



ASSESSING ATTITUDES AND HIGH-RISK PRACTICES TO HIV/AIDS INFECTION AMONG THE PEOPLE OF LAKE CHAD BASIN, BORNO STATE, NIGERIA

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ABSTRACT

A cross sectional quantitative survey that obtained information on high risk behaviours which expose individuals to sexually transmitted infections (STIs) especially HIV was carried out in Lake Chad Basin of Borno among 1,790 volunteers. A well-structured questionnaire was developed and used to collect the desired baseline socio-demographic characteristics by direct interview of respondents in their houses among the populations living in the ordinary households, the mobile population and vulnerable population group (VPG) not living in the households were interviewed in their places of abode with discretion. The mean age range of the participants was 32.5 years (SD \pm 2.21) ranging from 15 to 49 years. 1,234 (68.9%) of the respondents were males while 556 (31.1%) were females. The prison inmates had the highest prevalence of STIs, 37% of the respondents didn't know that they were at risk of contracting HIV. The knowledge of HIV status was higher among the males (80.2%) than the females (19.3%). The use of male and female condom was higher among the rural (19.2%) than the urban (10.8%) respondents. This study revealed high risk practices among the respondents even though there is tremendous HIV test intake across both the general and vulnerable populations, there is need for more awareness as rate of risk perception is very low.

KEYWORDS: HIV/AIDS, Lake Chad Basin, Disaggregated, Cross sectional, Questionnaire

INTRODUCTION

Knowledge of attitudes and practices (KAP) studies are very useful tools prior to any intervention to assess the extent to which individuals or communities are ready to adopt risk-free behaviours. Sexual behavioural change remains the most effective way of preventing transmission of infection. In the past, there are different behavioural, theories which include AIDS Risk Reduction Model (ARRM), Health Belief Model and Stages of Change. They are important models for mitigating transmissible infections (Durojaiye, 2011), however, cognitive thought, and abstract imaginations influence our attitude towards sexuality (Giri *et al.*, 2012).

Geographical location of Lake Chad Basin and several risky behaviours among its population may lead to a further spread of sexually transmitted diseases among its members. Due to its location and economic potentials such as trading as well as fishing has led to the influx of people from different part of the world into this region. It is important to mention the internal migration of young men and women who came for trading, among them include commercial sex workers (CSWs). These young people are far away from their families for years at a time and very often visit CSWs for sex. This increases the possibility of spreading of sexually transmitted infections between them, and thereby to the general population.

In Lake Basin of Borno State Nigeria, HIV infection

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prevalence was estimated to be 24.1% among the adult population, 40.1% among CSWs 32.3% among general populations, 24.6% among transporters, 20.2% among uniformed service men, 18.2% among the traders, 18.2% among the people living on the islands and 14.4% among prison inmates (Onoja *et al.*, 2016).

Studies on knowledge, attitudes and practices (KAP) have been widely used to design public health policies and for planning health interventions taking into account the needs of the community. Continuous monitoring of the trend in risky sexual behaviors, especially the vulnerable groups is very important, as these behaviors significantly impact the prevalence of HIV in the population. There is limited information about high risk practices on HIV/AIDS among the Island and general population of Lake Chad Basin in Borno State of Nigeria. This study assessed the level of understanding of the residents of Lake Chad Basin of Borno State on HIV infection, identify their behaviours which could pose a risk to infection, evaluate their attitudes towards HIV individuals and their knowledge of HIV status.

MATERIALS AND METHODS

Type of Survey

The study design was a cross sectional quantitative survey, while random sampling technique was used for data collection. It consists of sections that obtained information on the behavioural characteristics of the general population and the vulnerable groups with respect to HIV/AIDS.

Survey sites and target groups

The behavioural and sero-prevalence of HIV/AIDS survey was done in the following communities Madaji, Maiduguri, Shuwaran, Mari, KauKiri, Kangarwa, Kirenoa, Koloram and Boboshe all in Borno State.

The target group aged from 15 to 49 years old included the residential population, traders (hawkers, display sellers, fish sellers, female traders), commercial sex workers, commercial transporters, men and women in uniform and peninsular population of the Lake Chad and the prisoners.

