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Utilisation of voluntary counselling and testing services among bar waitresses in Kinondoni District, Dar es Salaam, Tanzania

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Abstract
Background: Tanzania is among sub-Saharan countries severely affected by the HIV and AIDS epidemic, with an increased burden among high-risk populations, such as bar waitresses. Voluntary counselling and testing (VCT) is among effective approaches to slow down the spread of HIV infection and minimize its impact. However, little information is available on the extent of utilisation of VCT services among bar waitresses. The study examined utilisation of VCT services and its influencing factors among bar waitresses in Kinondoni district, Dar es Salaam, Tanzania.
Methods: We used an interview schedule to gather information on VCT utilisation from 378 bar waitresses, identified using a multi-stage sampling technique. Data were analysed using the Statistical Package for Social Science (Version 15.0). A p-value less than 0.05 was used as a cut-off value for availability of a statistical association between VCT utilisation and related independent factors. Logistic regression models were employed to assess independent correlates of VCT use.
Results: The mean (standard deviation) age of the respondents was 26.1 (5.0) years. About 60% had never been married and about 70% had at least one child at the time of the survey. Majority of the bar waitresses (89.7%) affirmed to have ever utilized VCT services at some point in their lifetime. Despite the high level of knowledge on VCT (71.4%), the services were irregularly utilized with less than half (45.5%) of the respondents utilizing them within six months prior to the survey. Independent predictors for service utilisation included having a child, having higher knowledge on VCT, using a condom in the most recent sexual act as well as lack of fear of positive HIV results or stigmatization.
Conclusions: Utilisation of VCT services is high among bar waitresses in Kinondoni district. However, the services are not utilised regularly as recommended for high-risk populations. Findings call for comprehensive strategies to enhance effective service utilisation and further studies based on a broader and more inclusive sample size.

Keywords: bar waitress, determinants, HIV testing, counselling, Tanzania

Introduction

Acquired Immunodeficiency Syndrome (AIDS) has reached pandemic levels and remains the most serious public health problem globally. In 2016, estimates indicate that globally, 36.7 million people were living with HIV and around 30% were not aware of their HIV sero-status (UNAIDS, 2017). Tanzania remains one of the sub-Saharan countries severely affected by the epidemic; with HIV prevalence of 5.1% among all adults aged 15-49 years. The prevalence of HIV is generally higher among women (6.2%) than among men (3.8%). Women working in hotels, restaurants, bars and other food and recreational facilities have substantially higher HIV prevalence and incidence than women in the general population (Vallely *et al*., 2007; Watson-Jones *et al*., 2007). For example, the prevalence of HIV among female bar workers (bar waitresses) has been documented to be as high as 26.3% and 68% in Northern Tanzania and Mbeya region respectively (Kapiga *et al.*, 2002; Riedner *et al.*, 2003).

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Like many other countries, Tanzania has taken different approaches in the effort to slow the spread of HIV infection and reduce its impact (Charles *et al*., 2009; Addis *et al*., 2013). These approaches include voluntary counselling and testing (VCT); which has been internationally documented as an effective and important strategy for both prevention and care of HIV (Aho *et al*., 2011; Uzochukwu *et al.*, 2011). Although members in the general population fail to regularly utilize VCT services due to several reasons (Obermeyer & Osborn, 2007), uptake of VCT services in Tanzania has increased from 37% to 62% among women and from 27% to 47% among men in 2008 and 2012 respectively (THMIS, 2008, 2013). Encouraging early detection of HIV infection among high risk populations like bar waitresses through VCT is crucial because HIV testing is considered one of the important steps for controlling the epidemic. Testing is the entry point for prevention, care and treatment and support services (NACP, 2008).

Despite the increased number of VCT sites and the extensive campaigns to promote its utilisation through mass media, testing for HIV remains a challenge not only in Tanzania but globally. This challenge is remarkable in high-risk population groups where evidence shows that utilisation of the services is not as routinely as recommended (NACP, 2011). The Tanzania National Multi-Sectoral HIV Prevention Strategy of 2009-2012 recommends VCT for HIV as one of the measures in the minimum package of prevention services for most at risk populations, bar waitresses inclusive. However, little information is available on the uptake of VCT services for HIV among bar waitresses in Tanzania. Therefore this study was carried out to determine the utilisation of counselling and testing services among bar waitresses in Kinondoni District of eastern Tanzania.

