Confidence to Enquire HIV and AIDS Status of Sexual Partner Before Having Had Sexual Intercourse

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Abstract

Background

The Human Immunodeficiency Virus (HIV) deteriorates the human defence virus. The method used to detect the initial infection of HIV in the body is through diagnosis. The global data show the number of people receiving antiretroviral therapy (ART) has increased to about 24.5 million people in 2019. An increase in the use of ART has resulted into decline in deaths associated with AIDS. Number of people living with HIV is reported to grow annually. This study identified the demographic and sexual behaviour factors affecting confidence of enquiring the HIV/AIDS status of sex partner prior to sexual intercourse.

Method

A retrospective data collected in Makete and Lushoto Districts in 2017 were analysed. Confidence to enquire HIV/AIDS status before having sexual intercourse was the outcome variable with category 'YES and 'NO'. Univariate and multivariate logistic regression models were used to identify the magnitude of association between variables. The analysis were performed using STATA (14) statistical software.

Results

Overall percentage on confidence in enquiring the HIV/AIDS status of sex partner prior to sexual intercourse was 83.8%. This was 85.1% and 81.7% in Makete and Lushoto districts. The odds of respondents with confidence in enquiring the HIV/AIDS status of sex partner was 1.58 times more likely among those with age 35 to 44 years compared to those with age 24 and below (cOR=1.58, p=0.002), and it is 2.9 times higher among those with secondary and higher education than respondents who have never gone to school (cOR=2.9, p= 0.003). Respondents with good knowledge of ABCD were 2.91 times higher to be confident in enquiring the HIV/AIDS status of sex partner prior to sexual intercourse than those with poor knowledge of ABCD (OR=2.91, p=0.049).

Conclusion

Factors observed to influence confidence of enquiring the HIV/AIDS status of a sex partner prior to sexual intercourse includes age, level of education and combined knowledge of ABCD. Awareness of HIV/AIDS status of a sex partner is inevitable especially in situation where the unprotected sexual intercourse is likely. More studies are needed to link confidence of enquiring the HIV/AIDS status and prevention method used when sex partner has declared to be HIV positive

Introduction

The Human Immunodeficiency Virus (HIV) attacks the person's resistant structure and deteriorates the defence virus. When HIV is not diagnosed and treated for a long time it progress to Acquired immunodeficiency syndrome (AIDS). Soon after the first contamination of HIV, a person might familiarize with no signs of the epidemic. The only method used to detect the initial infection of HIV in the body is

through testing. However, a person may progress the antibodies to detectable HIV within 28 days of virus contamination. HIV transmissions is reported to happen through unprotected sexual intercourse[1], [2]. Other roots used to transmit HIV include sharing injection such as needles with a person who is infected with HIV AND AIDS [3].

Literature show the origin transmissions of the virus spread from chimpanzees to human beings around 1920s in the Democratic Republic of Congo[4], [5]. This was the result of chimpanzee being killed and its blood got into the wounds of the huntsman. Chimpanzee and soot mangabeys are among the nonhuman primate species affected by Simian Immunodeficiency Viruses (SIVs) in sub-Saharan African countries. The contamination of Simian Immunodeficiency Viruses due to Chimpanzee and Simian Immunodeficiency Viruses due to soot mangabeys form the HIV[6], [7].

Since the beginning of the HIV and AIDS in the world, around 40 million people were re-counted to be surviving with HIV AND AIDS on the year ending 2018 [8]. People who died by HIV-related illness on the same year amounted to around 770000, and about1.7 million people were newly infected with HIV epidemic in 2018 compared to 1.8 million in 2017. Of all the infections in 2018, key population including men who sex with men, people who inject drugs, people in prisons, sex workers and transgender people accounted for more than 50% of the new HIV infections[9], [10]. The rate of new HIV infections declined for the respective years and thus the target of reaching 500000 in 2020 milestone of new HIV infection is questionable.

The global data show the number of people receiving antiretroviral therapy (ART) has increased from 7.5 million people in 2010 [11] to 24.5 million people in 2019 [8]. Since an increase in the use of ART has resulted into a decline in deaths associated with AIDS cases [12], the number of people living with HIV was found to grow annually. This is an indication that, still there exist a number of people infected with new HIV every day. These are the people who are in need of therapeutic and social care when they progress to AIDS. In Africa like any other regions of the world, HIV and AIDS does not only affect health sector system but also create painful during health care, results into suffering of trained and experienced human resources.

Tanzania is projected to have a population of 55.8 million in 2019 [13], where women account for 70% of all food manufactured. The Tanzania HIV Impact Survey (THIS) conducted between 2016 - 2017 shows the prevalence of HIV ranges from 6.5% to 3.5% among women and men aged between 15 to 64 years respectively [14]. This shows an increase in HIV prevalence among women from that of 6.2% and decrease in HIV prevalence among men from 3.8% as reported by Tanzania HIV and AIDS and malaria Indicator Survey (THMIS) conducted between 2011 – 2012[15]. The country has witnessed a slight decrease of national HIV prevalence from 5.1% in 2013 to 5.0% in 2017 among women and men aged between 15 and 64 years. The HIV prevalence differs between regions of mainland Tanzania. The low HIV prevalence was reported to be 0.3% in Lindi region and the prevalence was high (11.4%) in Njombe region[14].

