ORIGINAL RESEARCH ARTICLE

Knowledge of the Human Papilloma Virus vaccines, and opinions of Gynaecologists on its implementation in Nigeria

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Abstract

The objective of this study was to determine the knowledge and perception of Nigerian Obstetricians and Gynaecologists towards human papilloma virus vaccine use in Nigeria. A cross sectional study was conducted amongst participants that attended the 42nd Society of Gynaecology and Obstetrics of Nigeria. The findings revealed that 44.5% knew the correct HPV vaccine schedule. Regarding implementation in Nigeria, 87.4% suggested its incorporation into the national immunization program and about a third agreed that it should be a precondition for school enrolment. Regression analysis showed that senior residents were more likely to have adequate knowledge of the vaccine compared to junior residents (AOR 7.181 95% CI OR=1.792 – 28.782). We conclude that the knowledge of eligibility and schedule is poor. It is recommended that adequate information should be provided to this group of health workers because of their strategic position in its implementation in Nigeria (*Afr J Reprod Health 2013); 17[2]:150-156).*

Résumé

L'objectif de cette étude était de déterminer la connaissance et la perception des obstétriciens et gynécologues du Nigeria vers l'utilisation du virus du papillome humain au Nigeria. Une étude transversale a été menée auprès des participants qui ont assisté à la 42e Conférence de la Société de la Gynécologie et d'Obstétrique du Nigeria. Les résultats ont révélé que 44,5% connaissaient le propre calendrier de vaccination contre le VPH. En ce qui concerne la mise en œuvre au Nigeria, 87,4% ont suggéré son incorporation dans le programme national de vaccination et environ un tiers étaient d'accord qu'il devrait être une condition préalable à la scolarisation. L'analyse de régression a montré que les habitants plus âgés étaient plus susceptibles d'avoir une connaissance suffisante du vaccin par rapport aux jeunes habitants (AOR 7,181 IC 95% OR = 1,792 à 28,782). Nous concluons qu'il y a une mauvaise connaissance de l'admissibilité et le calendrier. Il est recommandé que des informations adéquates soient fournies à ce groupe de personnel de santé en raison de leur position stratégique dans sa mise en œuvre au Nigeria. (*Afr J Reprod Health 2013); 17[2]:150-156).*

Keywords: Human papilloma Virus Vaccine, HPV, Knowledge, Perception, Nigeria

Introduction

Cervical cancer (CC) is the commonest female reproductive tract malignancy worldwide, and about 80 percent of the burden domicile in developing countries[1]. It is also plausible that the high prevalence of human immunodeficiency virus (HIV) could have flared up the burden of CC in sub-Saharan Africa[2]. Nigeria accounts for a significant proportion of this burden and about a third of women with CC in the country present with advanced disease when cure is no longer feasible[1, 3]. The high prevalence and fatality outcome of the disease is largely due to poor preventive implementation strategy, low level of awareness, negative health seeking behaviour and the health care financing system of out of pocket payment[3, 4].

Human papilloma virus infection (HPV) has causal relationship with CC, and the common oncogenic serotypes implicated globally are 16, 18, 45 and 35[5, 6]. These oncogenic viruses accounts for about 50 – 75 percent of all HPV related infections, and 70 percent of those responsible for invasive cancer are types 16 and 18[7,8]. The causal mechanism is a resultant effect of HPV virus infection persistence within the nucleus of cervical cells at the transformation zone. The progression of the viral infection through the premalignant phase is mostly dependent on the immune status of the individual. The prevention of CC includes lifestyle modification, vaccine, screening and treatment of early disease[5].

Of the preventive methods, screening has been popularized globally for many years[9], and several developed countries have adopted national guidelines that ensure equitable access by either incorporating the schedule into the health insurance scheme or making it free[10-12]. This approach has led to drastic reduction of their CC burden several countries. Nigeria is yet to adopt a national cervical cancer prevention policy, but health workers at facility levels have individually adopted a guideline that is often accessed by out-of-pocket payment *[Adewole IF, personal communication]*. These screening methods are mostly available in the secondary and tertiary centers in the country where access is not universal due to cost.

