

Psycho-Cognitive Factors Associated with HIV Counseling and Testing Service-Utilization among In-School Adolescents in a South Western State, Nigeria

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Abstract

Background: Adolescents account for over 50% of all HIV infections occurring worldwide. HIV counseling and testing (HCT) has been identified as the key entry point to prevention, care, treatment and support services. Nevertheless, the coverage of HCT services among adolescents remains low.

Objective: To investigate the psycho-cognitive factors associated with HIV counseling and testing service-utilization among in-school adolescents.

Methodology: This study was a cross-sectional survey design guided by behavioral theory. A total of 292 in-school adolescents were selected for this study through multi stage sampling technique. This study made use of a validated, structured questionnaire. Data analysis was based on aggregate weighted scores of items; descriptive statistics and correlation analysis were conducted. Also, a regression analysis was also conducted.

Results: There were more females (61.0%) than males (39.0%) respondents; the mean age of the respondents was 15.66years. Majority (61%) of the respondents had poor Utilization of HIV Counseling and Testing services. This study also found a significant relationship between knowledge, attitude, perception and HIV counseling and testing service-utilization ($p < 0.05$). It was found that the most significant predictors of HIV Counseling and Testing Service-Utilization was knowledge ($B = -0.233$; $OR = 0.792$; $95\%CI: 0.672-0.934$; $p = 0.006$).

Conclusion: Findings from this study proposes knowledge, attitude and perception as the major predictors of HIV Counseling and Testing Service-Utilization. Therefore, there is a need to initiate more health education programs among adolescents to improve their utilization of HIV counseling and testing services.

Keywords: Psycho-cognitive factors, Utilization, HIV counseling and testing, Adolescents.

Introduction

HIV Counselling and Testing (HCT), is a crucial step to life-sustaining care for people living with HIV (PLWH) and it was introduced to reduce the spread of HIV infection. HCT encourages individuals to know their HIV status, reduce their HIV risk and provides them with appropriate linkage to care, treatment and supportive services^[1].

Worldwide, there are about 1.2 billion adolescents (10–19-year-olds), constituting 18% of the world's population^[2]. Findings showed that about 2.2 million of adolescents (60% of

them, female) are living with HIV, and many are unaware of their infection^[2, 3].

Adolescents are much more prone to HIV infection as well as other sexually transmitted infections due to lack of health information, engagement in risky behaviours, and lack of access to adequate reproductive health services^[4]. The growth of HIV infection worldwide is rapid among adolescents and young people. In 2018, it was estimated that about 510,000 young people between the ages of 10 to 24 years old were newly infected with HIV, of whom 190,000 were adolescents between the ages of 10 and 19 years old^[5]. Despite their elevated

risk, reports showed that few adolescents test for HIV regularly. It was revealed that only 2% of males between the ages of 15 and 19 years old and 4% of females had tested for HIV in the last 12 months ^[6].

An important component for achieving universal access to HIV prevention, diagnosis, care and support is HIV counseling and testing (HCT) ^[7]. Regardless of the route of HIV acquisition, the underutilization of testing and counseling services contributes to late diagnosis, while the improved use of HCT may lead to earlier diagnosis, more efficient treatment and more opportunities to avoid HIV infection and transmission. However, global coverage of HCT programs remains poor ^[1,7,8]. The utilization of the HCT services amongst adolescents has also been reported to be low by a study carried out among students in government owned institutions whereby only 8% of the respondents had gone for HIV testing ^[9].

There are a number of factors that increase adolescents' susceptibility to HIV including lack of knowledge, negative attitude, poor perception, peer pressure and lack appropriate sexual reproductive health services ^[10]. Based on the literatures reviewed, knowledge was identified as one of the most essential predictors in the utilization of HCT services ^[11, 9, 17]. The Sustainable development goals have one of its targets of ending the HIV and AIDS pandemic by the year 2030 (SDG 3, Good health and well-being; SDG target 3.3 to end the epidemic of HIV/AIDS) ^[12]. The key in ending this devastating pandemic is early diagnosis of the virus, which with treatment of Antiretroviral Therapy (ART) will reduce the mortality rate of persons living with HIV/AIDS. ^[13] Thus, participation of adolescents in early diagnosis and screening programme is very paramount.

Voluntary participation in HIV Counseling and Testing (HCT) could be increased among adolescents if the various factors that hinder its involvement by people are identified and subsequently addressed. However, Observations from several studies have shown that HIV Counseling and Testing services are underutilized by those who need them and this contributes greatly to the burden of HIV in the world. This study was further guided by the Health Belief Model (HBM) because it creates a better theoretical framework for studying health behavior ^[14]. This study therefore was carried

out to investigate the psycho-cognitive factors such as knowledge, attitude and perception associated with the utilization of HCT amongst adolescents attending high schools in Osogbo, Osun State.

