

## The role of HIV counselling and testing in sexual health behaviour change among undergraduates in Lagos, Nigeria

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**Abstract:** In developing countries risky sexual behaviour among young people is on the increase. This study examined the likelihood of HIV counselling and testing (HCT) in reducing risky sexual behaviour among undergraduates in Lagos Metropolis in Nigeria. The main hypothesis tested in the study was the uptake of HCT is likely to reduce risky sexual behaviour among young undergraduates. A multistage sampling procedure was adopted to select a sample of 625 undergraduates in the study setting. A structured questionnaire was administered to respondents to elicit information on previous participation in HCT and sexual behaviour before and after participation. Result indicates that 26.1% of males and 28.9% of females ever participated in HCT. The average number of heterosexual partners kept by the respondents declined among males and females from 3.17 and 2.36, respectively before they participated in HCT to 2.27 and 1.6 after they participated in HCT. The differences in the average number of sexual partners by the respondents before and after they participated in HCT were statistically significant ( $P=0.000$ ). The proportion of male respondents who engaged in frequent sex also declined from 35.8% (before participating in HCT) to 24.1% (after participating in HCT) and from 25% (before participating in HCT) to 24.7% (after participating in HCT) among females. In conclusion, participation in HCT is likely to reduce the prevalence of risky sexual behaviour among undergraduates in the study setting. Therefore, HCT is an intervention that should be emphasized.

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**Keywords:** HIV, counselling, testing, sexual behaviour, Nigeria

### Introduction

In developing countries risky sexual behaviour among young people is on the increase (Juarez & Martin, 2006; Stulhofer, 2007; Mberu, 2008; Bankole & Malarcher, 2010). In most part of sub-Saharan Africa, most young people become sexually active by age 20 years (Okonofua, 2007). The median age at first sex in Nigeria is estimated as 19 years among males and 18 years among females and it is much lower in the North, as low as 16 years (FMH, 2006). The fact that condom use is very low among young people in the country implies that protection against sexually transmitted infections (STIs) including HIV is limited. The consequence is that the population is at a great risk of STIs.

A survey by Denison *et al.* (2008) indicated that half of HIV infections worldwide occur among young people between ages 15 and 24 years. It is also most likely that 60% of the 2.6 million Nigerians living with HIV/AIDS is among young people (Isiugo-Abanihe & Isiugo-Abanihe, 2007; UNAIDS, 2008). The growing prevalence of HIV/AIDS and the destructive effects of STIs in the country make the pervasive premarital sexual activities among young people a serious social problem.

Although in a recent review Sawers & Stillwaggon (2010) contested the concurrency hypothesis, heterosexual intercourse is still considered the major means of transmission of the epidemic in Sub-Saharan Africa (Bongaarts *et al.*, 2008). Series of interventions that can

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promote change in sexual behaviour in this vulnerable population are on course at different levels. HIV Counselling and Testing (HCT), previously referred to as Voluntary Counselling and Testing, has been identified as one of such important interventions to address the HIV/AIDS epidemic (Charles *et al.*, 2008). HCT is considered germane to the battle against sexual transmission of the epidemic and it is a principal entry point in the treatment and prevention of HIV/AIDS (Pronyk *et al.*, 2003; Rajsjo *et al.*, 2007). This position is premised upon the possible effects of various counselling procedures on young people sexual behaviour. In the last one decade or more, HCT has gained popularity in most Sub-Saharan African countries.

Although, the effect of HCT on behaviour among adults has been widely documented, little is known about its effect among young people (MacPhail *et al.*, 2008). Moreover, findings on the relationship between HCT and sexual behaviour among young people in Africa are still conflicting (Sherr *et al.*, 2007). On one hand, there is the contention that significant relationship between HCT and sexual health behaviour among young people exists (Matovu *et al.*, 2005). On the other hand, some studies have reported that HCT tends to increase risky sexual practices among young people (Sherr *et al.*, 2007). Yet, some studies have observed that the uptake of HCT among young people is likely to reduce risky sexual behaviour (Population Council, 2001; Chu *et al.*, 2005; FHI, 2006; Arthur *et al.*, 2007). Some of the changes in the sexual behaviour owing to the uptake of HCT, as indicated in those studies, included abstinence from sexual activities, adoption of condom during sexual intercourse, reduction in the number of new sexual partners and opting for monogamous marriages. In general, the studies in this category argue that uptake of HCT possesses the capacity to reduce risky behaviour and promote safer practices among both young people and adults (Bunnell *et al.*, 2006). Generally, these studies suggest that HCT could be considered as a veritable tool for promoting prevention messages that can reduce the prevalence of HIV infection (Taylor *et al.*, 2007).

The forgoing has demonstrated that there is apparent discord in research findings on the relationship between the uptake of HCT and sexual behaviour, especially among adolescents. The conflict in the findings points to the need for further investigation. Hence the present study seeks to contribute to the debate by re-examining the relationship using primary data collected among undergraduates in Lagos Metropolis in Nigeria. The main hypothesis tested in the study was the uptake of HCT is likely to reduce risky sexual behaviour among young undergraduates.