The advantages of being aware on the HIV and AIDS status among sex partner contain the fact that, it empowers the uninfected one to protect him/her from unprotected sexual intercourse [16]. It provides linkages on HIV AND AIDS prevention, treatment and care. It is perceived to be the fundamental part in programming HIV and AIDS[17]. Lastly, awareness on the HIV and AIDS status have been verified to inspire positive behaviour transformation for those found to be infected with HIV and AIDS[18]. The global statistics shows 79% of those living with HIV and AIDS reported to know their HIV and AIDS status in 2018[17]. The global statistics is higher compared to only 60.6% of Tanzanians who reported to be aware with their HIV and AIDS status in 2017 [14]. The difficulties to undertake HIV and AIDS testing comprises among others stigmatisation, fear of discrimination, lack of confidentiality, lack of access to free testing, negative perception of testing services and low perceived risk[19]–[21].

Several studies such as that done by[19]–[21] show more than 90% of participants were knowledgeable about HIV and AIDS testing. This enormous percentage is associated with comprehensive campaigns on HIV and AIDS testing and counselling provided by the respective government and other stakeholders. The higher likelihood of being conscious on HIV and AIDS statuses have been reported to occur among person with high comprehensive knowledge of HIV and AIDS [16]. Moreover, the percentage of people who undergo HIV and AIDS testing has been reported to be high[22]. Thus, the current study aimed at examining the confidence of enquiring the HIV and AIDS status of a sex partner before having sexual intercourse.

The fights against new HIV infection have been promoted among different cadres throughout the country. The main aim was to provide people with comprehensive information on how to avert the HIV and AIDS epidemic. In Tanzania, like other countries in sub-Saharan Africa, much effort is directed to primary method of HIV and AIDS prevention. The methods include, abstinence from having sexual intercourse to those who are not yet married or cohabiting, being faithful to one partner who is not infected with HIV and AIDS, proper use of condom during sexual intercourse and testing to diagnose for HIV and AIDS status. However, testing for diagnosing HIV and AIDS status has been noted as an individual issue when it comes to test results. Knowing HIV and AIDS status of sex partner is one of the key strategies necessary for preventing further HIV transmission. According to[16], if one of the sex partner is HIV negative then it will eventual empower himself/herself to insist safe sexual intercourse to prevent new transmissions of HIV. It is valuable to accurately identify factors that affect individual confidence in enquiring the HIV and AIDS status of a sex partner before having sexual intercourse. The current study, therefore, sought to determine the demographic and sexual behaviour factors affecting individual's confidence in enquiring the HIV and AIDS status of a sex partner before having had sexual intercourse.

Study Area

Region of the study areas

The current study was conducted in two regions of mainland Tanzania characterised by high and low HIV and AIDS prevalence. According to[15], Njombe and Tanga regions were among the highest and lowest

areas with HIV and AIDS prevalence of 14.8% and 2.4%, respectively. Njombe is among the regions in the southern highlands zone of the mainland Tanzania. The region is located between latitude and south of the equator and between longitude and east of the Greenwich meridian. Tanga region is one of the administrative regions located in the North East of mainland Tanzania. Tanga is situated between latitude and degrees below the equator and longitude todegrees east of the Greenwich meridian.

District of the study areas

Makete District out of the six districts of Njombe region was taken for the study. The district was selected purposively basing on highest HIV AND AIDS prevalence in the mainland Tanzania [15]. The district temperature ranges between 2^0 up to 20^0 Celsius in the mountain and 20^0 to 30^0 Celsius in the hills while the rainfall ranges from 1,500 to 2,800 millimetres in the mountains and 300 to 800 millimetres in the hills. The dominant native indigenous groups in Makete District are Wakinga and Wawanji. Due to the arable land and good climate that favour agriculture, the district is a growing commercial area with agriculture being its leading economic activity. The arable land for agriculture in Makete District causes most people within and outside Makete to search for casual work within the district. It is traditional for business persons and labourers outside and within Makete District to engage in timber and other agricultural products in Makete District. Collecting of timber and other agriculture products spent not less than a single night. The time spent in examining and manufacturing timber and other agricultural crops made many persons from outside Makete to devote their time in the district without their everlasting spouses. Meanwhile, it is traditional for aboriginal of Makete District to go out of Makete for business and leaving their followers at home. By the time they are outside the district, the likelihood of involving in sexual intercourse with casual partners becomes higher. Hence, this situation positions the risk of contracting and disseminating new HIV and AIDS infections to their spouses within and outside Makete District.