Materials and methods

This study adopted a cross-sectional research design, using a quantitative method of data collection. This study was conducted in Osogbo a town in Osun State, Nigeria. Osogbo is the capital of Osun State, South-west of Nigeria. Osogbo city seats the Headquarters of both Osogbo Local Government Area and Olorunda Local Government Area.

The population for this study included male and female adolescents in selected senior high schools at Osogbo, osun state. A total of 292 adolescents participated in this study. A multi-stage random sampling technique was adopted for this study. A cross-sectional survey questionnaire was used as data collection instrument. The semi-structured questionnaire was divided into five sections and each section represents a variable to be studied. The instrument was validated and a reliability test was carried out. The result of the reliability showed Cronbach's alpha score of 0.83.

Quantitative data from the respondents was collected using semi-structured questionnaires. Informed consent forms were given to the students, which served as permission to partake in the study. The instrument was then administered to the respondents and this was done under proper monitoring and supervision. Data collected was coded and analyzed using the statistical package for social sciences (SPSS) version 23. In addition to descriptive statistics, correlation analysis was also used to determine the relationships between variables of the different sections in the instrument as stated in the hypotheses. Binary logistic regression analysis was also carried out. P-value (< 0.05) was considered statistically significant.

Results

Two hundred and ninety-two (292) respondents participated in this study. The mean age of the respondents was 15.66 with a standard deviation of 2.25 valid for 292 respondents ($n=292$). Majority of the respondents (73.3%) that participated in the study were between the ages of "15-19 years"

valid for 292 respondents (n=292). The demographic distribution showed that there were more female respondents (61.0%) than males (39.0%). About 56.2% of the respondents were in SS1 while 43.8% of the respondents were in SS2. Most of the participants (96.6%) were from the Yoruba tribe and 52.1% of the respondents practiced Islam (Table 1).

The level of knowledge regarding HIV and HIV Counseling and Testing Services measured on 8-point reference scale reported in this study was a mean of 5.42 with a standard deviation of 1.60 valid for 292 respondents (Table 2). The mean score is above average and this translates to the fact that majority of the respondents have appropriate knowledge about HIV and HIV Counseling and Testing Services. The level of knowledge is translated to a knowledge prevalence of 67.75%, majority 69.2% reported above average and good level of knowledge about HIV and HIV Counseling and Testing Services (Figure 1).

The level of attitudinal disposition regarding HIV Counseling and Testing Services measured on 36-point reference scale reported in this study was a mean of 24.99 with a standard deviation of 5.25 valid for 292 respondents (Table 2). The mean score is above average which indicates that the respondents have good attitudinal disposition concerning HIV Counseling and Testing Services and that could in-turn results to improved utilization of HIV Counseling and Testing Services. The level of attitude is translated to an attitude prevalence of 69.4%, majority (55.5%) of the respondents expressed positive attitude towards HIV Counseling and Testing Services (Figure 2).

The level of perception about HIV Counseling and Testing Services measured on 40-point reference scale reported in this study was a mean of 25.14 with a standard deviation of 6.15 valid for 292 respondents (Table 2). The mean score is above average and this translates to the fact that majority of the respondents have good perception about HIV and HIV Counseling and Testing Services. The level of perception is translated to a perception prevalence of 62.85%, majority (76%) of the respondents had good perceptions about HIV Counseling and Testing Services (Figure 3).

The level of HIV Counseling and Testing (HCT) Service-Utilization among respondents measured on a 44-point reference scale reported

in this study was a mean score of 18.02, a standard deviation of 11.69 (Table 2). The mean score for HIV Counseling and Testing (HCT) Service-Utilization was highly unacceptable and it's very alarming as the score is far below average. This shows that majority of the respondents do not currently utilize HIV Counseling and Testing (HCT) Services. The level of HIV Counseling and Testing (HCT) Service-Utilization is translated to of HIV Counseling and Testing (HCT) Service-Utilization prevalence of 40.95%, majority (61%) of the respondents showed poor Utilization of HIV Counseling and Testing (HCT) Services (Figure 4).

A binary logistic regression was done to determine the variable that most significantly predicts HIV Counseling and Testing (HCT) Service-Utilization among the predisposing factors. This study revealed that Knowledge best predicts HIV Counseling and Testing (HCT) Service-Utilization ($B=-0.233$; $OR=0.792$; 95%CI: 0.672-0.934; $p=0.006$). All others were not significant as direct predictors of HIV Counseling and Testing (HCT) Service-Utilization (Table 3).