Sample size

For ease of application, the sample size determination was calculated separately for each target group. The methodology used for calculation of sample size do not take into account the size of the target population. To this effect, the whole sample depends on the precision searched and the reliability of the statistical analysis and not the size of the population that the sample was extracted from. To determine the sample size that can help to detect any change; A sample size of 300 was determined for each of the target group. The formula beneath was used (Jeffrey, *et al.*, 2019).

$$n = \frac{D(Z_{1-\alpha} + Z_{\beta})^2 \times (P_1(1-P_1) + P_2(1-P_2))}{\Delta^2}$$

Where:

D = design effect;

P_1 = the estimated proportion at the time of the first survey;

P_2 = the proportion at some future date such that the absolute quantity ($P_2 - P_1$) is the size of the magnitude of change that is desired to be detected (5%);

$P = (P_1 + P_2) / 2$;

$Z_{1-\alpha}$ = z-score corresponding to the probability to detect the change $P_2 - P_1$.

$Z_{1-\alpha}$ = z-score corresponding to the degree of confidence (power of the study) with which it is desired to detect the actual and absolute change $P_2 - P_1$.

$\Delta = P_1 - P_2$

$\alpha = 0.05$ ($Z_{1-\alpha} = 1.96$)

$\beta = 0.20$ ($Z_{1-\alpha} = 0.84$)

Ethical Consideration

In line with international practice, an ethical approval for the study was obtained from the University of Maiduguri Teaching Hospital. Respondents were informed of the importance of the study and that data obtained will not be linked to any individual. Consent was sought and obtained before the administration of questionnaires.

METHOD OF DATA COLLECTION

The data on the social demographical and behavioural characteristics of the respondents with respect to STI/HIV/AIDS was collected from 1,790 respondents using a well-structured questionnaire by direct interview of respondents in their houses among the populations living in the ordinary households. The mobile population and vulnerable population group (VPG) not living in the households were interviewed in their places of abode with discretion. The collected information was treated confidentially and third-party assistance with interview was avoided. The uniform men were interviewed at their duty posts while prison inmates were interviewed in the prison.

Questionnaires

Questionnaires were administered to individuals and each respondent received a unique identification code. The questionnaires also had a section on demographic information such as age, sex and occupation. However, the traders, Commercial sex workers, commercial transporters, men and women in uniform were interviewed using only the individual questionnaire.

Data handling and analysis

In order to minimize data entry errors and to facilitate the data cleaning process, the data was typed using EPI DATA software which offered real possibilities of double typing and direct control. Each questionnaire was typed by two different data entry clerks. At the end of typing each target group, the files were paired and all the mistakes of typing were checked before the data cleaning program was executed. The data cleaning program for each file corresponding to each target group was also developed with the same software. Once data cleaning process was completed, all files were merged from the preliminarily codes attributed to each individual and the data exported to SPSS software for data analysis. An analysis plan and the tabulation plan were developed and validated for harmonization of the content and the shape of various countries report. Descriptive statistics, including means, standard deviations, frequencies and percentages, were calculated for variables as appropriate. Student t-tests were used to examine any differences in continuous variables between males and females, different target groups, between marital status as well as between the type of community of residence. Chi-square statistics and logistic regression were used for categorical outcomes. Significance was set at $P < 0.001$.

RESULTS

Table 1 presents the age and sex related distribution of survey respondents. In this study, 1234 (68.9%) were males and 556 (31.1 %) were females. The mean age range of the participants was 32.5 years (SD \pm 2.21) ranging from 15 to 49 years. The age intervals most represented among the males were the intervals of 20–24 years and 25 - 29 years with 255 (20.7 %) respondents each, while the age interval with the highest representation among the female respondents, were also 25–29 years with 131 (23.6 %) respondents. On disaggregation by sex and age group, the study revealed that target group most represented among the male respondents, were transporters, while commercial sex workers were the most represented target group among the female population. This table further revealed that the target group with the highest respondents was household population and the least was the least were prison inmate respondents. The respondents were disaggregated by sex in urban and rural areas. The table indicates that 247 (20.0%) of male respondents were in urban areas, while 987 (80%) were seen in rural

areas. For females, 104 (18.7%) were interviewed in urban areas, while 452 (81.3%) of the respondents were lived in rural areas. Overall, 351 (19.6%) of survey respondents were from urban areas, while the majority, 1439 (80.4%) were in rural areas.

