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# Willingness of Mothers to Vaccinate Female Adolescent Children against Cervical Cancer among Female Faculty Members of a Nigerian University

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# Abstract

**Background:** With low level of cervical cancer screening in the developing world, there is need for exploiting other angles that could be effective in stemming the tide of high mortality and morbidity rate due to cervical cancer. The availability of effective prophylactic HPV vaccines gives new promise for a primary prevention strategy for HPV infection and cervical cancer. Research effort on mothers' awareness and willingness to allow adolescent girl children between 9-13 years to get vaccinated against HPV will boost local literature and current effort aimed at combating the incidence and prevalence of cervical cancer in Africa. It is against this background that this study was designed to investigate willingness of mothers to vaccinate their girl children against HPV among female faculty members of the University of Ibadan, Ibadan.

**Methods:** The descriptive survey research design was employed in the study while the population comprised female faculty members across all the faculties in the University of Ibadan. A sample of 100 respondents was drawn across five faculties in the university using a two stage sampling technique. The inclusion criterion is having a female child that is between age 9-13. The instrument for data collection was a self-developed and validated questionnaire and the process of data collection involved face-to-face administration by the research assistants supervised by the principal investigator. Generated data were analysed using descriptive statistics of frequency count and percentages.

**Result**: The result of the study showed that although there is a high level of awareness on cervical cancer, the level of awareness on HPV vaccine was considerably low. This will in no little way affect willingness of mothers to have their female children vaccinated against HPV. Utilization of the HPV service will largely depend on the knowledgeable of its existence and benefits. Findings also showed that respondents' willingness to have their children vaccinated against HPV is largely dependent on cost, availability and accessibility of the vaccine.

**Conclusion:** Based on the findings of the study, it is concluded that there is low level of awareness on the availability of HPV vaccines among the population. It is also concluded that willingness to get girl children vaccinated against cervical cancer is dependent on cost, availability and accessibility. If members of the academic staff who are presumed to be knowledgeable about advancements in all spheres of the society including medical sciences reported low level of awareness of HPV vaccine, one wonders the level that will be reported by non-academic staff and even uneducated members of the society. It is therefore important to address the issue of availability, access and affordability to enhance the utilization of HPV vaccines.

# **Introductory Background**

Cancer is responsible for about 51million deaths yearly, out of which cervical cancer accounts for about 8.5%, most of which occurring in the developing countries including Nigeria. About half a million new cases are seen annually worldwide, most occurring in developing countries (Owoeye & Ibrahim, 2013). Human papillomavirus (HPV) is one of the most common sexually transmitted infections in sexually active adolescents and young women (Di Giuseppe, Abbate, Liguori, Albano & Angelillo, 2008) although it can occur in women of all age groups (Dahlstrom, Tran, Lundholm, Young, Sundstrom, & Sparen, 2010). The incidence of HPV infection is not precisely known, yet it is estimated that globally 75% of individuals (males and females) will experience an HPV infection at least once in their lifetime, with the highest rates of infection occurring in individuals under the age of 25.4 Over 50% of sexually active women are exposed to at least one HPV type during their lifetime (Di Giuseppe, *et al.*, 2008). A meta-analysis conducted in showed a global HPV prevalence of 11.7% (Dahlstrom *et al.*, 2010). HPV prevalence in Africa has been estimated at 21.1% with sub-Saharan Africa topping the list at 24% (Arnolu, 2008; Dahlstrom *et al.*, 2010). In Nigeria, HPV prevalence is high across all female ages but it is highest among 15–23 year olds according to WHO (2010).

HPV is a dominant factor in incidence of cervical cancer and young adolescents who are becoming more sexually active with lower age of sex debut are becoming very vulnerable (Falaye, 2012, Ajuwon, 2013). There is a strong link between early sexual debut and vulnerability to HVP (Arnolu, 2006) and it has been empirically established that young adolescent girls are not knowledgeable of this strong link (Anyanwu & Okeke, 2013) and this can further reinforce HPV and invariably cervical cancer risk behaviour. Cervical cancer is the second most common cancer in women worldwide and the second most common cancer in women aged 15–44 years in Nigeria (Di Giuseppe, *et al.*, 2008; Nnodu, Erinosho, Jamda, Olaniyi, Adelaiye, & Lawson, 2010). The incidence rate of cervical cancer in Nigeria is 25/100,000 while the reported prevalence rate for HPV in the general population is 26.3% (Nnodu, *et al.*, 2010). Most cases of cancer of the cervix, especially in developing countries, present at advanced stages when curative measures are unlikely to be successful this therefore makes preventive measures a far better option.