With regard to Tanga region, Lushoto District was purposively chosen as the study district. This district was chosen due to its low HIV and AIDS prevalence in Tanga region[23]. Lushoto District is found in latitude to south of the equator and to the longitude to east of Greenwich. The district receives an average of 800 to 2,000 millimetres of rainfall per annum in the highland and 500 to 800 millimetres of rainfall in the lowlands. Lushoto District is cooler and less humid. The indigenous group of people in Lushoto District are the Sambaa (Shambaa). The main source of income of the residents in Lushoto District is from selling agricultural crops, including forestry products and tourism.

Study population

The study was focused on male and female respondents aged 15 to 65 years. This group was chosen basing on the following reason: first, this age group is assumed to be sexually active, second, this age group has rudimentary and ample knowledge on the ways of averting HIV and AIDS infection, and third, the rate of HIV prevalence is higher to this age group than other groups[15].

Research Design

A cross-sectional study design was used to collect information from respondents. In particular, structured interviews schedule was used to collect data that examined the confidence and willingness of enquiring HIV and AIDS status before having sexual intercourse.

Sampling Procedure

Respondents were selected using multi-stage sampling technique. In the first stage, stratified sampling was used to select two regions in the mainland Tanzania. The regions were classified into two strata. The first and second stratum consisted of regions whose HIV prevalence was below and above the national HIV prevalence of 5.1%[15] as similar done by[24].On each stratum, simple random sampling was adopted in selecting Njombe and Tanga as the study regions. Moreover, two districts, one from each selected region characterised by high and low HIV and AIDS prevalence in high and low HIV and AIDS prevalence region was purposively selected for the study in the second stage. In the third stage, stratified sampling was used to select two wards for the study. The first stratum consisted of wards characterised by rural areas, and other stratum consisted of wards in the urban areas. Prior to commencement of data collection exercise in each of the community, a list of all households was requested from the Village/street Executive Officer (VEO/SEO). The list of households enabled a systematic sampling to be done for the selection of Kth household. In each selected household, individuals aged 15 to 65 years were interviewed until the sample size was reached.

Study Variables

The quantitative plan was used to organise data for exploration. Social demographic and sexual behaviour variables were analysed to identify the individual confidence and willingness to enquire HIV and AIDS status before having sexual intercourse.

Dependent Variables

This study attempted to measure individual confidence and willingness to enquire HIV and AIDS status before having sexual intercourse. Confidence and willingness to enquire HIV and AIDS status before having sexual intercourse was assessed by asking respondents whether he/she is able to ask the HIV and AIDS status of her/his sex partner before engaging in sexual intercourse. The outcome variable consisted of two categories ‘Yes’ if was able to ask or ‘No’ if was not able to ask the HIV and AIDS status of his/her sex partner before having sexual intercourse. The response Yes and No consisted a score of ‘1’ and ‘0’for computation purpose only, respectively.

Independent Variables

The explanatory variables used in assessing the individual confidence and willingness to enquire HIV and AIDS status before having sexual intercourse was in two groups. The first group constituted social demographic variables and the second group consists of sexual behaviour variables and combined

knowledge of ABCD. Variables forming the combined knowledge of ABCD were binary with codes of ‘1’ and ‘0’ for responses ‘YES’ and ‘NO’ respectively. Correct knowledge of any of the ABCD was given a score of ‘1’ and an incorrect knowledge was given a score of ‘0’ for mathematical reasons. In answering the questions, a respondent who said ‘YES’ to four aspects of the ABCD was marked as having good knowledge of ABCD. Average knowledge was marked as knowledge of whichever three of the ABCD. Fair knowledge was referred to be the knowledge of whichever two of the ABCD. Finally, knowledge of at most one of the ABCD was considered as poor knowledge of ABCD as was similar done by Mbwiga et al 2019.

Therefore, the scores ranged from ‘1’ if the respondents consist of either ‘0’ or ‘1’ knowledge of any of the ABCD, to ‘4’ if the respondent had knowledge of altogether of the ABCD. Finally, a variable conveying the combined knowledge of ABCD was constructed constituting four categories such that:

$$\text{Combined Knowledge of ABCD} = \begin{cases} 1 = \text{poor knowledge, If the respondent knew almost } 1 \text{ of the ABCD.} \\ 2 = \text{fair knowledge, If the respondent knew any } 2 \text{ of the ABCD.} \\ 3 = \text{average knowledge, If the respondent knew any } 3 \text{ of the ABCD.} \\ 4 = \text{good knowledge, If the respondent knew all of the ABCD.} \end{cases}$$

Data Analysis

The study focused on descriptive and analytical analysis. In the descriptive statistics, frequency and percentages were presented for the purpose of examining feature of the study variables. Since the outcome variable was binary in nature, during analysis the simple bivariate logistic regression was performed in order to examine the effect of each independent variable on the outcome variable. Variables whose p-value was less than 10% in the association were considered to be statistically significant. Only significant variables at 10% were included into the multivariable logistic regression model in order to identify independent factors of confidence in enquiring HIV and AIDS status of sex partner before having sexual intercourse.

