HIGH RISK SEXUAL BEHAVIOURS AND PERCEIVED SUSCEPTIBILITY TO HIV INFECTION AMONG BAR WORKERS IN TEMEKE DISTRICT, DAR ES SALAAM

By

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A Dissertation Submitted in Partial Fulfillment of the Requirements for the Degree of Master of Public Health of the Muhimbili University of Health and Allied Sciences.

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CERTIFICATION

The undersigned certify that he has read and hereby recommend for acceptance by the Muhimbili University of Health and Allied Sciences a dissertation entitled ***High risk sexual behaviours and perceived susceptibility to HIV infection among bar workers in Temeke district, Dar es Salaam,*** in partial fulfillment of the requirements for the degree of Masters of Public Health of Muhimbili University of Health and Allied Sciences.

Prof. M. T. Leshabari

(Supervisor)

Date: October 13th 2010

DECLARATION

AND

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DEDICATION

To Sigalla's family, my dear wife Salome Daudi,
My daughter Annabel Geofrey and
My son Abel Geofrey
With Love

ABSTRACT

Heterosexual contact has remained the major route for HIV transmission in the expanding HIV epidemic and is responsible for over 80% of all new infections in sub- Saharan Africa. Promotion of safer sexual practices has continued to be the most single important method of prevention of HIV transmission in African countries that lack effective vaccine or readily available antiretroviral therapy. Such interventions are important to Most at Risk Populations (MARPs) that include bar workers who form a group with significantly higher HIV prevalence than that of the general population. The main objective of this study was to determine extent and factors associated with high risk sexual behaviours among bar workers in Temeke district Dar es Salaam and their perceived susceptibility to HIV infection.

A multi-stage sampling strategy was used for selecting the study sample. A total of 419 bar workers were interviewed. Data was generated using structured interviews. Unprotected sex was found to be fairly common. While 69.7% practiced unprotected vaginal sex, 22.5% had anal sex experience, 35.4% had tried oral sex and 23.5% had practiced masturbation. Only 30% used condoms during their last sexual experience. Incentives for engaging in risk sexual behaviours were receiving gifts or cash, drinks or alcohol, getting job or job security and getting or maintaining a place of residence. In conclusion, there is a large unmet need for interventions to raise awareness and supporting behaviour change for HIV prevention among bar workers to effectively reduce HIV transmission.

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LIST OF ABBREVIATIONS AND ACRONYMS

AIDS	Acquired Immunodeficiency Syndrome
CSW	Commercial sex workers
ELCT	Evangelical Lutheran Church in Tanzania
HIV	Human Immunodeficiency Virus
HSV	Herpes Simplex Virus
MARPs	Most as risk populations
NIMR	National Institute for Medical Research
STIs	Sexually Transmitted Infections
TACAIDS	Tanzania Commission for AIDS
UNAIDS	Joint United Nations Programme on HIV/AIDS
WHO	World Health Organisation
THIMS	Tanzania HIV/AIDS and Malaria Indicator Survey

DEFINITION OF TERMS

Bar refer to a room or a retail establishment where alcoholic beverages are sold. It is also sometimes called a pub. In this proposal, terms such as "business establishment for selling alcohol", "bar", "study points" and "pub" are used interchangeably.

High risk sexual behaviours mean sexual practices that carry increased chances of contracting sexually transmitted infections including HIV. In this research, high risk sexual behaviours are multiple sexual partners and unprotected sexual practices: vaginal sex and anal sex.

Bar worker is a male or female bar attendant who is responsible to serve alcoholic and other drinks to customers.

Division is a district administrative unit, which is composed of a cluster of wards. It is a population of about 50,000 people.

Ward is a district administrative unit, which is composed of a cluster of villages. It is a population of about 10,000 people. Each village is again composed of clusters of ten (10) household units.

Marital status is a state of being single, married, divorced, widowed or cohabiting.

Sexually transmitted infections (STI) are a group of communicable diseases that are transferred predominantly by sexual contact.

CHAPTER 1

1.0 INTRODUCTION

This chapter explains the background to the problem. It also states the problem statement, research questions, broad and specific objectives as well as rationale for the study.