The distribution of survey respondents by nationality indicated that 91 % of survey respondents were Nigerians, 6% were from Chad, while Cameroon, Niger and Central African Republic had 1% each. Disaggregation by marital status and gender, showed that the 1093 who disclosed their marital status, 831(76%) were males and 262 (24%) were females. Among the male respondents, 357(43%) were bachelors, 334 (40.2%) were monogamous, 127(15.3%) were polygamous, 6 (7%) were divorced, 4(0.5%) were cohabiting, 2 (0.2%) were separated and 1(0.1%) was a widower. Among the females, 81(30.9%) were monogamous, 80 (30.5%) were singles, 37(14.1%) were from polygamous marriages, 27(10.3%) were cohabiting, 17(6.5%) were separated, 16(6.1%) were divorced and 4(1.5%) were widows.

Table 1: Socio-demographics of survey respondents

Target Group		Number of Responses	Percentage Responses (%)
Household		393	
Island Population		307	46.8
Traders		358	73.1
Road Transporters		346	41.33
CSW		142	41.68
Men in Uniform		172	17.1
Prisoners		69	20.84
			12.54
Target Group classified by Gender			
Household			
	Male	261	
	Female	132	21.2
Island Population			23.7
	Male	258	
	Female	49	20.9
Traders			88
	Male	242	
	Female	116	20.9
Road Transporters			22.0
	Male	271	
	Female	75	22.0
CSW			13.5
	Male	0	
	Female	142	0
Men in Uniform			25.5
	Male	139	
	Female	34	11.3
Prisoners			6.1
	Male	61	
	Female	8	4.9
Age classification by Gender			
15-19			1.4
	Male	92	
	Female	70	7.4
20-24			12.6
	Male	255	
	Female	130	20.7
25-29			23.4

	Male	255	
	Female	131	20.7
30-34			23.6
	Male	220	
	Female	104	17.8
35-39			18.7
	Male	152	
	Female	44	12.3
40-44			7.9
	Male	123	
	Female	38	9.9
45-49			6.8
	Male	137	
	Female	39	11.1
			7.0
Classification by Nationality			
	Cameroun	13	
	CAR	12	1
	Chad	118	1
	Niger	18	6
	Nigeria	1,629	1
			91
Classification by Marital Status and Gender			
	Bachelor	357	
	Male	80	43
	Female		30.5
Married Monogamy		334	
	Male	81	40.2
	Female		30.9
Married Polygamy		127	
	Male	37	15.3
	Female		14.1
Cohabiting		4	
	Male	27	0.5
	Female		10.3
Widow/Widower		1	
	Male	4	0.1
	Female		1.5
Divorced		6	
	Male	16	7.0
	Female		6.1
Separated		2	
	Male	17	0.2
	Female		6.5
Classification by Marital and Residential Status			
	Bachelor/Single	63	
	Urban	274	47.7
	Rural		39.9
Married Monogamy		49	
	Urban	367	36.4
	Rural		38.2
Married Polygamy		15	
	Urban	149	11.4
	Rural		15.5
Cohabiting		3	
	Urban	28	2.3
	Rural		2.9

Widow/widower		0	
	Urban	5	0
	Rural		0.5
Divorced		3	
	Urban	19	2.3
	Rural		2.0
Separated		0	
	Urban	19	0
	Rural		2.0
Classification by Educational Status and Gender			
No form of Education		29	
	Male	4	3.6
	Female		1.6
Primary Education		386	
	Male	150	48
	Female		60.2
Junior Secondary Education		168	
	Male	52	20.9
	Female		20.9
Senior Secondary Education		153	
	Male	26	19.0
	Female		10.4
Higher Education		35	
	Male	15	4.4
	Female		6.0
Informal Education		33	
	Male	15	4.1
	Female		6.0
Classification by Educational Status and type of residence			
No form of Education		4	
	Urban	29	3.2
	Rural		3.1
Primary Education		41	
	Urban	495	32.5
	Rural		53.4
Junior Secondary Education		26	
	Urban	194	20.6
	Rural		20.9
Senior Secondary Education		35	
	Urban	144	27.8
	Rural		15.5
Higher Education		7	
	Urban	30	5.6
	Rural		3.2
Informal Education		13	
	Urban	35	10.3
	Rural		3.8

Ever contracted Sexually Transmitted Infections, use of sharp objects and condom use

Table 2 describes the proportion of respondents who have ever contracted an STI and often share sharp objects disaggregated by target groups. The result of the study showed that the prison inmates had the highest (15.1%) respondents who reported having STI followed by uniform service men (13.9%) and traders were the

least (4.1%) to report ever contracted STI. Concerning the frequency of sharing of sharps, the results indicates that the proportion of respondents who reported sharing sharps often was highest (16.4%) among commercial sex workers followed by household populations (10.8%), uniform service men (10.6%), and the least was recorded among island populations (5.5%) followed by 6.7% recorded for prisoners, ($P < 0.001$).