## **Materials and Methods**

### ***Study setting and study population***

The study was conducted in Lagos State, the commercial capital of Nigeria, having a population of over 9 million (National Population Commission, 2007). Lagos Metropolis is home to roughly ten public and private institutions of higher learning. For the purpose of this study, the two public Universities in the City (University of Lagos and Lagos State University) were chosen. This decision was based on the premise that undergraduates of such institutions are much likely to be knowledgeable in the subject matter of the study in view of the fact that HCT campaigns had focused on the campuses for the last few years. HCT facility addressing sexual health needs of both staff and students is available at the health centres within the campuses. The choice of the study population was based on the assumption that HCT activities must have penetrated the campus communities, especially

among students. The only privately owned University then was excluded because it was relatively new.

### ***Study design and data collection***

Survey research design was adopted. A representative sample of undergraduates was selected through a multistage sampling procedure between February and April, 2008. At the first stage, three faculties were selected through a simple random process in the two Universities. These included faculties of Social Sciences, Arts and Sciences. Thereafter, two departments each (Sociology and Economics from Social Sciences; English and History from Arts; Biochemistry and Microbiology from Science) were selected from the chosen faculties using a random process. In each department, it was planned to interview 52 respondents. Respondents in the selected departments were accessed randomly using students' registers which served as the sampling frame at this stage. A pre-coded questionnaire which was designed, pre-tested and revised was utilized in the survey.

The major variables in the study were measured through questions contained in the instrument. Information sought included individual participation in HCT, undertaking of HIV test and knowledge of ones HIV status. Other information was experience in sexual intercourse before and after HCT participation, previous and current partners, frequency and engagement in sex.

### ***Data analysis***

Analysis of data was done using the Statistical Package for Social Science (SPSS) version 16.0. Descriptive statistics were utilized to provide basic description of respondents in terms of some background characteristics and sexual health behaviour. The Chi-square statistic was deployed in testing for association between previous participation in HCT and HIV test. The level of significance is indicated by the probability values. Owing to the fact that the two variables were of two-by-two categories, a related statistic, *Phi*, was utilized to test the strength of association between them. The value of the coefficient of *Phi* usually ranges between 0 and 1 (0= fairly weak, 0.4-0.7= moderate strength;  $\geq 0.8$  =very strong association (Sarantakos, 1998). The *t-test* statistic was used at the level of parametric analysis to examine the significance of the difference in the average number of sexual partners respondents kept together before they participated in HCT and after. The level of the significance of the difference is indicated by the probability values. In general, a before-and-after HCT strategy was adopted in the analysis (Arthur *et al.*, 2008)

### ***Ethical consideration***

Trained field assistants were used in data collection. The objectives of the study were explained to every selected student and an informed consent was obtained before one participated in the study. Participants were free to decide not to participate in the study. In addition, the instrument was designed to ensure respondents' confidentiality and anonymity.

### **Results**

Over all, 625 respondents were interviewed (male=48%; female=52%). Average age of male respondents was 24 years and it was 23 years among their female counterparts. Some of

the students combined employment with full-time studies (32.7% among males and 25.2% among females).

### *Sexual experience of respondents*

The majority of males (72%) and females (63.1%) indicated to have lost their virginity. Over half of males and 46% of females reported having current sexual partner(s). The average age at first heterosexual sex was 18.4 years and 19.3 years for males and females, respectively. Males became sexually active earlier than their female counterparts (Table 1). The average number of sexual partners by male respondents prior to their participation in HCT (3.17) was higher than that of their female counterparts (2.36).

**Table 1: Proportion (N) of sexual experience of respondents by gender**

Sexual experience	Response	Male	Female
Still virgin	Yes	28.0 (84)	36.9
	No	72.0 (216)	63.1
Currently having sexual partner	Yes	50.7 (152)	46.2
	No	49.3 (148)	53.8

### *Uptake of HCT and HIV test*

Only 26.3% of males and 28.9% of females indicated completing HCT. Some 39.3% of male respondents and 43.7.9% of females have had HIV test. Self-reported participation in HCT was generally low in the sample. It was also apparent that female respondents reported a relatively higher level of previous completion of HCT and HIV test. Furthermore, respondents were asked about the benefits, in their own opinion, they derived from participating in HCT. Out of the 91 males and 103 females who responded to this question, 48.4% of males and 61.2% of females reported acquisition of knowledge about HIV/AIDS. The next important benefit derived by both sexes was knowledge about how to manage their sexual life. Benefit in the area of knowledge about contraceptives was the least.

Participation in HCT was likely to promote undergoing HIV/AIDS test among both males and females. Over 70% of those who previously participated in HCT indicated they did HIV test. Amongst those who never participated in HCT, only 24.4% (male) and 32.9% (female) indicated having undertaken HIV test. The Chi-square values (male =78.1; female = 37.8) and probability values ( $P=0.000$  for both sexes) show that the two variables were highly associated. The *Phi* statistic indicates that the strength of relationship between uptake of HCT and HIV/AIDS test in the sample population was moderately strong ( $Phi=0.51$ ) among males and fairly weak ( $Phi =0.34$ ) among their female counterparts.