Confidence in enquiring the HIV and AIDS status of the sexual partner before having had sexual intercourse by districts of residence in mainland Tanzania, 2017

Confidence of respondents in enquiring the HIV and AIDS status of their sexual partner before having had sexual intercourse was found to be low and high (81.7% versus 85.1) in Lushoto and Makete districts respectively. Moreover, the overall confidence in enquiring the HIV and AIDS status of sex l partner before having had sexual intercourse amounted to 83.8% (Figure 1).

Characteristic of the study respondents

The findings in Table 1 show the demographic characteristics of the study respondents. The study involved 660 male and female respondents. Their mean age and standard deviation was 32.4 and 12.6 respectively. The minimum age of the respondents was 15 years, and the maximum age was 65 years. Majority of the respondents (33.6%) were found to have 24 years and below and those with 45 years and above comprised about 18%. With regard to sex of respondents, female respondents constituted 55.8%

and male constituted 44.2%. In terms of place of residence, most of the respondents (63.3%) were from Makete District and the rest were from Lushoto District. More than half (54.7%) of the respondents were married or cohabiting (couple living together without official marriage), 15.6% were widows, divorced or separated (ever married) and 29.7% were single at the time of interview (never married). Respondents' level of education was asked basing on the highest level attained. While the majority (47.3%) had secondary or higher education, 44.8% had primary education and only 7.9% have never been to school. Concerning occupation of the respondents, majority (55.3%) were self-employed. Other occupations including petty business and formally employed consisted of 20.7% and 11.7% respectively. Respondents with no jobs and students at the time of interview comprised of 12.3% (Table 1).

Percentage distribution of combined knowledge of ABCD and sexual behaviour variables

The findings on characteristics of respondents' sexual behaviours are presented in Table 2. The percentage of respondents with good and average knowledge of ABCD hosted 51.6% and 32.9% respectively. Those with fair and poor knowledge constitute 12.7% and 2.8% respectively. While 78.5% of respondents reported to be easy in enquiring their sexual partner to use condom before having sexual intercourse, 93.4% reported to be willing to care person who is infected with HIV and AIDS. With regard to those who had done sexual intercourse in the past twelve months preceding this survey, only 46.5% reported to use condom. While more than one half (67.3%) of respondents have ever discussed with their sexual partner about testing of HIV and AIDS before engaging into sexual intercourse, more findings show at least one third (77.8%) of respondents have ever tested to see if their infected with HIV and AIDS (Table 2).

Univariate and multivariate logistic regression model of respondents' confidence in enquiring the HIV and AIDS status of sexual partner before having had sexual intercourse by demographic and sexual behaviour factors (n=644)

The findings in Table 3 presents the univariate and multivariate logistic regression models on person's confidence in enquiring the HIV and AIDS status of sex partner before having had sexual intercourse. Findings in the univariate logistic regression reveals that, the odds of respondents with confidence in enquiring the HIV and AIDS status of their sexual partner was significantly 1.58 times more likely among respondents with age 35 to 44 years compared to those with age 24 years and below (cOR =1.58, 95% CI =1.12 – 1.88, p=0.002). In terms of level of education, the findings show that, respondents who were confident in enquiring the HIV and AIDS status of their sex partner before having had sexual intercourse was 2.9 times higher among those with secondary and higher education than respondents who have never gone to school (cOR = 2.9, 95% CI = 1.43 – 5.90, p= 0.003).

With regards to knowledge of ABCD, combined knowledge of ABCD was significantly factor for confidence in enquiring the HIV and AIDS status of a sex partner before practising sexual intercourse, such that, the odds of respondents with good knowledge of ABCD was 8.5 times more likely to be

confident in enquiring the HIV and AIDS status of their sexual partner before practising sexual intercourse compared to those with poor knowledge of ABCD (cOR =8.5, 95% CI =3.01 – 23.99, p <0.001). Similarly, those with average knowledge of ABCD were significantly more likely than those with poor knowledge of ABCD to be confident in enquiring the HIV and AIDS status of their sex partner before practising sexual intercourse (cOR=6.01, 95% CI=2.10 – 17.17, p < 0.001). Moreover, the odds of respondents were 7.23 times higher among those with fair knowledge of ABCD than those with poor knowledge of ABCD for being confident in enquiring the HIV and AIDS status of their sex partner before practising sexual intercourse (cOR=7.23, 95% CI 2.28 23.31, p=0.001). Confidence of enquiring the HIV and AIDS status of their sex partner before practising sexual intercourse was significantly 3.3 times higher among respondents who would be easy to go and receive counselling and testing for HIV and AIDS than their counterparts (cOR =3.3,95% CI 1.42 – 7.71, p=0.006). Similarly, the odds of respondents who have ever discussed with their sex partner about testing of HIV and AIDS status before doing sexual intercourse was 2.37 times higher compared to those who have never discussed, to be confident in enquiring the HIV and AIDS status of their sex partner before practising sexual intercourse (cOR=2.37, 95% CI=1.51 – 3.70, p < 0.001). Moreover, respondents who reported to have ever been tested to see if they are infected with HIV and AIDS were more likely to be confident in enquiring the HIV and AIDS status of their sex partner before practising sexual intercourse than those who have never been tested for HIV and AIDS (cOR=2.77, 95% CI= 1.76 – 4.37, p<0.001).

