Original Article

Determinants of premarital sex in Maiduguri, Nigeria: Implications for Human Papilloma Virus vaccination

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ABSTRACT

Background: Early coital exposure is associated with multiple sexual partners and higher risk of sexually transmitted infections including oncogenic human papilloma virus (HPV) which is a precursor of cervical cancer. **Aim:** To document the determinants of premarital sex with a view to determine the age of HPV vaccination. **Methods:** A cross sectional study of 221 respondents carried out between January and April 2010. **Results:** The majority, 188(85.1%) were aged 20-29 years. The mean age was 24.73+4.929. Males constituted 125 (56.6%) with 165(74.7%) being single. One hundred and eighty (81.4%) were university students. Most, 111 (50.2%) have not had premarital sex. Twenty four (10.9%) had early sexual exposure (<age 15) while 60 (27.1%) initiated intercourse between 16-20years.Eighty two (37.1%) had premarital intercourse with statistically significant preponderance of males over females (X^2=10.844, P=0.004). Ninety five percent of respondents agree that an STI vaccine should be given with most respondents (96; 43.4%) citing age group 10-15years as the most appropriate age for vaccination. After logistic regression analysis, determinants of premarital sex were religion (OR 3.1, 95% CI 1.0-4.7) and occupation (OR 2.5, 95% CI 1.7-14). **Conclusion:** Age at sexual debut ranged between 16 and 20 years and appeared to be later in females than in males. With the overwhelming number of respondents endorsing the use of an STI vaccine, the introduction of HPV vaccine is unlikely to suffer a major setback in Maiduguri.

Key words: Premarital sex, HPV vaccine, sexual debut, Nigeria

INTRODUCTION

Premarital sexual exposure is an issue of health concern in many parts of Northern Nigeria. Islam and Christianity are the major religions practiced by the respondents prohibiting premarital sex. Not only that, one of the strategies to reduce the impact of HIV/AIDS is abstinence that further reinforces the concept of avoidance of premarital sex.[1] Early sexual debut, which is most of the time premarital, is associated with high risk sexual behaviour in later life.[2] Multiple sexual partners and high risk of acquiring sexually transmitted infections are associated with early sexual debut.[3,4] These factors increase the risk of acquiring oncogenic Human Papilloma Virus (HPV)

infection which is a prelude to cervical cancer. Although, the vaccine for HPV is available, the cost makes it inaccessible to most people in the developing world, especially in sub Saharan Africa. The recommended age of HPV vaccination is largely determined by the age of sexual debut. It is important to document the age of sexual debut in our locality so that informed timing of the vaccine will be suggested. This informed the need to carry out this study.

METHODOLOGY

This was a cross sectional, questionnaire based study. It was a convenience sampling of 221 respondents, aged 15-60 years in Maiduguri between January and April 2010. Respondents were asked about their demographic characteristics, premarital sex, age at sexual debut and the appropriate age to give an STI vaccine.

Statistical analysis
After collection, data was verified, coded and transferred into an IBM compatible PC. Simple descriptive univariate analysis was performed to determine the frequency of the various factors. Means and standard deviations for continuous variables were computed. The influence of socio-demographic pattern on premarital sexual activity was analysed using bivariate and logistic regression. Variables that did not fulfil an entry criterion of $p=0.05$ and removal criterion of $p = 0.051$ were removed from the model. SPSS version 16 (SPSS, Inc, Chicago, IL) was used for data analysis. The differences in variables were determined by Chi –square test. *P*-value <0.05 was considered significant.

RESULTS

The majority of respondents were aged 20-29 years with a mean of 24.73±4.929. Males were in the majority with many of the respondents being single. More than two thirds are university students. About half have not had premarital sex. Ninety five percent of respondents agree that an STI vaccine should be given. Religion and occupation were the major determinants of premarital sex.
A total of 221 respondents were interviewed during the study period.