**Table 2: Association between participation in HCT and doing HIV/AIDS test by gender**

Gender	Response	Participation in HCT (%)		Had done HIV test (%)
		Yes	No	No
Male	Yes	81.0		19.0
	No	24.4		75.5
Female	Yes	70.2		29.8
	No	32.9		67.1

Chi-square value: male = 78.1; female =37.8;  $P = 0.000$ ; *Phi* values: male = 0.51; female = 0.34;  $P = 0.000$

### *HIV counselling and testing and sexual behaviour*

Among male respondents, the average number of heterosexual partners before participating in HCT was 3.17. It declined to 2.27 after completing HCT. Amongst female respondents, average number of regular heterosexual partners before participation in HCT was 2.36 and it declined to 1.63 after participation. The data indicate that there was a reduction of one in the number of sexual partners among both males and females after the completion of HCT. The difference in the average number of sexual partners before and after the completion of HCT was statistically significant. The *t*-test values for males was 11.474 (df=177) before participation in HCT and 10.535 (df=159) after participation in HCT. For females the *t*-test value was 11.730 (df=129) before participation in HCT and 13.999 (df=170) after participation in HCT. The differences were statistically significant ( $P=0.000$ ).

The effect of the respondents' participation in HCT on frequent sex was also examined. The proportion of male respondents who engaged in frequent sex declined from 35.8% (before participation in HCT) to 24.1% (after participation in HCT). Among their female counterparts, the proportion declined from 25% (before participation in HCT) to 24.7% (after participation in HCT).

## Discussion

This study has examined the contribution of HCT to change in the sexual behaviour of young people. The data analysis reveals that HCT uptake is low in the study sample. The patronage of HIV test is also rare in the population. Both HCT and HIV test uptake are slightly higher among female respondents than among their male counterparts. This finding is consistent with the report of earlier studies that used population-based samples (Hutchinson & Mahlalela, 2006; Charles *et al.*, 2009). A possible explanation for the low uptake is the fear of getting a positive test result and stigmatization (Nuwaha *et al.*, 2003; Okonkwo *et al.*, 2007; MacPhail *et al.*, 2008). This result deviates from the findings of hospital based studies where high uptake of HCT have been reported (Onah *et al.*, 2008; Galadanci *et al.*, 2008). These reports are not surprising because in hospitals, it is almost compulsory for patients to undergo HIV test before they can be attended to by medical personnel. They do not really have a choice when they are in need of medical attention.

This study found that there is a significant association between participation in HCT and undergoing HIV test among both males and females. The likelihood is high that those who previously participated in HCT and undergo the counselling procedures will likely to seek to know their HIV status. This is important because some HCT clients refuse the test even though it is an integral part of HCT. In this study sample, some of the respondents indicated their HIV status.

A critical aspect of the impact of HCT on sexual behaviour of young people examined in the study was the number of sexual partners kept together by respondents before and after participating in HCT. Decline in the number of heterosexual partners kept by both male and female respondents is observed in the analysis. The reduction in the number of sexual partnerships is crucial owing to the role of this factor in the spread of STIs including HIV in Sub-Saharan Africa (Bongaarts *et al.*, 2008). This finding concurs with the result of a study in Kenya whereby the number of sexual partners was reported to decline after the partners completed HCT (Arthur *et al.*, 2008). Similarly, it is apparent that the proportion of respondents who engaged in frequent sex declined after completing HCT compared to the frequency before participation. Although Bongaarts *et al.* (2008) argue that frequent sex is not a significant factor in the HIV epidemic, frequent sex may be a reflection

of multiple sexual partnerships among young people. These results strengthen the findings of the second group of earlier studies that argue that HCT exerts restraining effects on risky sexual behaviour among young people (FHI, 2006).

This study suffers some limitations. Firstly, the sampling process was characterized by selection problem in that not every element in the population selected was interviewed. Some selected members were not willing to participate in the study and we had no choice than to replace them with their colleagues who were willing. This introduced some error into the sampling procedure. Also, the fact that data analysed were generated from a cross-sectional survey with its attendant limitations coupled with the usual reluctance of people to discuss sexuality in this part of the world limited interpretations. Finally, there are about 96 public and private universities in Nigeria, selecting respondents only from two may not be truly representative of undergraduates in the country. As a result, though the findings are quite insightful, interpretation and generalization may have to be done with some caution. In spite of these limitations the study has made some valid contributions to knowledge on the relationship between HCT and young people sexual behaviour with far reaching implications for public health.

In conclusion, the findings suggest the role of HCT in improving sexual health among young people cannot be overlooked. The findings indicate that participation in HCT is moderately gaining ground among undergraduates and is capable of reducing risky sexual behaviour among them. Participating in HCT led to reduction in the number of heterosexual partners and the proportion of students who engaged in frequent sex. In this sense HCT is serving a significant function towards reducing health risk among young people in the community. Therefore, it is appropriate that existing HCT services should be strengthened and established where not available.

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