The findings in the multivariate logistic regression model present the effects of outcome variable upon controlling for other explanatory variables. Thus, respondents aged 24 and below being reference category, the odds of those with confidence of enquiring the HIV and AIDS status of their sex partner before having had sexual intercourse was significantly 2.15 times higher among those with age 35 – 44 (OR =2.15, 95%CI 1.57 - 2.29, p= 0.042). in addition, the odds of being confident on enquiring the HIV and AIDS status of sex partner before having had sexual intercourse was significantly 1.47 times higher among respondents with secondary education and higher than those who have never gone to school (OR = 1.47, 95%CI 1.38 – 3.65, p=0.011). Upon adjusting for other covariate in the multivariate logistic regression model, respondents with good knowledge of ABCD were significantly 2.91 times higher to be confident in enquiring the HIV and AIDS status of their sex partner before practising sexual intercourse than those with poor knowledge of ABCD (OR=2.91, 95% CI =1.82 - 10.33, p=0.049). Similarly, the odds of respondents with fair knowledge of ABCD was found to be significantly 5.08 times more likely compared to those with poor knowledge of ABCD in being confident in enquiring the HIV and AIDS status of their sex partner before practising sexual intercourse (OR=5.08, 95% CI=1.35 – 19.09, p=0.016). With regard to testing of HIV and AIDS, the odds of respondents who were found to be confident in enquiring the HIV and AIDS status of their sex partner before having sexual intercourse was 2.48 times higher among those who reported to have tested to see if they are infected with HIV and AIDS than their counterparts (OR = 2.48, 95% CI =1.34 – 4.59, p = 0.004).

Other variables such as would it be easy to go and receive counselling and testing for HIV and AIDS and if respondents have ever discussed with their sexual partner about testing of HIV and AIDS before doing sexual intercourse was observed to be statistically insignificant in the multivariate logistic model (OR =

1.5, 95% CI =0.90 – 2.50, p = 0.115) and (OR = 2.26, 95% CI =0.80 – 6.32, p = 0.122) respectively (Table 3).

Discussion

The current study assumed knowing HIV and AIDS status of a sexual partner prior to having had sexual intercourse strength sexual partners to engage in safe sex. Practising safe sex makes partners to fall in love and not feel nervous after practising sexual intercourse. Thus, confidence in enquiring the HIV and AIDS status of a sex partner before having had sexual intercourse is inevitable especially in this decade where HIV and AIDS is reported to be the deadest epidemic. This cross-sectional household analysis of male and female respondents aged between 15 to 65 years aimed at determining the associated factors affecting individual's confidence in enquiring the HIV and AIDS status of sex partner before having had sexual intercourse. This is based on the understanding that demographic and sexual behaviour factors associated with confidence in enquiring the HIV and AIDS status of sex partner.

Overall, 83.8% of the respondents in the study area reported to be confident in enquiring the HIV and AIDS status of their sex partner before having had sexual intercourse. The confidence was found to be high (85.1%) in Makete District and low (81.7%) in Lushoto District. The higher percentage in confidence of enquiring the HIV and AIDS status of sexual partner before having had sexual intercourse found in Makete District, may have been confronted with high HIV and AIDS prevalence reported in Makete District compared to Lushoto District [25]. This may have resulted into fear for practising unsafe sexual intercourse among sex partners and encourages them to know their partner's HIV and AIDS status before sexual intercourse in order to have safe sex. Communicating with each sex partner about HIV and AIDS status before sexual intercourse means you can take steps to maintain both of them healthy[26], [27].

With regard to social demographic factors, age was found to be a significant variable affecting the confidence of enquiring the HIV and AIDS status of sex partner before having sexual intercourse in the univariate analysis. This remained significant even after adjusting for other variables in the multivariate logistic regression model. Specifically, respondents with age group 35 to 44 were observed to be statistically significant influencing the confidence of enquiring the HIV and AIDS status of a sex partner before having had sexual intercourse. This may have been associated with greater knowledge on issues concerning HIV and AIDS. Knowledge on issues related to HIV and AIDS among those aged 30 to 49 years was observed to be as higher as more than 99% [25]. High knowledge on HIV and AIDS matters made people to abstain from having unprotected sex with a person whose HIV and AIDS status is unknown[26], [28], [29].