Table 2: Proportion of respondents who have ever contracted STI and often share sharps disaggregated by target groups ($P < 0.001$)

Target Group	Ever had an STI		Often share sharps	
	N	%	N	%
Household	24	6.0	42	10.8
Trader	15	4.1	33	9.3
Transporter	47	13.6	34	9.7
uniform service men	24	13.9	18	10.6
Island Population	16	5.3	17	5.5
CSW	8	5.6	23	16.4
Prisoners	10	15.1	4	6.7
Total	144	8.2	171	9.5

Personal risk perception

Figure 1 illustrates the distribution of personal risk perception pattern among survey respondents in this study. This reveals that 37% of survey respondents did not know they were at risk of contracting HIV. Low

personal risk perception stood at 24%, while 20% of respondents felt they had no risk at all. Moderate risk perception was observed in 13% of respondents, while 6% of respondents acknowledged they had important risk ($P < 0.001$)

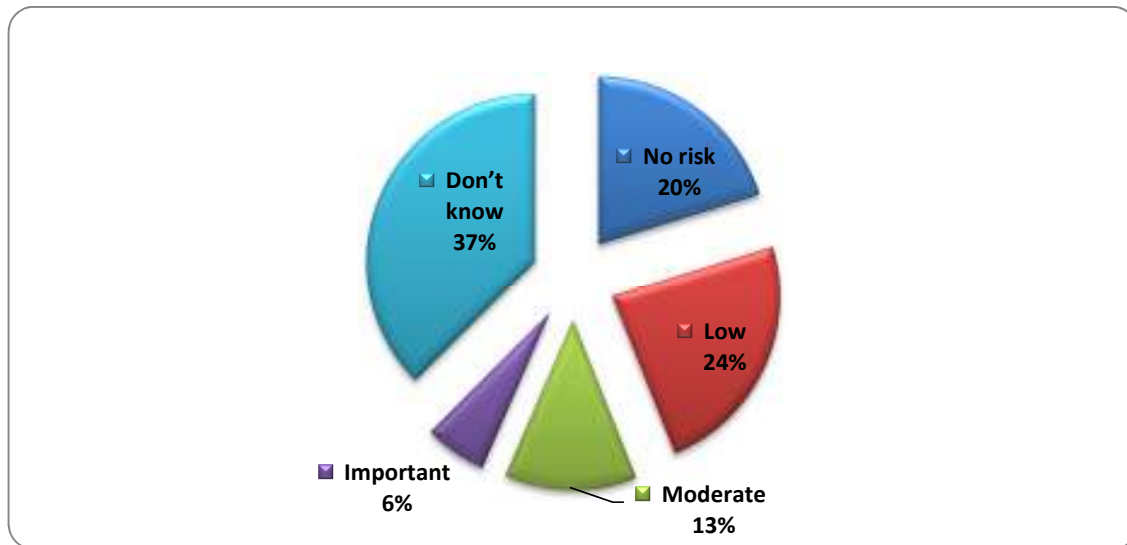


Figure 1: Distribution of personal risk perception among survey respondents

On disaggregation by sex, the respondents have divergent personal risk perception. Table 3 revealed that 146 (11.8%) males reported having no risk of contracting HIV, 171 (13.9%) reported having a low risk, 89 (7.2%) said they had a moderate risk, 30 (2.4%) mentioned they had a high risk of contracting HIV, while 798 (64.7%) said they did not know. Among females, 43 (7.7%) reported no personal risk, 58 (10.4%) reported low risk, 18 (3.2%) mentioned they had a moderate risk of contracting HIV, only 3 (0.5%) reported high personal risk, while 433 (77.9%) did not know they were at risk. Personal risk perception was significantly ($P < 0.001$) higher in males (23.5%) than in females (14.2%) ($P < 0.001$)