Materials and methods

Study area and design

This analytical cross-sectional survey was conducted in selected wards of Kinondoni district, Dar es Salaam, Tanzania. Kinondoni is an urban district with four divisions and 34 wards. This district was purposively identified for the study since it has most of the registered bars in Dar es Salaam. This survey focused on bar waitresses (females working in bars and pubs, responsible for serving foods and drinks to customers) in Kinondoni district; available in their respective sites on the day of data collection. Sample size estimation was based on 69%, proportion of female sex workers in Tanzania (NACP, 2010) utilizing VCT. This proportion was used because data on bar waitresses utilizing VCT are not available. It was hypothesized that these two groups share some HIV risks.

Using a 95% confidence interval, a precision of 5% and a design effect of 2, with a correction of 10% non-response rate, a minimum sample size of 371 bar waitresses was reached. A three-stage random cluster sampling design was employed, starting with selection of divisions, then wards in selected divisions and finally 10 bars from each of the wards. The sampling frames were obtained from respective ward secretaries. All available waitresses in these bars were invited to participate in the survey.

Data collection

Using a pre-tested interview schedule, trained research assistants conducted face-to-face interviews with the respondents after getting their informed consent. Each interview was conducted in a conducive and private place within the respective bar. The dependent variable of interest in this study was ever utilisation of HIV VCT whereas the independent variables were socio-demographic characteristics of the bar waitresses, knowledge on HIV VCT services; risk sexual practices, reasons for using VCT services and barriers for utilizing the VCT services.

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Data analysis

The data were checked for accuracy and completeness. The open-ended questions were coded and categorized based on the main emerging themes. Descriptive statistical measures like mean and standard deviations (SD) were derived for continuous variables. Frequencies were produced for categorical variables and association examined using chi-square test. Utilisation of VCT services was measured as ever use (the main outcome variable) or recent use (within six months before the survey). All statistical procedures were performed using the Statistical Package for Social Sciences (SPSS) version 15.0.

We measured knowledge about VCT based on five questions of different weights. Three of the questions carried one point each while the other two were assigned two points each. The first composite knowledge variable was created with values ranging between 0 and 7. On the other hand, the second composite variable constituted of 1 for respondents who mentioned two places that offer VCT services and two benefits of the services; and 0 otherwise. The knowledge levels were categorized as 'high'; 'moderate' or 'low' if the scores were respectively 6-8, 3-5 or 0-2.

Unadjusted and adjusted logistic regression models were produced with VCT utilisation and the potential determinants as the outcome and independent variables respectively. All factors with $p<0.20$ in the unadjusted analyses were included in the multivariable model.

Ethical considerations

Ethical approval to conduct this study was granted by the Research Ethics Committee, Muhimbili University of Health and Allied Sciences. Permissions to collect data were requested and granted from the regional, district and respective ward authorities and managers of the selected bars. Ethical issues specific for this study that needed attention included the fact that participants were asked to disclose sensitive information relating to their sexual practices, which could elicit emotional feelings. To address this, participants were interviewed in an area that ensured privacy and they were assured of confidentiality of any information that they shared with the research team. Informed consent was sought from each respondent before administering the survey tool. Each potential study participant was asked to sign (or thump-sign) the consent form. At the end of the interview, respondents who had not accessed VCT services were encouraged to use them.

Results

Background characteristics of the study participants

A total of 378 bar waitresses participated in this study, their ages ranged from 17 to 54 years with a mean of 26.1 (SD=5.0) years. Slightly more than half, 195 (51.6%), of the respondents were in the age group 25-34 years and 221 (58.5%) reported never married (Table 1). The majority, 350 (95.0%), of these bar waitresses had attended at least some primary school education. Furthermore, a third, 114 (30.2%), of the respondents reported that they never had a child by the time of the survey.