Regarding level of education, respondents with secondary education and higher were twice as much compared to those who have never been to school to be confident in enquiring the HIV and AIDS status of their sex partner before having had sexual intercourse. These findings have been observed in both univariate and multivariate logistic regression. The reason behind this observation may have been associated with vital part that formal education plays on community transformation. It transforms

communities as well as individuals in specific path by modelling and remodelling their patterns of thought [30]. Very unfortunately, a study by[31] reported that educated people are more vulnerable to HIV and AIDS but are also better prepared to mount effective reactions.

Positive relationship between knowledge of ABCD and confidence in enquiring the HIV and AIDS status of sexual partner before having sexual intercourse was observed in the logistic regression model. Such that as knowledge of ABCD increases from those with average to good knowledge of ABCD the crude and adjusted odds ratio of enquiring the HIV and AIDS status of sexual partner increases significantly. This indicates that, as people become more knowledgeable on methods of HIV and AIDS prevention, the odd of engaging in unprotected sex with a person whose HIV and AIDS status is unknown declines ultimately. This is concordant to other studies by[32], [33] who reported that, knowledge of sex partner's HIV and AIDS status can uphold safe sexual intercourse among couples. Unacceptably, a study done by[34] observed that, knowing partner's status may not protect women who lack social or economic autonomy to disengage from partnership or any authority to reject in involving into risk sexual intercourse.

Similarly, significant relationship between testing of HIV and AIDS and confidence to enquire the HIV and AIDS status of a sex partner prior to having sexual intercourse was found in the findings. The World Health Organization[35] reported that, women who are in antenatal and postpartum care who tested for HIV and released their HIV status to their sex partner have improved in preventing new HIV and AIDS by consistence condom use during sexual intercourse. Testing and knowing your HIV and AIDS status may inspire knowing your partner's HIV status by enquiring his/her status in order to reduce sexual risk behaviour and ultimately avert transmission of new HIV[36].

The crude odds ratio of respondents who have ever discussed with their sexual partner about testing for HIV and AIDS prior to having sex was significantly two-fold to be confident in enquiring the HIV and AIDS status of a sex partner before having sexual intercourse. This advocates the demand to encourage discussion among sex partners about testing HIV before having sex as an important factor towards developing confidence of enquiring the HIV and AIDS status of a sex partner prior to sexual intercourse. Discussing issues concerning testing of HIV and AIDS among sex partners have been reported to result into constructive influence on sexual risk taking[37].

Conclusion

A notable percentage of respondents in the current study reported to be confident in enquiring the HIV and AIDS status of their sex partners before having sex. Upon knowing that one of the sex partners is HIV positive, efforts should be made to ensure proper methods for preventing new HIV and AIDS such as abstaining from doing sex to an HIV and AIDS infected partner and consistent use of condom. However, partners should mutually generate a tendency of testing for HIV and AIDS and be confident in exposing the test results among sex partners. Age of respondents, level of education, knowledge of ABCD and if in the last twelve months, respondents have ever tested to see if they are infected with HIV and AIDS were found to be significant predictors in both univariate and multivariate logistic regression model. Knowing

the HIV and AIDS status of yourself and your sexual partner is crucial especially in a situation where the unprotected sexual intercourse is unfortunately likely to occur.

Recommendation

Mounting confidence in enquiring the HIV and AIDS status among sexual partners need to be emphasized to all people who initiated sexual intercourse. More study is needed to link the confidence of enquiring the HIV and AIDS status result of his/her sexual partner and actual HIV and AIDS prevention method used to a HIV positive partner prior to engaging into sexual intercourse.

Strengths And Limitations

It is crucial to note that all information was self-reported without any chance of proof. Some issues reported were sensitive, thus reporting erroneous information may have affected the study. On top of that, all precautionary techniques were engaged to reduce the limits. Interviewers were trained subsequently to pre-test of questionnaire. Data collection exercise was well administered. The analysis engaged the superlative procedures – univariate analysis reporting crude odds ratio and multivariate analysis reporting adjusted odds ratio and their associated 95% confidence interval were reported in the logistic regression model.

Declarations

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Competing interest

The authors declare that they have no competing interest.

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Availability of data

Data will be available upon request.

Ethics approval and consent to participate

The Research Coordinating Committee of the University of Dar-es-salaam (UDSM) approved the study processes. All questionnaires in this research were done with respondent informed consent and the involvement of respondent was voluntarily. Participants were asked to sign an informed consent form prior to commencement of filling the questionnaire. For those who were under the age of 18 years, permission was requested from their parents or guardians. During the data collection, data was managed very confidentially.

Competing interest

Authors declare that they have no competing interest.

Author's contribution

MWM: formulate the study idea; design the study, collection of data, data analysis and interpretation and first write-up of the manuscript.