1.1 Background

Tanzania Mainland has a generalized HIV prevalence and the primary mechanism for HIV transmission in the country is unprotected heterosexual intercourse, which constitutes about 80% of all new infections (1). Although the prevalence of HIV in Tanzania mainland is reported to have decreased to 6%, there have been considerable variations by zones, regions, districts, rural and urban areas. Prevalence trends of the epidemic have shifted from the North-Western part of the country (Kagera region) where it was first detected to the Southern Highlands and the Eastern Coast. HIV & AIDS prevalence shows strong regional variation varying from 16% in Iringa, 9% in Mbeya and Dar es Salaam to about 1% in Manyara, Arusha, Kigoma and Kilimanjaro (1).

It is reported that the most important factor fueling the HIV epidemic in Tanzania Mainland is high risk sexual behaviors defined as sexual practices such as unprotected sex and multiple partners (1). Other reports show trans-generational sex and multiple concurrent partners to be among factors fueling the epidemic in the country (2, 3). Furthermore, there have been concerns that the early age for sexual debut is also one of the factors that contribute to increased HIV infections (3). With increased sexual activity among Tanzanians coupled with low protection measures against consequences of unprotected sex, HIV infection has been disproportionately high among different population sub-groups in the country (1, 2, 3).

Reasons for engaging into high risk sexual practices have been shown to vary among population subgroups. For example, several reasons have been identified for the tendency of

young people to engage in risky sexual behavior. These include peer pressure, idleness and despair due to either lack of employment or opportunities to advance through education and skills building (2). Lack of coherent information and mentoring on sexual issues, immoral cultural practices/customs promoting promiscuity, and poverty, and at times curiosity are other contributory factors. The poor, who are most likely illiterate and unemployed, might use sex as a means of earning a living. Again, women have been rated to be more likely to get involved in risky sexual practices than men, for lack of alternative means of survival (1, 2). Paid sex is common among different groups for population due to economic hardships (1, 2, 4).

Age at first sexual intercourse is of particular interest as HIV in Tanzania is mainly transmitted through heterosexual contact (2, 4). Available data show that, in Tanzania, both females and males initiate sexual activity early (1, 3). Fourteen percent of females aged 20-49 first had sex before they were 15 and almost six in ten (59 percent) had first sex before the age of 18. The median age at first sex for females is 17.3 years. Males start sexual activity somewhat later than females. Among males aged 20-49, only 8 percent had sex before they were 15, while 41 percent had sex before age 18 and 68 percent had sex by age 20. The median age at first sex for males is 18.5 years. Comparison of these results with data from the 2003-04 THIS indicates that there has been little change in age of sexual debut. However, the median age at first sex for females 20-24 has declined slightly from 17.7 to 17.5 years in 2007-08, while for males it has remained the same at 18.5 years. Young girls have been reported to have sex with older men and getting married at early age. Women have been mostly affected with this state of affair. Biological and anatomical predisposition plus less knowledge on HIV prevention have known to increase HIV infection (1, 2, 3).

Both men and women in Tanzania are known to be highly sexually active (1, 3). Tanzania HIV/AIDS and Malaria survey conducted in 2007/8 revealed that over half of women and men age 15-49 had sex four weeks preceding the survey (56 percent of women and 55 percent of men), while about three-quarters had had sex 12 months before the survey. Thirteen percent of

women and 20 percent of men age 15-49 had never had sexual intercourse at the time of the survey (1). High risk sexual behaviours appear to be fairly common. According to the Tanzania HIV Indicator survey 2003-04, among women and men who were sexually active 12 months preceding the survey, 23 percent of women and 46 percent of the men had sex with a non-marital, non-cohabiting partner. It was further revealed that, only 38% of women and half of the men (50%) reported using a condom in the most recent sexual contact (3).