However, it should be noted that cervical cancer is preventable and can be cured if detected early enough. The long transition time from a premalignant lesion to frank cancer of the cervix affords ample time for early detection and nearly complete cure even in secondary health care centres. However, this window of opportunity which has enabled the developed countries to reduce the incidence of cancer of the cervix would be wasted if the level of screening is low in Nigeria. Low level of screening has been attributed to supernatural causes thereby resulting in delays in seeking help, fear of confirmation of suspicion and of course the perennial problem of

low coverage of the population by health centre services especially the rural areas (Adewole, Benedet, Brian & Follen, 2005). Furthermore, Owoeye and Ibrahim (2013) stated that it has been reported that 50-90% of women who develop or die from cervical cancer have never been screened.

With low level of cervical cancer screening especially in the developing world, there is the need for exploiting other angles that could be effective in stemming the tide of high mortality and morbidity rate due to cervical cancer. The availability of effective prophylactic HPV vaccines gives new promise for a primary prevention strategy for HPV infection and cervical cancer (Schiller, Castellsagu, Villa, & Hildesheim, 2008). Although the current vaccines only protect against 70% of the disease, and are only effective for those not yet exposed to the virus; it offers a great opportunity to effectively combating the ravaging effect of cervical cancer in the society. Previous studies on cervical cancer in Nigeria have reported low level of awareness (Audu, El-Nafaty, Khalil & Otubu, 1999), inadequate knowledge of aetiology and prevention even among nurses (Ayinde & Omigbodun, 2003; Owoeye & Ibrahim, 2013), low level of awareness of screening methods (Ezem, 2007), low level of utilization of Pap smear test (<u>Awodele</u>, <u>Adeyomoye, Awodele</u>, <u>Kwashi</u>, <u>Awodele</u>, and <u>Dolapo</u>, 2011; Addah, Ojule & Fiebai, 2012).

HPV vaccines prevent infections by certain types of <u>human papillomavirus</u> associated with the development of <u>cervical cancer</u>, <u>genital warts</u>, and other <u>cancers</u> (Markowitz, Dunne, Saraiya, Lawson, Chesson, & Unger, 2007). Tay (2012) thus noted that the World Health Organization (WHO), as well as public health officials in Australia, Canada, Europe, and the United States recommend vaccination of young women against HPV. Two vaccines have market approval in many countries called <u>Gardasil</u> and <u>Cervarix</u>. Both vaccines protect against the two HPV types (HPV-16 and HPV-18) that cause 70% of cervical cancers, 80% of anal cancers, 60% of vaginal cancers, and 40% of vulvar cancers (De Vuyst, Clifford, Nascimento, Madeleine, & Franceschi, 2009). These HPV types also cause most <u>HPV induced oral cancers</u>, and some other rare genital cancers. Gardasil also protects against the two HPV types (HPV-6 and HPV-11) that cause 90% of genital warts (CDC, 2010). WHO (2013) identified three levels of prevention and control of cervical cancer; primary (vaccination of girls between 9-13 years), secondary (periodic screening for women that are 30 years and above) and tertiary (treatment of invasive cancer at all age for all women as necessary).

There is paucity of literature on mothers' awareness and willingness to allow adolescent girl children between 9-13 years to get vaccinated against HPV which is a major factor in cervical cancer. Only one study by Ezenwa, Balogun and Okafor (2013) has been conducted in this regard. But the study was carried out at a community setting in Lagos where the largest proportion of the respondents had no tertiary education and as such are deemed to be constrained in knowledge seeking and utilization as regards protective health practice against cervical cancer. It is important to examine how faculty members of a foremost university in Nigeria will perceive the threat of cervical cancer and how to contain it among their female children through vaccination. It is against this background that this study was designed to investigate willingness of mothers to vaccinate their girl children against HPV among female faculty members of the University of Ibadan, Ibadan. It is suspected that perceived cost of securing HPV vaccination, convenience and even knowledge of HPV vaccination might influence the willingness of mothers to vaccinate their girl children against HPV. Very important, is the fact that the vaccination might give the vaccinated girl children who might have been delaying sexual debut due to associated risk to freely engage in

sex knowing that they have been vaccinated even when the vaccination did not cover for other concomitants like HIV/AIDS, unplanned pregnancy among others.