OSK: collection of data, interpretation of findings and edited the manuscript. Both authors have perused and accepted the final version of the manuscript

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Tables

Table 1. Demographic characteristic of the study respondents (n=660)

Variable	Categories	Frequency (n)	Percentage (%)
Age group (years)	Mean =32.4, SD = 12.6, Minimum=15, Maximum=65		
	<= 24	222	33.6
	25 – 34	194	29.4
	35 – 44	124	18.8
	45 +	120	18.2
Sex	Male	292	44.2
	Female	368	55.8
District of residence	Makete	418	63.3
	Lushoto	242	36.7
Marital status	Married/cohabiting	361	54.7
	Widow (Ever married)	103	15.6
	Single (Never married)	196	29.7
Level of education	Never been to school	52	7.9
	Completed primary education	296	44.8
	Secondary education and higher	312	47.3
Respondents' Occupation	No job/Students	81	12.3
	Formally employed	77	11.7
	Self employed	365	55.3
	Business	137	20.7

n=number of respondents; SD=Standard deviation

Table 2 Percentage distribution of combined knowledge of ABCD and sexual behaviour variables (n=660)

Variable	Category	Frequency	Percentage
Combined Knowledge of ABCD	Poor knowledge	18	2.8
	Fair knowledge	83	12.7
	Average knowledge	214	32.9
	Good knowledge	336	51.6
Would it be easy to ask your sexual partner to use condom before having sex?	No	35	21.5
	Yes	492	78.5
Would you be willing to care a person who is infected with HIV and AIDS?	No	43	6.6
	Yes	612	93.4
Would it be easy to go and receive counselling and testing for HIV and AIDS?	No	29	4.6
	Yes	602	95.4
In the last twelve months, how many sexual partners have you had?	At most one	393	66.4
	At least two	199	33.6
For the most recent time having sexual intercourse did you use condom?	No	309	53.5
	Yes	269	46.5
Have you ever discuss with your sexual partner about testing HIV before doing sexual intercourse?	No	206	32.7
	Yes	424	67.3
In the last twelve month have you ever tested to see if you are infected with HIV and AIDS?	No	145	22.2
	Yes	507	77.8

n=sample size. Due to some missing responses, some variable categories do not sum up to 660

Table 3. Univariate and multivariate logistic regression model of respondents' confidence in enquiring the HIV and AIDS status of their sexual partner before having sexual intercourse by demographic and sexual behaviour factors (n=660)

Variables	Categories	Univariate Logistic Regression			Multivariate Logistic Regression		
		cOR	95% CI	P-value	OR	95% CI	P-value
Age group(years)	<= 24 *(ref.)*	1.00			1.00		
	25 – 34	1.61	0.92 - 2.81	0.094	1.18	0.64 - 2.17	0.598
	35 – 44	1.58	1.12 - 1.88	0.002	2.15	1.57 - 2.29	0.042
	45 +	0.99	0.55 - 1.79	0.991	0.91	0.46 - 1.78	0.778
Sex	Male *(ref.)*	1.00					
	Female	1.11	0.72 - 1.69	0.62			
District of residence	Lushoto *(ref.)*	1.00					
	Makete	1.28	0.83 - 1.96	0.262			
Marital status	Married/cohabiting *(ref.)*	1.00					
	Widow (Ever married)	1.02	0.56 - 1.87	0.942			
	Single (Never married)	1.17	0.72 - 1.90	0.531			
Level of education	Never been to school *(ref.)*	1.00			1.00		
	Completed primary education	1.88	0.94 - 3.76	0.072	1.13	0.45 - 2.79	0.794
	Secondary education and higher	2.9	1.43 - 5.90	0.003	1.47	1.38 - 3.65	0.011
Occupation of respondents	No job/Students *(ref.)*	1.00					
	Formally employed	1.57	0.58 - 4.29	0.378			
	Self employed	0.64	0.32 - 1.27	0.207			
	Business	1.23	0.53 - 2.83	0.622			
Combined Knowledge of ABCD	Poor knowledge *(ref)*	1.00			1.00		
	Fair knowledge	7.23	2.28 – 23.31	0.001	5.08	1.35 - 19.09	0.016
	Average knowledge	6.01	2.10 – 17.17	0.001	2.82	0.84 - 9.40	0.093
	Good knowledge	8.5	3.01 – 23.99	<0.001	2.91	1.82 - 10.33	0.049
Would it be easy to ask your sexual partner to use condom before having sex?	No *(ref.)*	1.00					
	Yes	1.16	0.69 – 1.95	0.585			