Discussion

The findings of this study revealed that more of the respondents had good knowledge about HIV counseling and testing services. This is similar to the findings of a study carried out by Addis et al which revealed that the overall knowledge of respondents about HCT for HIV was high ^[15]. A similar result was found in a study carried out in Ethiopia among high school students ^[16]. The level of knowledge in this study was translated to a knowledge prevalence of 67.75%, majority 69.2% reported above average and good level of knowledge about HIV and HIV Counseling and Testing Services. This result is consistent with findings by Desta et al and Lalisa et al reporting that majority 72% and 90.3% of the respondents respectively had good knowledge about HIV and HIV Counseling and Testing Services ^[17, 18].

However, in contrast, some studies indicated poor knowledge about HCT services among respondents ^[19]. This might be due to the difference in the socio-demographic characteristics, especially the educational level, of the study participants. The results of this study also found a significant relationship

between knowledge of HIV Counseling and Testing Services and HIV Counseling and Testing Service-Utilization (Table 4). This result is consistent with a study by Olowokere et al that reported a significant association between knowledge of HIV counseling and testing and utilization ^[11].

The findings of this study revealed that majority of the respondents expressed positive attitude towards the utilization of HIV counseling and testing services. Similarly, a study carried out by Oladeji, revealed that the respondents' attitude towards HCT was positive ^[20]. However, this is contrary to a study carried out among secondary school adolescents where majority of the adolescents (62.9%) had negative attitude towards HCT ^[21].

This study revealed good perception about HIV Counseling and Testing Services among adolescents and a highly significant relationship between perception and HIV Counseling and Testing Service-Utilization was revealed. Similarly, studies by Olowokere et al and Perdana et al reported a significant association

between perception about HIV counseling and testing and utilization ^[11, 22].

This study revealed that majority (61%) of the respondents showed poor Utilization of HIV Counseling and Testing (HCT) Services. The results of this study revealed low level (40.95%) of HIV Counseling and Testing (HCT) Service-Utilization among respondents. This is consistent with the results of studies carried out by Nubed et al and Lalisa et al reporting that only 40.5% and 31.3% of the respondents respectively had utilized HCT previously ^[18, 23].

Conclusion

The utilization of HIV Counseling and Testing (HCT) Services among adolescents has been low in Nigeria. This study reported a low level (40.95%) of HIV counseling and testing service-utilization among adolescents. Therefore, it is recommended that HIV counseling and testing services are introduced in schools, with trained peer educators to increase access and uptake of the services for the school age population.

Figures and Tables

Table 1. Demographic characteristics of respondents in this study

Socio-demographic Variables	Respondents in this Study N=292	
	Frequency (N)	Percentage (%)
Age		
10-14years	78	26.7
15-19years	214	73.3
Mean = 15.66, SD = 2.25		
Gender		
Male	114	39.0
Female	178	61.0
Ethnic Origin		
Yoruba	282	96.6
Igbo	5	1.7
Hausa/Fulani	3	1.0
**Others	2	0.7
Religion		
Christianity	138	47.3
Islam	152	52.1
Traditional Belief	2	0.7

Others**Minor ethnic groups

Table 2. Summaries of descriptive statistics for variables measured in the study

Respondents in this Study N=292				
Variables	Reference Scale of Measure	Mean (X)	(SE)	SD
Knowledge	8	5.42	0.09	1.60
Attitude	36	24.99	0.31	5.25
Perception	40	25.14	0.36	6.15
Utilization of HIV Counseling and Testing Services	44	18.02	0.68	11.69

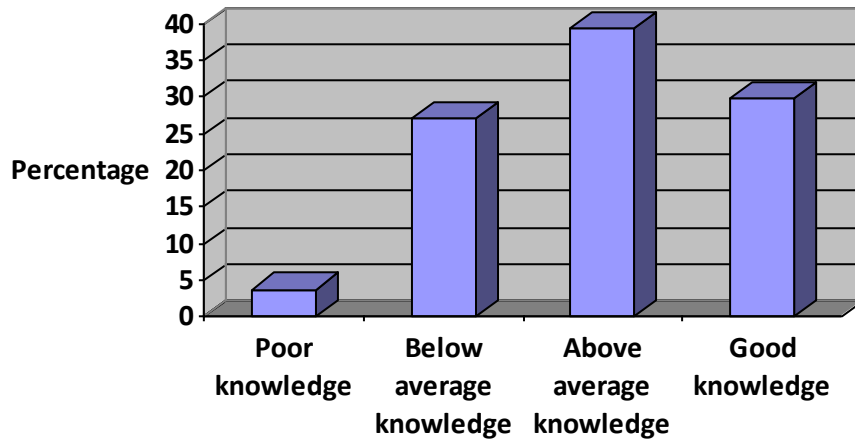


Figure 1. Proportion of Respondents' level of Knowledge regarding HIV and HIV counseling and testing services