The two HPV vaccines – Cervarix *(GlaxoSmithKline)* effective against HPV16 and 18, and Gardasil *(Merck & Co)* effective against HPV 6, 11, 16 and 18 licensed by the Federal Drug Agency, USA in 2006, have been proven by several studies to reduce the progression of HPV infection to cancer and invariably lowers the incidence of CC globally[5,13]. The overwhelming evidence has made many countries to adopt its introduction into their national immunization program[14, 15]. Nigeria government licensed the two vaccines in 2008, and the protocol is tailored towards the WHO recommendation of three doses to be administered to young girls aged 9 to 25 years at 0, 2month and 6 months. At the moment, there is no concrete national implementation plan in the country[5]. Individual parents usually purchase the vaccine at the designated centers (mostly tertiary hospitals) for their children following the advice from health care practitioners.

Health workers especially Gynaecologist occupy a strategic position in the implementation of the vaccine within the country because they will form the core of the advocacy group to lobby government to prioritize its introduction, health educate the community about the various benefits and also, lead the team of those that will administer the vaccine to the populace[14,16,17]. The overall objective of this survey is to determine the knowledge and perception of Gynaecologists towards HPV vaccine introduction and use in Nigeria while specific objectives is to (1) determine the level of awareness and knowledge about CC prevention strategies, (2) determine their views about HPV vaccine implementation strategies in Nigeria (3) determine any association between their knowledge of HPV vaccine use and their profiles.

Materials and Method

This was a cross sectional study conducted amongst Obstetricians and Gynaecologists – Consultants, senior and junior residents that attended the 42nd Society of Gynaecology and Obstetrics of Nigeria (SOGON) conference that was held at Enugu, Southeastern Nigeria. The conference is an annual scientific/annual general meeting of Obstetricians and Gynaecologists in Nigeria that is usually hosted following a competitive bidding. A verbal consent was obtained from individual delegates, and those that consented were given the questionnaire.

A self-administered structured questionnaire was distributed to the participants at the registration point, and this was used to collect information on their socio-demographic profile, cervical cancer management experience; awareness and knowledge about the human papilloma virus vaccine and their perspective on the best approach to introduce and implement the vaccine schedule in Nigeria.

Data obtained was edited and this was later entered into SPSS statistical software 11.0 for analysis. A simple frequency distribution of the socio-demographic/clinical profile, awareness and views about best approach to implement HPV

vaccine schedule was performed and thereafter, a bivariate analysis was done between the dependent variable (correct knowledge about HPV vaccine) and explanatory variables – socio-demographics/ clinical profiles. Significant variables were then inputted into multiple logistic regression models and the statistical significance was set at 95% confidence level.

Results

One hundred and nineteen clinicians consented out of 152 recruited for the study, given a response rate of 78.3%. The mean age of respondents was 40.8 years (SD=8.8). There were more males (73.9%) than females (26.1%) with majority (77.3%) currently married. Consultants constituted 43.7% of respondents while the proportions of senior residents and junior residents were 33.6% and 22.7% respectively. Majority were from public hospitals (81.5%) while 10.9% of respondents practice in private hospitals (10.9%), NGOs (5.9%) and other settings (1.7%). All respondents had managed women with cervical cancer and about 37.9% reported they had seen more than 20 women die from the condition.

All respondents knew that cervical cancer can be prevented, and 85.7% agreed that HPV vaccine could prevent cancer of the cervix while 88.2% are ready to recommend the vaccine for their clients. The reported sources of information about HPV vaccine include media (22.7%), journals (43.7%) and scientific conferences (57.1%). The preferred strategies for prevention of CC included abstinence (88.2%), condom use (70.3%), marital faithfulness (78.2%), late marriage (33.6%) and monogamy (69.7%). About 44.5% knew the number of times the vaccine should be administered. About 16.1% of the clinicians were of the opinion that HPV vaccine should be paid for individually while 87.4% agreed that HPV should be incorporated into the immunization protocol. The proportion of respondents who agreed HPV should be a precondition for school enrollment was 34.5%. Regarding participants knowledge on the category of women that will mostly benefit from the HPV vaccine, 82.4% mentioned adolescents or young girls while others indicated 4.2% and 5% for adult unmarried females and for married women respectively.

