of cervix was very high.[23,25] While awareness of HPV disease in the Ibadan study was very high,[23] in Lagos, it was very low.[25] In a similar study in Kuala Lumpur, Malaysia, over 50% of mothers were aware of cancer of cervix and HPV diseases.[29]

The implication of this is that if mothers who are educated lack adequate knowledge of a disease that is very prevalent in our community, then a lot has to be done to enlighten them to talk about prevention. Health promotion strategies to educate the public about prevention of STIs of public health significance can be effective in preventing genital HPV infection.[17]

Primary prevention of cervical cancer can be achieved through prevention and control of genital infection with oncogenic HPV types.[17] One of the methods of prevention is by vaccinating teenage girls with HPV vaccine. Mothers play crucial roles in making informed decision for their daughters. This study and similar studies from this country have shown that awareness of HPV vaccine is very low.[23,25,26] This is worrisome because, for there to be effective coverage of HPV vaccination for the teenage groups, we need parental acceptance of the vaccines.[10,14,28] There cannot be parental acceptance if the mothers don't have adequate knowledge and are not aware of it.

Even though these vaccines were licensed and introduced into this country in 2009,[23] they were only launched by the Federal Government in 2011 and only 6 pilot centres are currently commissioned to give HPV vaccines, apart from that offered by private facilities.[25] These facilities will be under utilised when there is low awareness about this preventive measure among those who are supposed to make decisions on behalf of the teenage girls.

Many parents think that HPV vaccination is not needed and are concerned about safety and adverse reactions.[30]

Some parents also have concern that HPV vaccination may cause an increase in sexual activity among adolescents.[18] Adequate information therefore needs to be provided to the parents to dispel all these concerns.

Despite the low awareness of these vaccines, acceptability for their daughters to be vaccinated was high. Other studies from this country and Malaysia showed similar findings.[23,25,29]

According to the CDC, if healthcare providers increase HPV vaccination coverage to 80%, it is estimated that an additional 53,000 cases of cervical cancer could be prevented during the life time of those younger than 12 years.[31] Furthermore, for every year that coverage does not increase, an additional 4,400 women will develop cervical cancer.[31] These data highlight the overwhelming importance of HPV vaccination efforts, including discussions with parents of children and adolescents about the benefits of HPV immunisation for cancer prevention.[31]

In conclusion, awareness of cancer of the cervix, HPV infections and HPV vaccine is low among antenatal clinic attendees in Gwagwalada, Abuja. In addition to screening, HPV vaccination of our young girls will go a long way in prevention. Since the acceptability of the vaccines for their adolescent girls is high amongst the respondents, scaling up of nationally organised HPV vaccination and low cost screening programmes subsidised by funding from government and donor agencies are key to this intervention.[32,33] One way of getting subsidy is through the Global Alliance for Vaccines and Immunizations (GAVI) projects.[33-35] It is estimated that if subsidised by the GAVI Alliance, the vaccine could reach over 80% of the countries in sub-Saharan Africa.[2]

Effective awareness creation amongst the parents especially mothers, is therefore, very germane in HPV vaccination project in Nigeria.

Limitations

Explaining HPV infection to the few who were non-literate was quite a challenge. However, a good number of them had knowledge about other STIs, but when the explanation was zeroed down to HPV, they simply said they had never heard of it.

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