Table 1. Background characteristics of the study participants (n = 378)

Characteristic	Response	Number	Percentage
Age group (years)	15-24	157	41.5
	25-34	195	51.6
	35+	26	6.9
Marital status	Never married	221	58.5
	Currently married	16	4.2
	Cohabiting	64	16.9
	Divorced/Widowed	77	20.4

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Education	None	19	5.0
	Some primary	250	66.2
	Above primary	109	28.8
Parity	Nulliparous	114	30.2
	One	139	36.8
	Two	87	23.0
	More than two	38	10.0

Source of information, access and knowledge on VCT services among bar waitresses

Almost all respondents 376 (99.5%) were aware of places where they could access VCT services. Of these, 364 (96.8%) accessed VCT services at health care facilities. However, less than a third (30.3%) mentioned health care facilities as their main source of information on VCT (Figure 1). Of all study participants, 270 (71.4%) had high level of knowledge of VCT services. Except one respondent, the rest were able to mention the benefits of VCT services with majority mentioning the quest to establish one's HIV status followed by strive to self-protect against acquiring HIV infection.

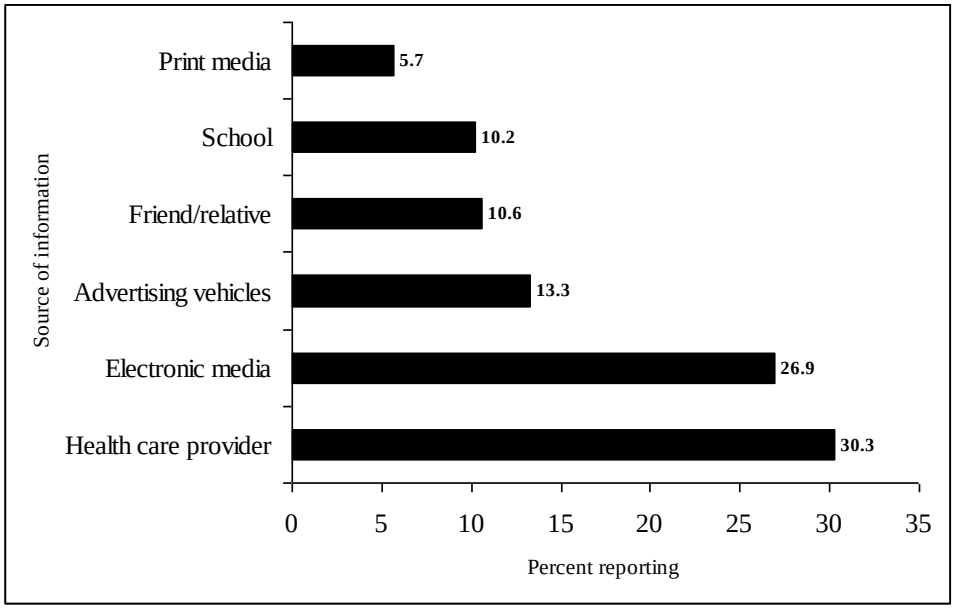

Figure 1: Main source of information on VCT services

Utilization of VCT services

While majority of the bar waitresses 339 (89.7%) affirmed to have ever utilized VCT services at some point in their lifetime, less than half of them, 172 (45.5%) reported to have recently utilized VCT services (within the past six months). In the bivariate analysis, variables that had p-values less than 0.2 were education, marital status, and level of knowledge of VCT, condom use, parity, practicing anal sex, lack of fear of stigma and lack of fear of testing positive for HIV. Therefore, these variables were fitted in the binary logistic regression model to predict utilisation of VCT services.

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Table 2. Multivariable binary logistic regression analysis for factors associated with VCT utilisation among bar waitresses

Variable	Number (%) utilizing VCT services	OR (95%CI)*	
		Unadjusted	Adjusted
Education level			
No education	14 (73.7)	Reference	Reference
Some primary	226 (90.4)	3.4 (1.1, 10.1)	2.8 (0.6, 14.3)
Above primary	99 (90.8)	3.5 (1.1, 11.9)	4.6 (0.8, 27.9)
Marital status			
Never married	186 (84.2)	Reference	Reference
Ever 'married'†	153 (97.5)	2.5 (0.9, 7.3)	1.1 (0.3, 3.6)
Parity			
At least one	256 (97.0)	11.9 (5.3, 27.0)	14.5 (5.8, 36.0)
Nulliparous	83 (72.8)	Reference	Reference
VCT knowledge			
Low/Moderate	85 (79.4)	Reference	Reference
High	254 (94.1)	4.3 (2.2, 8.5)	7.3 (2.8, 19.2)
Condom use (recent act)			
Yes	181 (92.3)	1.7 (0.8, 3.3)	3.2 (1.4, 7.0)
No	158 (87.8)	Reference	Reference
Ever practiced anal sex			
Yes	32 (82.1)	0.5 (0.5, 1.2)	1.0 (0.3, 3.7)
Never	307 (90.6)	Reference	Reference
Fear of testing HIV positive			
Yes	205 (87.6)	Reference	Reference
No	134 (93.7)	2.0 (1.0, 5.0)	5.0 (1.7, 10.0)
Fear of being stigmatized			
Yes	160 (87.4)	Reference	Reference
No	179 (92.3)	1.7 (0.9, 3.4)	3.1 (1.2, 8.1)