## **Research Questions**

The following research questions were raised to guide the study:

- What is the awareness level of female faculty staff of the University of Ibadan on HPV vaccination?
- Is female faculty staff of the University of Ibadan knowledgeable of HPV vaccination?
- Will female faculty staff of the University of Ibadan be willing to vaccinate their adolescent girl children against HPV?

# Methodology

The descriptive survey research design was employed in the study while the population comprised female faculty members across all the faculties in the University of Ibadan. The university has four colleges and nine faculties but respondents for the study were drawn from the faculties. A sample of 100 respondents was drawn across five faculties in the university using a two stage sampling technique. At the first sampling stage, simple random sampling technique was used to select five out of the nine faculties in the university and the second sampling stage involved the selection of 20 faculty members from each of the faculties using purposive sampling as shown in the sampling frame below. The inclusion criterion is having a female child that is between ages of 9-13. The instrument for data collection was a self-developed and validated questionnaire and the process of data collection involved face-to-face administration by the research assistants supervised by the principal investigators.

Faculty	Respondents
Arts	20
The Social Sciences	20
Education	20
Science	20
Agriculture and Forestry	20
Total	100

# Table 1: Sampling Frame

The instrument has three sections designed based on the questions raised in the study. The first section was designed to generate data on awareness on HPV, HPV vaccine and cervical cancer. The second section was designed to seek data on knowledge of HPV, HPV vaccine and cervical cancer. It has ten items designed along three rating scale of agree, disagree and no idea. The third section sought data on willingness to vaccinate female children against HPV and it has five items. Generated data were analysed using descriptive statistics of frequency count and percentages.

# Result

# **Table 2: HPV Awareness among Respondents**

	Percentage Response	
ITEM	YES	NO
Have you ever heard of cervical cancer before now?	100.0	-
Have you heard of HPV before?	62.0	38.0
Do you know that there is HPV vaccine?	36.0	64.0

The result of the study revealed a high level of awareness on cervical cancer but low level of awareness on other related and critical issues relating to cervical cancer. Findings showed that although there is 100% awareness level on cervical cancer, only 62% reported having heard about HPV which is a dominant organism in cervical cancer incidence and prevalence. Result also showed that an even lesser percentage of the respondents, 36.0% has heard about HPV vaccination. The implication of this result to HPV vaccination is grave as one can only utilize service that one is not only aware of but also knowledgeable about.

# Table 3: Knowledge of HPV and HPV Vaccination among Respondents

		Percentage Response		
	ITEM	AGREE	NO IDEA	DISAGREE
	HPV is the organism that causes cervical cancer	61.0	26.0	13.0
	HPV can be transmitted sexually	48.5	28.5	23.0
	Early sexual debut predisposes one to HPV	34.5	47.0	18.5
	HPV is not curable	15.0	49.5	35.5
	There are vaccines that can prevent HPV	28.5	56.0	15.5
girls	HPV vaccine can only be taken between age 9-13 for	17.5	71.0	11.5
	HPV vaccine can affect a girl's fertility	5.5	79.0	15.5

The result of the study showed that level of knowledge on HPV and HPV vaccine among the respondents is relatively low as the largest percentage in almost all the items was no idea. Although 61% indicated knowledge of HPV being a factor in cervical cancer occurrence only 48.5% correctly observed that HPV can be transmitted sexually with 28.5% indicating that they do not have idea. The result of the study also showed that only 34.5% of the respondents correctly noted that early sexual debut predisposes young girls to HPV with the largest proportion, 47.0 stating that they do not have idea. 49.5% of the respondents stated that they do not have idea if HPV is curable while 28.5% noted that HPV vaccines exist with 56.0% indicating that they do not have idea. Findings also revealed that only 17.5% of the respondents correctly noted that HPV can only be taken by females within the age of 9-13 years with 71.0% noting that they do not have idea. The result of the study also showed that the largest proportion of the respondents, 79.0%

stated that they do not have idea if HPV vaccine can affect a girl's fertility with 15.5% correctly disagreed that HPV vaccine can affect a girl's fertility.