Associations between correct responses to all knowledge questions and selected variables are shown in table 3. There were significant relationships between gender, marital status, grade of clinician and knowledge. On logistic regression analysis male participants (AOR = 4.575, 95% CI OR = 1.630 – 12.839) and those that are, senior residents were more likely to have adequate knowledge of the HPV vaccine compared to junior residents (AOR = 7.181, 95% CI OR = 1.792 – 28.782 respectively). There were no significant associations between respondents' opinion about whether HPV vaccine should be a precondition for school enrollment and variables.

Discussion

This study shows that most of the Nigerian Gynaecologists – consultants and trainee – interviewed believed that HPV vaccine could be a useful method for CC prevention strategies in the country, and they will be willing to recommend it. However, not all have adequate knowledge of correct immunization schedule of the vaccine. Lack of correct information about this vaccine and other prevention strategies by all respondents despite being involved in CC management at various stages suggest that there is a critical gap which needs to be addressed through continuous medical education. This is crucial because studies have shown that health care providers' knowledge about an intervention/treatment is a major determinant of quality of client's knowledge and belief about efficacy of their treatment[18-21]. In addition, the poor knowledge of the vaccine schedule amongst this professional group may also constitute a major set back in awareness creation and implementation plan for the country.

Regarding implementation of HPV vaccine schedule in Nigeria, majority believed that it should be incorporated into the national immunization protocol. This perspective is similar to what obtains in most countries that have reported successful implementation program[12, 22]. Another benefit is that the adoption of this approach will ensure cheap and sustainable implementation because the existing immunization

Table 1: Distribution of respondents' socio-demographic/clinical profiles

Variable	Frequency	Percentage
Age (years)		
Less than 35	27	22.7
35-39	35	29.4
40-44	19	16.0
45+	38	31.9
Sex		
Male	88	73.9
Female	31	26.1
Nature of medical practice		
Public	97	81.5
Private	13	10.9
NGOs	7	5.9
Others	2	1.7
Years of involvement with women with CC treatment (years)		
Less than 5	31	26.1
5-9	39	32.8
10+	49	41.2
Academic/Professional Position		
Consultant or professor	52	43.7
Senior resident	40	33.6
Junior resident	27	22.7
Marital status		
Single	21	17.6
Married	92	77.3
Separated	6	5.0

NGO: Non-governmental organization

logistics, resources and infrastructures for the country shall be employed. However, all other stakeholders will have to be lobbied as well for a smooth introduction into the country. In addition, the view by most respondents that the vaccine should be made free (63 percent) implies that there would be an added financial burden on the government because the national health insurance scheme is not fully operational in the country. In a similar study conducted by Duval et al amongst the Obstetrician/Gynaecologist in Canada, 80 percent opined that the HPV vaccine administration should be free for wider and equitable coverage of all[23]. Unlike what obtains elsewhere, only a third supported that evidence of HPV vaccination should be a precondition for school enrollment. As much as this sound plausible, the assumption is that a large proportion of youths will be captured during mass immunization before school enrollment. There is however a, significant proportion of out-of-school youths in Nigeria that would require another strategy in other to ensure a nation wide coverage.

The correct knowledge of the vaccine schedule by the health workers and other stakeholders is a crucial step towards successful implementation. In this study, the professional position and sex of participants appears to independently predict correct knowledge of HPV vaccination schedule. Specifically, senior residents and consultants were about 7.2 times and 1.9 times respectively more likely than junior residents to know the correct vaccine schedule. Factors such as age, marital status, number of female children and years of clinical management of CC did not significantly influence correct knowledge. In other similar studies elsewhere amongst health workers, factors such as specialization, cadre of profession, marital status, duration of medical practice and age significantly influenced knowledge of HPV vaccine schedule[24-26], and also the confidence to recommend to their clientele[27].