Personal risk perception among survey respondents in this study, disaggregated by urban and rural areas showed that urban areas, 18 (5.1%) reported no risk to HIV, 24 (6.8%) said they had a low risk, 16 (4.6%) mentioned a moderate risk, only 5 (1.4%) observed they had a high risk, while 288 (82.1%) did not know they were at risk. In rural areas, 171 (11.9%) reported having no risk of contracting HIV, 206 (14.3%) acknowledged low personal risk, 91 (6.3%) reported moderate risk and 28 (1.9%) said they had a high risk, while 943 (65.5%) did not know they were at risk. The personal risk perception was found to be significantly higher ($P < 0.001$) among rural populations (22.6%) than urban residents (12.8%) (Table 3).

Table 3: Personal risk perception among survey respondents disaggregated by sex and by type of residence (P < 0.001)

Characteristics	No Risk	Low Risk	Moderate Risk	High Risk	Don't know
Male	146 (11.8%)	172(13.9)	89(7.2%)	31(2.5%)	796(64.7%)
Female	43 (7.7%)	58(10.4)	18(3.2%)	4(0.7%)	433(77.9%)
Urban	18(5.1%)	24(6.8)	16(4.6%)	5(1.4%)	288(82.1%)
Rural	171(11.9%)	206(14.3)	91(6.3%)	28(1.9%)	943(65.5%)

Knowledge of HIV Status

Table 4 shows Proportion of respondents who already knew their HIV status disaggregated by sex and by type of residence. This result showed that the proportion of respondents who knew their HIV status was significantly higher in male (14.1%) than in female (7.37%)

respondents. Considering the respondents who already knew their HIV status disaggregated by urban and rural areas, the proportion of respondents who already knew their HIV status was significantly higher in urban respondents (53.6%) than among the rural respondents (1.88%).

Table 4: Proportion of Respondents on Knowledge of HIV Status (P < 0.001)

Characteristics	Number of Responses	Percentage responses (%)
Knowledge of HIV Status Gender		
Male	174	14.1
Female	41	7.37
By Type of Residence		
Urban	188	53.6
Rural	27	1.88

Proportion of male and female condom use disaggregated by urban and rural areas

Figure 2 gives proportions of male and female condom use disaggregated by urban and rural areas. This figure showed that male condom use was significantly higher

in rural (19.2%) areas than in urban areas (10.8%). However, there was no significant difference in female condom use, though the proportion of female condom use was marginally higher in rural areas (2.4%) than in urban areas (1.7%) (P < 0.001)

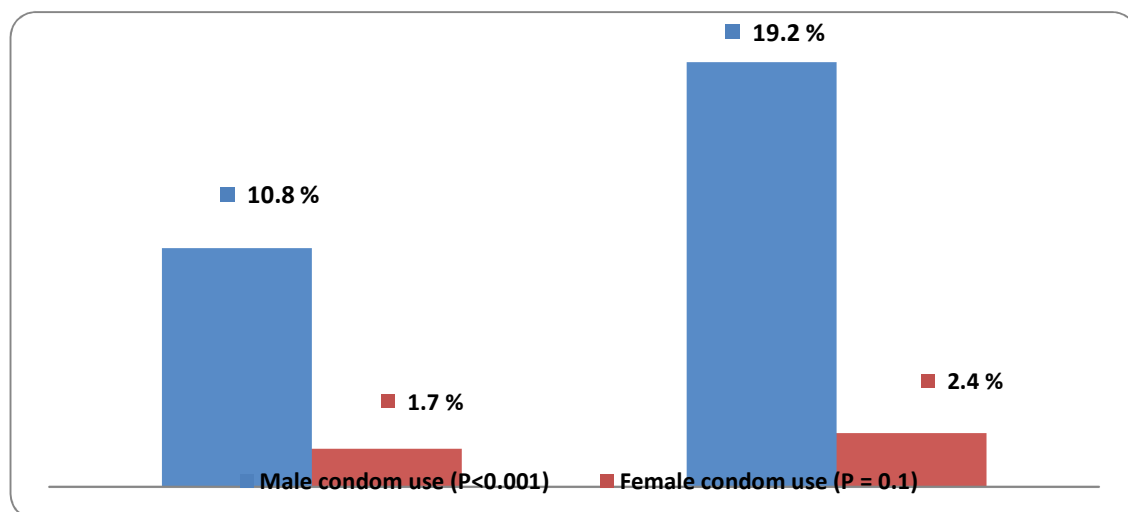


Figure 2: Proportion of Male and Female Condom use disaggregated by type of residence Condom use within the last one to three months