Table 1: Socio-demographic characteristics of respondents (n=221)

Characteristic	Number	Percentage
Age (years)		
<20	14	6.3
20-29	188	85.1
30-39	17	7.7
≥40	2	0.9
Sex		
Male	125	56.6
Female	96	43.4
Marital status		
Single	165	74.7
Married	56	25.3
Educational status		
Complete primary	2	0.9
Incomplete secondary	8	3.6
Complete secondary	12	5.4
OND/NCE/HND	19	8.6
University	180	81.4
Occupation		
Doctor	2	0.9
Nurse/midwife	7	3.2
Student	173	78.8
Business	19	8.6
Publisher	6	2.7
Housewife	14	6.3
Religion		
Muslim	134	60.6
Christian	87	39.4
Course of study		
MBBS	81	36.7
Other sc related	48	21.7
Arts related	44	19.9
Not applicable	48	21.7
Ethnicity		
Igbo	41	18.6
Hausa	38	17.2
Kanuri	33	14.9
Fulani	31	14.0
Yoruba	19	8.6
Others	59	26.7

MBBS-Bachelor of medicine and surgery
Other sc related--Other science related courses

Table 1 depicts the socio-demographic characteristics of respondents. Majority (n=188; 85.1%) were aged 20-29 years. Most of the respondents were males (n=125; 56.6%), single (n=165; 74.7%) and University students (n=180; 81.4%). Those of Igbo ethnic group were in the majority, (n=41; 18.6%). Premarital sex and age of sexual debut is depicted in Table 2.

Table 2: Premarital sex and age at first coitus (n=221)

Premarital sex	Number	Percentage
Yes	82	37.1
No	111	50.2
No response	28	12.7
Age at first coitus (yrs)		
No response	25	11.3
Not sexually active	82	37.1
<10	2	0.9
11-15	22	10.0
16-20	60	27.1
21-25	22	10.0
>25	8	3.6

Majority of the respondents have not had premarital sex (n=111; 50.2%) while 82 (37.1%) have had premarital sex. About 10.9% had early sexual exposure with majority
(n=60; 27.1%) having had their sexual debut between 16-20 years.

Table 3: When is the ripe age for boys to initiate sex (n=221)

Variable	Number	Percentage
After marriage	25	11.3
When ready	4	1.8
No response	1	0.5
<18yrs	73	33.0
19-25	100	45.2
>25	18	8.1

Table 3 details the opinion of respondents on the timing of an STI vaccine. Most (n=96; 43.4%) believe it should be given within the age bracket of 10-15 years, while 29.4 % said it should be given at 16-20 years. Only one (0.5%) believes that it should not be given at all.

The relationship between socio-demographic characteristics and premarital sex is shown on Table 4. Age (X^2= 65.737, *P*=0.002), Religion (X^2= 15.393, *P*=0.000), Ethnicity (X^2= 27.161, *P*=0.002), Gender (X^2= 10.844, *P*=0.004), Marital status (X^2= 8.046, *P*=0.018), and occupation (X^2= 20.389, *P*=0.026), were significantly associated with premarital sex while education (X^2= 18.622, *P*=0.98), was not.

Table 4: When is the ripe age for girls to initiate sex (n=221)

Variable	Number	Percentage
After marriage	27	12.2
No response	1	0.5
<18yrs	136	61.5
19-25	55	24.9
>25	2	0.9

Table 5: At what age should an STI vaccine be given (n=221)

Variable	Number	Percentage
No response	10	4.5
Not to be given	1	0.5
At birth	20	9.1
At puberty	21	9.5
10-15yrs	96	43.4
16-20	65	29.4
>20	8	3.6

In the logistic regression analysis detailed in Table 5, identified determinants of premarital sex were religion (O.R. 3.1, 95% CI: 1.0-4.7) and occupation (O.R. 2.5, 95% CI: 1.7-14)

Table 6: Relationship between premarital coitus and demographic characteristics Of respondents

Variable	Premarital coitus			Total

1. Age (yrs)

	Yes	No	Non response	
<20	3	11	0	14
20-29	68	95	25	188
30-39	9	5	3	17
>40	2	0	0	2
Total	**82**	**111**	**28**	**221**

X^2=65.737, P=0.002

2. Religion

	Yes	No	Non response	
Islam	36	79	19	134
Christian	46	32	9	87
Total	**82**	**111**	**28**	**221**

X^2=15.393, P=0.000

3. Ethnicity

	Yes	No	Non response	
Hausa	7	27	4	38
Fulani	7	19	5	31
Igbo	22	16	3	41
Yoruba	11	7	1	19
Kanuri	7	18	8	33
Others	28	24	7	59
Total	**82**	**111**	**28**	**221**

X^2=27.161, P=0.002

4. Gender

	Yes	No	Non response	
Male	51	52	22	125
Female	31	59	6	96
Total	**82**	**111**	**28**	**221**

X^2=10.844, P=0.004

5. Marital status

	Yes	No	Non response	
Single	59	79	27	165
Married	23	32	1	56
Total	**82**	**111**	**28**	**221**