Table 2: Percentage distribution of responses to knowledge questions and opinions about HPV vaccine

Variable	Frequency	Percentage
Think HPV vaccine can prevent cervical cancer		
Yes	102	85.7
No	0	0
Not sure	16	13.4
No response	1	0.8
Preferred strategy for prevention*		
Abstinence	105	88.2
Use of condom	83	69.7
Marital faithfulness	93	78.2
Late marriage	40	33.6
Monogamy	83	69.7
Ready to administer HPV vaccine as a preventive strategy.		
Yes	105	88.2
No	14	11.8
Source of information about HPV vaccine*		
Media	27	22.7
Journals	52	43.7
Scientific presentation/conference	68	57.1
The following can benefit from HPV vaccine		
Adolescent/ young girls	98	82.4
Adult unmarried females	5	4.2
Married women	6	5
No response	10	8.4
Think males could benefit from HPV vaccine		
Yes	56	47.1
No	15	12.6
Not sure	39	32.8
No response	9	7.6
Know how many times vaccine should be administered to prevent cervical cancer		
Yes	59	49.6
No	51	42.9
No response	9	7.6
Number of times HPV vaccine should be administered		
One	2	1.7
Two	2	1.7
Three	53	44.5
No response	62	52.1
Agree that HPV vaccine should be paid for individually		
Yes	18	15.1
No	75	63
Indifferent	19	16
No response	7	5.9
Agree that HPV should be incorporated into the immunization protocol	104	87.4
Yes	7	5.9
No	8	6.7
No response		
Agree that HPV should be a precondition for school enrolment		
Yes	41	34.5
No	52	43.7
Indifferent	18	15.1
No response	8	6.7

*Multiple responses

Table 3: Association between correct knowledge about HPV vaccine and variables

Variables	Proportion of those with correct knowledge of HPV vaccine	Chi square (p value)	Multiple Logistic Regression Model	
			AOR	95% CI OR
Sex				
Male (88)	80.7	7.948	4.575	1.630-12.839
Female (31)	54.8	(0.005)		
Age (years)				
Less than 35 (27)	63.0	4.358		
35-39 (35)	68.6	(0.113)		
40+ (57)	82.5			
Marital status				
Currently married (92)	78.3	3.912	1.322	0.442-3.958
Others (27) (REF)	59.3	(0.048)		
Number of female children				
1(33)	63.6	2.259		
2 and above (35)	80.0	(0.133)		
Years involved with care for CC patients*(years)				
Less than 5 (31)	71.0	5.587		
5-9 (39)	87.2	(0.061)		
10+(49)	65.3			
Position				
Consultant/Professor (52)	73.1	8.575	1.931	0.651-5.733
Senior resident (40)	87.5	(0.014)	7.181	1.792-28.782
Junior resident (27)**(REF)**	55.6			

There are other categories of health workers such as pediatricians, nurses and so on, whose opinion is also very important in building a national consensus for HPV vaccination program but they were not captured in this study. Notwithstanding, the finding could still form a critical resource of evidence gathering among health workers in Nigeria because respondents were from different region of the country attending a national conference and their level of awareness and attitude might have a reflection of their environment. Furthermore, the qualitative research would also offer more insight to the views expressed and the "indifferent posture" that some respondents took during the interview to some questions bothering on implementation strategy could be better explored.

In conclusion, majority of Nigerian Obstetricians and Gynaecologists knows that HPV vaccine is a useful preventive method for CC, and they are willing to recommend but they lack adequate knowledge of the correct vaccination schedule. Most believed that the vaccine should be free for all eligible individual and that government should adopt evidence of vaccination for school enrolment to promote better uptake. We recommend adequate and continuous training of health workers to ensure a successful national immunization program.

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