Table 5 represents the proportion of respondents who have used male condom and those who have used condom in the last 1 to 3 months. The use of male condom was significantly

higher among the commercial sex workers (55.6%) than other groups and significantly different from various groups. followed by 38.9% among uniform service men, 37.1% among island

populations, 36.2% among prisoners, 30.5% among transporters, 22.5% among household populations and 16.5% among traders. Commercial sex workers form the group who reported the highest use of condom within the last 1 to 3

months (37.1%) though all other groups had reported use of condom within the period.

Table 5: Proportion of respondents who have ever used male condom in the last 1 to 3 months, disaggregated by target groups (P < 0.001).

Target Group	Ever used male condom		Used a condom at least in the last 1 to 3 months	
	N	%	N	%
Household	88	22.5	33	8.5
Trader	59	16.5	26	7.2
Transporter	105	30.5	28	8.1
uniform service men	67	38.9	27	15.6
Island Population	113	37.1	43	14.1
Commercial Sex Worker	79	55.6	53	37.1
Prisoners	25	36.2	26	3.8
Total	457	29.9	148	13.3

DISCUSSION

The social life style of the people of Lake Chad basin is a unique way of life which distinguished it as "urban-village". The people are predisposed to high risk behaviours largely because they are involved in staying away from their families for a long time and having substantial income at their disposal in the midst of a relatively young population and a booming sex industry no doubt exposes the entire community to the practice of high risk behaviours. This in turn predisposes them to STDs and HIV/AIDS. Also, war, internal strife, and movement of refugees and population desolation for any reason are major routes that enhance the spread of HIV-1 (Onoja *et al.*, 2016).

Sexual behaviour and sexual practices affect the risk for acquisition and transmission of HIV infection. There is growing evidence that behaviour change interventions to reduce transmission levels of HIV among core groups can lead to successful risk reduction and decreased level of infection (Folayan *et al.*, 2016; Silassie *et al.*, 2016). There are different determinants of behaviour change among high risk groups. These include knowledge and awareness of HIV and AIDS, perceived vulnerability, perceptions of outcomes including costs and benefits of condom use, social support, peer group comparison and condom use.

A research on high risk practices was conducted among 1,790 respondents in Lake Chad Basin of Borno State. The highest respondents were male 1234 (68.9%) while 556 (31.1 %). The target group aged from 15 to 49 years old included the residential population, traders (hawkers, display sellers, fish sellers, lady sellers), Commercial sex workers, commercial transporters, men and women in uniform and peninsular population of the Lake Chad and the prisoners. The study considered these populations among the people living in the rural and urban communities.

This study shows that representative of each of the target groups has had STIs. Prison inmates had the highest respondent who claimed that they have ever had STIs before while the traders had the least number of respondents who have STI in the past. The finding of

this study is also an indication that there are high risk practices including men having sex with men in the prison. Generally, 8% of the respondents has had STIs in the past which is much lower than 37% reported in a separate study in Nigeria by Folayan *et al.* (2014), 69% in Kenya (Nachegea *et al.*, 2005) and 16.9% in Gambella town, Western Ethiopia (Yayeh *et al.*, 2003). Higher prevalence of 56.1% was also reported among FSWs among sex workers in Jamaica (Duncan *et al.*, 2014). The result however, is an indication of high sexuality among the various groups.

Concerning the frequency of sharing of sharps, the proportion of respondents who reported sharing sharps often was highest among commercial sex workers, then the household populations. The commercial sex populations in all the communities on the islands of Lake Chad Basin were settlements of homogenous communities with full interaction among themselves couple with the fact that they are mostly locals with low level of awareness. This might probably be one of the reasons why sharing sharp objects is high.

Personalization of risk enables an individual to adopt appropriate protection measures. However, the ability to personalize risk of infection is affected by level of awareness on the mode of acquisition and danger posed by individual behaviour. Increase in risky sexual behaviours has been reported especially among the youths in some countries supposedly as a result of low risk perception. Additionally, stigma and discrimination, which are usually born out of ignorance, continue to act as obstacles to good health practices, such as actively seeking information about ones' HIV status, and for those who test positive, seeking appropriate health care services. Stigma and discrimination among the population can also adversely impact the ability of people living with HIV/AIDS to lead full and dignified lives (UNAIDS, 2014).