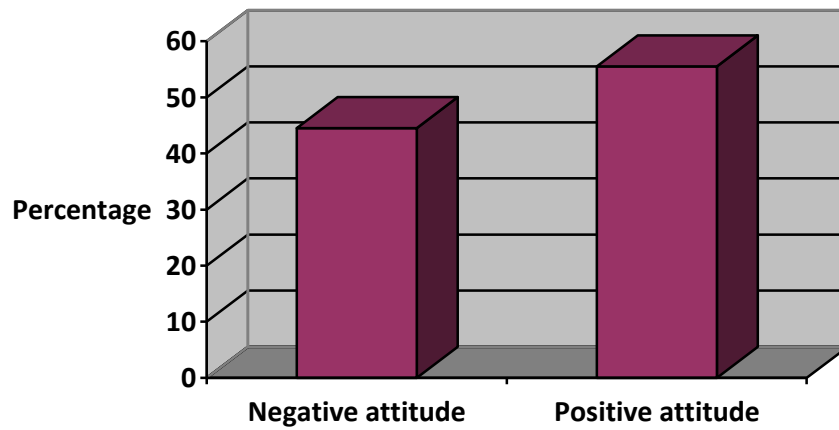


Figure 2. Proportion of Respondents' attitude towards HIV counseling and testing services

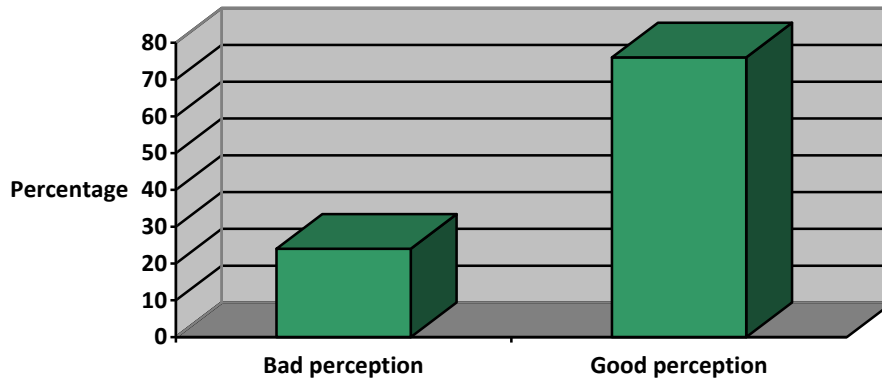


Figure 3. Proportion of Respondents' Perception about HIV Counseling and Testing Services

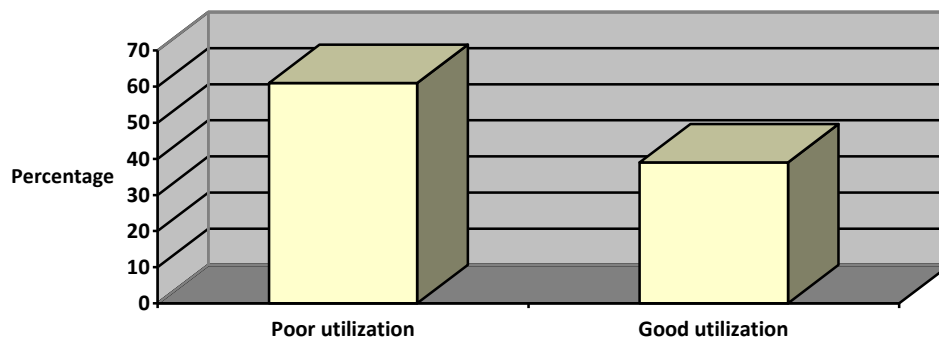


Figure 4. Proportion of Respondents' HIV Counseling and Testing Service-Utilization

Table 3. Summaries of logistic regression analysis against HIV counseling and testing service-utilization for respondents in the study

Respondents in this Study N=292						
	HIV counseling and testing service-utilization					p-value
Variables	B	Wald	OR	95% CI		
				Lower	Upper	
Knowledge	-0.233	7.702	0.792	0.672	0.934	0.006
Attitude	-0.058	3.975	0.943	0.891	0.999	0.046
Perception	-0.052	4.522	0.949	0.904	0.996	0.033
Constant	3.538	21.995	34.413			0.000

Table 4. Correlation analysis regarding relationship between knowledge, attitude, perception and HIV Counseling and Testing Service-Utilization

Respondents in this Study N=292		
HIV counseling and testing service-utilization		
Variables	Pearson correlation (r)	p-value
Knowledge	-0.231	0.000
Attitude	-0.190	0.001
Perception	-0.263	0.000

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