# Table 4: Willingness of Respondents to get their Girl Children Vaccinated against HPV

		Percentage Response	
ITEM	Agree	Disagree	
I am willing to vaccinate my girl children against HPV	56.5	43.5	
I will spare no effort to vaccinate my girl children against HPV	47.0	53.0	
If the vaccination service is available and accessible, I will have my girl children vaccinated against HPV	64.5	35.5	
If the vaccination monetary cost is cheap, I will vaccinate my gir children against HPV	67.5	32.5	
I am ready to vaccinate my girls against HPV, no matter the monetary and non-monetary cost	45.0	55.0	

The findings showed a high level of willingness of mothers to get their girl children vaccinated against HPV provided that certain issues relating to accessibility and affordability are addressed. Findings showed that over 50% of the respondents, 56.5% expressed willingness to get their girl children vaccinated against HPV with only 47.0% stating readiness to have this done against all odds. Findings showed that 64.5% of the respondents indicated willingness to have their girl children vaccinated against HPV with a larger percentage, 67.5% stated that they will have their girl children vaccinated against HPV if the monetary cost is affordable with only 45% indicating willingness to have their girl children vaccinated against HPV if the monetary cost is affordable with only 45% indicating willingness to have their girl children vaccinated against HPV, the monetary and non-monetary cost notwithstanding.

# **Discussions of Findings**

The findings of the study revealed that although there was a high level of awareness on cervical cancer, the awareness level of HPV was however lower which is indicative of the fact that the knowledge level of cervical cancer among the respondents is still not very satisfactory. This can be affirmed by the fact that only 36% of the respondents disclosed having heard of HPV vaccine. HPV vaccine knowledge is critical to accessing HPV vaccine as one can only make use of what one has knowledge of. Moreover, the findings of the study as shown in the second table of the result presentation section showed that the largest proportion of the respondents indicated no idea to critical issues surrounding knowledge of HPV vaccination. Social research is directed at uncovering modifiable factors affecting variables and constructs of social importance. Since knowledge is a modifiable factor that affects utilization of health care services, it is important to have the knowledge level of individuals and groups in the society on cervical cancer and HPV vaccination improved using systematic educational strategies. The findings of the study on awareness level on HPV is however not in line with the findings of Ezenwa et al., (2013) which reported 27.9% level of awareness on HPV as against the 62.0% reported in the present study. In the same vein, the 36% awareness level on HPV vaccine found in this study is also higher than the 19.7% reported in Ezenwa et al (2013). This difference is not unconnected with the populations of

the two studies as the present study had female faculty members of a foremost university in Nigeria as respondents.

The findings of the study as presented in table 3 revealed that though respondents indicated willingness to have their girl children vaccinated against HPV, the need of addressing critical issues relating to accessibility and affordability must be addressed. The place of availability and accessibility in health care service utilization cannot be overemphasized. People will be more willing to use health care services they are readily available and accessible to them. This makes making HPV vaccination service available and accessible very crucial. In the same vein, the monetary cost involved in accessing HPV vaccination must be within the reach of ordinary members of the society. HPV vaccination service could be typified as a primary health care service and as such, the people must be able and ready to meet the cost at every stage and level of their development. This finding of the study that relates availability, and accessibility to willingness to utilize HPV vaccination service corroborates the findings of Shaikh, Haran, Hatcher and Iqbal (2007) which listed availability as a major determinant of health care service utilization. In the same vein, the findings that revealed that willingness to utilize HPV vaccination service is dependent on cost also confirms the earlier finding of Anyanwu and Okeke (2014) which reported that cost of health care significantly predict utilization of health care services. It is also in line with the view of Park (2007) that purchasing power plays significant role in predicting utilization of available health care service. Specifically for cervical cancer, the finding on cost also affirm the finding of Demarteau, Morhason-Bello, Akinwunmi, Adewole (2014) which identified limited resources in monetary cost as a factor in cervical cancer prevention in Nigeria regarding HPV vaccination.

#### Conclusion

From the findings of the study it is concluded that while awareness level on cervical cancer and HPV is relatively high among the respondents, awareness and knowledge level on HPV vaccine is low. This notwithstanding, the respondents indicated willingness to have their girl children vaccinated against HPV and this willingness is further strengthened by improved accessibility and affordable monetary cost.

#### Recommendation

Based on the findings and conclusion of the study, the following are recommended:

- 1. There is need for massive awareness creation on the existence and benefit of HPV vaccination among members of the university community. This is premised on the fact that one wonders the awareness and knowledge level of non-faculty members and uneducated women in the community if low level was reported among faculty members that are presumed to be in the know. The use of various channels including formal and informal channels like seminars and workshops, use of IECs, use of the university community radio and other points must be used in this regard.
- 2. HPV vaccination service must be made readily available and accessible to members of the university community and the University Health Services (Jaja Clinic) provides a viable means of ensuring this.
- 3. Effort must be made by both governmental and non-governmental bodies to address issues of cost to ensure that the monetary cost for accessing HPV vaccination is bearable

and if possible, it should be made to e accessed without monetary cost or at a very subsidized rate.

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