Personal risk perception among survey respondents in this study, disaggregated by urban and rural areas showed that risk perception is higher among people living in the rural areas compared to those in the urban centres. Generally, the people claimed that they are not

aware of risk associated with their behaviours. Among the people living in the urban communities, more than three-quarter of the respondents reported non-awareness of risk in their behaviours, while more than half of the rural communities reported same in the rural communities. This has indicated that personal risk perception is higher among the rural populations than the urban residents.

The risk perception among the urban and rural communities in this study is higher than the findings of Nambya, 2010 among the people of Northern Uganda where 63.7% of adolescents considered themselves as being at risk of infection, 65.7% of the youth, 70.9% of the urban communities and 54.9% of the rural communities all believed they are at risk of infection. However, these perceptions could be that the people believed or lack knowledge of vulnerability to AIDS. This can be explained by less emphasis placed on HIV/AIDS until recently in Africa. The reasons for such reaction include misconception, ignorance, poverty, repudiation, shame, guilt, and silence as a result of association of the infection with sinful sexual acts (Durojaiye, 2011). In considering personal risk perception, the males have a higher risk perception compare to the females 14.1%. The analysis of the results also showed that more males believed that they are not at risk compared to the female respondents. The risk perception among the males was higher in the urban communities compared to among the rural communities. Such perceptions were previously reported by (Giri *et al.*, 2012), (Ikpeme *et al.*, 2005; Mekelle and Menasbo, 2013; Olubayo-Fatiregun, 2014; Azeez, 2016).

The number of people who already know their HIV status was higher among the males than females. This is contrary to the report of the study conducted in Belize region where greater proportion of females (70%) than males (57%) had ever been tested. It is also interesting to note that the result of this survey showed that the number of the rural resident who knew their HIV status are far more than the urban residents. This is due to the fact there are concerted effort by the government to carry outreach program to rural communities (Statistical Institute of Belize, 2015).

Correct use of condom reduces the risk of HIV and other STIs transmission. This is particularly important in sub Saharan Africa where HIV transmission is mainly through sexual contact. Use of latex condoms substantially reduces risk for both partners provided they are used correctly and consistently. Therefore, condom promotion has received considerable attention in the light against the AIDS pandemic (Silassie *et al.*, 2016). The proportion of persons who have ever used condoms is used as one of the indicators of condom use. Although it may not necessarily reflect current behaviour, it may provide some insight into current behaviour. People who have ever used condoms are more likely to be current users and those who have ever used condoms but are not currently doing so may also offer important reason for drop out. The proportion of respondents who had ever used condoms and those who used condoms in the last three months was highest among the sex work, while traders was the least of those who have ever used condoms and prisoners were the least to use condom in the last three months.

The female condom use was generally very low among all the target groups and among the residents of both

the urban and rural communities. This can be best explained by the fact that male condoms are the most common and cheaper to afford. There are assertions also that male condoms are also easier to use than the female condoms that required training on the usage.

The study revealed low condom use of 29.9% which is as a result of low risk perception predicated on ignorance. This report is lower compared with the study reported in students of Axum preparatory School in Ethiopia (Silassie *et al.*, 2016), among public university student in Kenya (Josephat *et al.*, 2012), Bahir dar University (Mulu, 2014), Congo (Masoda, 2013), among female adolescents presenting for contraceptive services in a rural health district in the north-east of Namibia (Ntumba, 2012) and amongst undergraduate students in Jigjiga University, Ethiopia (Mayhandu-Madzusi and Asgedom, 2016).

CONCLUSION

The study revealed varied levels of attitude and practices that mitigate the spread and those that predisposes an individual to sexually transmitted infections especially HIV/AIDS among these populations. Effective distribution of condoms and knowledge on appropriate use of condoms is suggested as the study revealed low use of condom practice. Though the people are aware of HIV infections but the level of uptake of HIV testing is low. There is need for concerted effort by stakeholders to increase the level of awareness especially on risk perception which is key to infection control.

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COMPETING INTERESTS

Authors declared no conflict of interest.

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