Would you be willing to care a person who is infected with HIV and AIDS?	No *(ref.)*	1.00					
	Yes	1.43	0.67 – 3.09	0.354			
Would it be easy to go and receive counselling and testing for HIV and AIDS?	No *(ref.)*	1.00			1.00		
	Yes	3.30	1.42 – 7.71	0.006	2.26	0.80 - 6.32	0.122
In the last twelve months, how many sexual partners have you had?	At most one *(ref.)*	1.00					
	At least two	0.98	0.61 - 1.54	0.915			
For the most recent time having sexual intercourse did you use condom?	No *(ref.)*	1.00					
	Yes	1.34	0.85 – 2.11	0.21			
Have you ever discuss with your sexual partner about testing HIV before doing sexual intercourse?	No *(ref.)*	1.00			1.00		
	Yes	2.37	1.51 – 3.70	<0.001	1.5	0.90 - 2.50	0.115
In the last twelve month have you ever tested to see if you are infected with HIV and AIDS?	No *(ref.)*	1.00			1.00		
	Yes	2.77	1.76 – 4.37	<0.001	2.48	1.34 - 4.59	0.004

***cOR** = Crude Odds Ratio; **CI**= Confidence Interval; **ref**. Reference category; **n**=sample size*

Figures

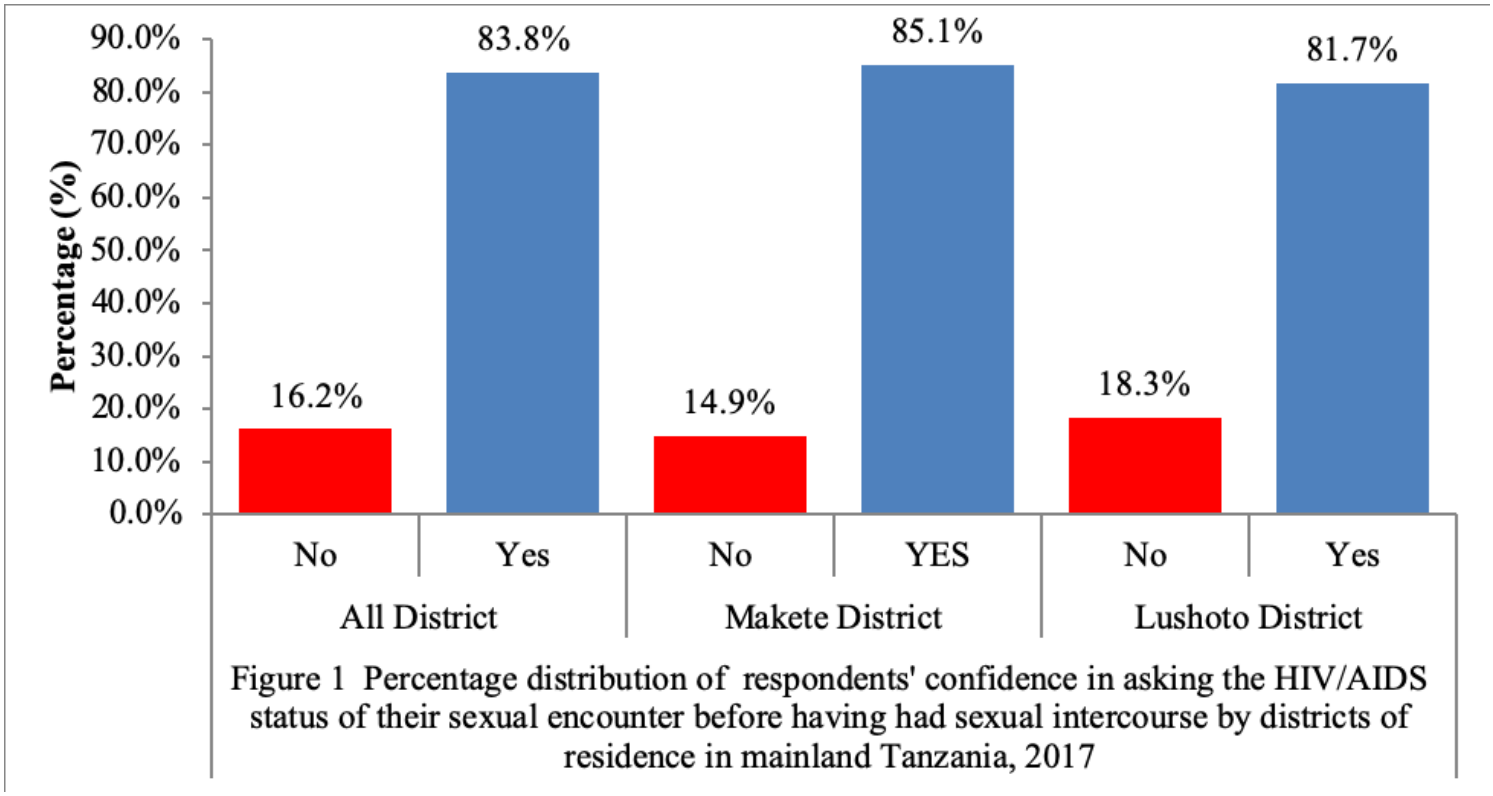

Figure 1

Percentage distribution of respondents' confidence in asking the HIV/AIDS status of their sexual encounter before having had sexual intercourse by districts of residence in mainland Tanzania, 2017.