***** Odds Ratio (95% Confidence Interval); † Married, cohabiting, divorced or widowed

Independent factors which remained significantly associated with VCT utilisation among bar waitresses included parity, knowledge level of VCT, condom use in the recent sexual act, not fearing testing positive for HIV and not fearing stigmatization. Bar waitresses with a high level of knowledge about VCT services had more than seven-fold odds to utilize VCT services as compared to those with low or moderate knowledge (OR = 7.3; 95% CI = 2.8, 19.2) independent of other factors. Bar waitresses with at least one child had more than 14 odds to utilize VCT services than those without a child (OR = 14.5; 95% CI = 5.8, 36.0) independent of other factors. Similarly, waitresses who reported to have no fear of testing positive for HIV had five odds to utilize VCT services as compared to those scared of testing positive for HIV (OR = 5.0; 95% CI = 1.7, 10.0) independent of other factors (Table 2).

Discussion

In this study, most of the bar waitresses reported to have ever tested for HIV. Such high rates of testing are anticipated due to numerous sensitization campaigns, which encourage people to know their HIV status. The increase in the number of HIV VCT centres, coupled with availability of antiretroviral treatment, which has played a pivotal role in increasing the uptake of VCT services, might have also

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contributed to the observed high rates of HIV testing. The reported VCT utilisation among the bar waitresses in this study is higher than that documented for the general population in Tanzania (THMIS, 2013). The difference could have been contributed by the nature of the working environment of the waitresses, which puts them at an increased risk of engaging in high-risk sexual behaviours. However, utilisation of VCT services in the past 6 months decreased drastically from 90% to 46%, affirming to earlier observations that HIV testing is not done at least once per year as recommended especially for members of perceived high-risk groups (NACP, 2011).

Studies on VCT utilisation elsewhere (Maman *et al.*, 2001; Kasote & Tsue, 2005; McGarrigle *et al.*, 2005; DeGraft-Johnson *et al.*, 2005; Addis *et al.*, 2013; Tuntufye, 2014) have reported that age, education level and marital status are associated with utilisation of VCT services. In our study, neither education level nor marital status of the respondents remained independent predictor of utilisation of VCT services in the multivariate analysis. On the other hand, having at least one child, high level of knowledge on VCT, using a condom in the most recent sexual act as well as lack of fear of positive results and stigmatization increased the likelihood of utilizing VCT services. However, the present study was done in an urban area with high utilisation of antenatal and facility delivery services, and hence some respondents were likely exposed to VCT and subsequent counselling. The significant association between condom use and utilisation of VCT services in the present study conforms to what has been reported in Vietnam (Train *et al.*, 2013). It is plausible that respondents who use condoms are more confident with their HIV status and therefore have less fear of testing positive. Bar waitresses who used condom in the last sexual encounter most likely have higher knowledge of HIV/AIDS, the role of condom in preventing HIV infection as well as the relevance of HIV testing in infection prevention.

This study has two potential limitations. Firstly, the sample size was limited to only bar waitresses working in one district of Dar es Salaam, restricting generalization of inferences to the other districts. Secondly, the study tool was not self-administered because of possibility of illiteracy among respondents. The use of interviewers may potentially lead respondents to offer socially desirable response. An anonymous data collection tool that gave confidence to the waitresses mitigated this. Despite its methodological limitations, our findings provide important insights on the utilisation of VCT services among a high-risk population subgroup that has not been adequately involved in HIV-related research. The findings highlight the need to design strategies that will enhance effective utilisation of VCT services among bar waitresses.

Competing interests

The authors declare that they have no competing interests.

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