X^2=8.046, P=0.018

6. Education

	Yes	No	Non response	
Complete primary	2	0	0	2
Incomplete sec	4	4	0	8
Complete sec	6	6	0	12
OND	2	2	0	4
HND	2	11	0	13
NCE	2	0	0	2
UNIV	64	88	28	180
Total	**82**	**111**	**28**	**221**

X^2=18.622, P=0.98

7. Occupation

	Yes	No	Non response	
Doctor	1	1	0	2
Nurse/midwife	0	7	0	7

Student	58	87	28	173
Business	11	8	0	19
Publisher	4	2	0	6
House wife	8	6	0	14
Total	**82**	**111**	**28**	**221**

X^2=20.389, P=0.026

Table 8: Logistic Regression analysis of determinants of premarital coitus

Variable	OR	95% CI	P-value
Religion	3.1	1.0-4.7	0.002
Occupation	2.5	1.7-14	0.013

DISCUSSION

The fact that most of our respondents were in the age bracket of 20-29 years suggests that the youth were predominant. Similarly, most of the respondents were single and students of university. This group of people are the agents of change in any society such that their views on any issue cannot be neglected. Half of the respondents in our study have not had sexual exposure. This is in sharp contrast to a study among adolescents in the United States and young adults in some European countries which showed that most of those studied were sexually exposed.[5,6] The traditional value placed on virginity and the taboo associated with premarital sex may explain the high number of respondents who were yet to initiate sex. The fact that many were students who look into the future with optimism and do not want to be distracted from their studies may be a factor, more so that many were medical students and those in science-based course are more demanding. In contrast, a study among street youths in south west Nigeria revealed that 79.0% were sexually active.[7] This can be explained by the t influence of drugs, alcohol and lack of parental care among street urchins.[8,9] Although, the majority of the respondents had not initiated sex, a reasonable percentage, 10.9% had early sexual exposure (< age 15years). This is however, lower than 27.3% reported in eight African countries,[10] 19.3% among Swedish teenage girls,[11] and 27% among poor urban females in Ethiopia.[12] The traditional value system in northern Nigeria could still explain the low rate of early sexual debut.

The age of sexual debut in our study was 16-20 years although males were more likely to initiate sex earlier than female. This is similar to study among South African youths.[4] Although, the accuracy of recall at age of sexual debut may be inconsistent and varies between 30-50%,[13] the variation may not be significant in our study as age grouping rather than absolute age was used. The highest rates of new infections with high risk HPV types occur in the first year following sexual debut and this is the reason for the recommendation to vaccinate young girls around the time of sexual debut.[14] The overwhelming, 95% of our respondents believe that STI vaccine should be given with most suggesting 10-15 year as the appropriate age to commence vaccination. With HPV a common infection diagnosed on cervical cytology among women in Maiduguri[15] and with poor coverage offered by papanicolaou smear for cervical cancer screening in developing countries, HPV vaccine, for both males and females is the answer to the reduction of cervical cancer related deaths. It seems from our study that the most appropriate age to commence HPV vaccine is 16-20 years. This is also the age at which youths are becoming more independent sexually and would appreciate better the implications of a vaccine.

Although the age of sexual debut is easier to determine that other confounding factors, the latter need to be considered in the timing of an STI vaccine. In our bivariate model, age,

religion, ethnicity, gender, marital status and occupation attained statistical significance but only religion and occupation remained significant as determinants of premarital sex after logistic regression analysis. Religion plays an important role in moulding the morale of the society and both islam and christianity frown at premarital sex. The significantly high number of christians who had premarital sex may be influenced by other cultural rather than religious factors. The highest number of those who had premarital sex as a single ethnic group was the Igbos and virtually all are christians. Similarly, the other ethnic groups that were lumped together are the minorities among which certain cultural practices may override religious teachings. Race as a factor in early sexual debut has been reported.[16] In our case ethnicity as a factor could be considered. In our study, among the major tribes in Nigeria, the highest incidence of premarital sex in descending order was Igbo, Yoruba and Hausa/Fulani. These factors could influence the timing of an STI vaccine based on the ethnicity of the people. Students were 2.5 times more like to engage in premarital sex than other occupations studied. The liberty offered by the university, less parental control, peer pressure and the effect of new media can explain this finding. The students being a high risk group for premarital sex can also form a target group to experiment with the introduction of HPV vaccine in Maiduguri, Nigeria.

In conclusion, with the overwhelming number of respondents endorsing the use of an STI vaccine, the introduction of HPV vaccine is unlikely to suffer a major setback in Maiduguri.

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