Some studies have shown that different types of sexual practices are common in Tanzania (2, 5, 6, 7, 8, 9, 10). Reported sexual practices include vaginal sex, oral sex, masturbation and anal sex. Studies elsewhere which have estimated the probability of HIV infection in unprotected sex revealed different risks of infection (11 – 14). Unprotected anal sex carries the highest risk of HIV infection. Both anal sex and vaginal sex are regarded as sexual practices that carry higher risk of HIV infection than oral sex (12). Controversy still surrounds the likelihood of unprotected oral sex although studies report of people contracting HIV through this route (15, 16, 17). This and masturbation are reported to have the lowest risk of HIV transmission. Most at risk populations for HIV infection in Tanzania have been reported to engage into unprotected vaginal sex (2, 4 - 7) Extent of unprotected anal sex among the most at risk population subgroups with exception of Men who have sex with Men is less understood (2).

Getting enough information on high risk sexual behaviours among men and women is a challenge and hampers efforts on HIV prevention in Tanzania. Specifically, women are far less likely than men to report having risky sexual behaviors. For example, the HIV/AIDS and Malaria Indicator Survey (THMIS) 2007/8 showed that only 3 percent of women reported having had sex with more than one partner in the 12 months preceding the survey, compared with 18 percent of men (1). This may be reflecting cultural values where women are not expected to be practicing such practices perceived by peers to be right for men. Similar differences may exist for reported rates of sexual practices among males and females. Available data further shows that sixteen percent of all women and 29 percent of men reported

having sex in the 12 months before the survey with someone who was not a husband/wife or cohabiting partner. Among men who had sex in the 12 months before the survey, one-quarter said they had more than one partner in that time period and 41 percent reported having had sex with a non marital, non cohabiting partner. Condom use at sexual encounters with non – cohabiting and non marital partner is relatively less common. Only 43 % of women and 53% of men used condom during such high risk sexual practices (1).

1.2 Problem Statement

For many countries with generalized HIV epidemic like Tanzania and in the absence of an effective vaccine or readily available antiretroviral therapy, promotion of safer sexual practices continue to be the most single important method for prevention of HIV transmission. However, for this to be accomplished, epidemiological data on sexual practices and related consequences are critical inputs. Bar and hotel workers have been classified among populations mostly affected by HIV/AIDS in Tanzania (2, 20). It has been reported that bar workers indulge into high risk sexual behavior (5, 6, 7). Sex mixing patterns with multiple and concurrent partners have been prevalent. A study done in Mbeya revealed that nearly all bar workers had regular sexual partners (6). More than half of bar workers in the same study reported to have casual partners besides their regular partners. Payments or gifts has influenced more than three quarters of the casual sexual relationship (24). Studies done to determine HIV prevalence in this population sub-group have revealed very high rates (5, 6, 7, 25). HIV prevalence among bar workers has been reported to be more than three times the prevalence of HIV in the general population (Mbeya, 32% in Moshi, 50% in Dar es Salaam, 75% in Arusha). High untreated Sexually Transmitted Infections further predisposes bar workers to risks of HIV infection.

Little empirical data is available on the extent of anal sex practices in African countries including Tanzania (26, 27). Practices of anal sex among Males having sex with Males (MSM) in Zanzibar have been shown to be associated with very high risk of HIV infections (8 - 10, 28). These rates varied from 12 to 46 percent. Little is known about the extent of such

practices among other most at risk population subgroups, including bar workers. Similarly, the extent to which they have sex while drunk is not known (1, 5, 6).

Although some data are available on HIV among bar workers, this population subgroup has received little attention in terms of understanding the types of sexual behaviours they practice and preventive measures they take against consequences. The extent to which this population subgroup feels susceptible to HIV is also not well known. This study was therefore designed to fill this information gap.

1.3 Research questions

This study was aimed at answering the following research questions:

1. What are the types of sexual behaviors practiced by bar workers?
2. To what extent do they perceive to be at risk of HIV infection?
3. What drives bar workers to engage in risky sexual behaviors?

1.4 Rationale of the study

Results of this study have provided important background information for developing HIV interventions targeting bar workers. Findings of this study have also provided useful information which will contribute towards policies required for effectively dealing with the HIV/AIDS epidemic in Tanzania.

1.5 Research objectives

1.5.1 Broad Objective

The main aim of this study was to determine types of sexual behaviours practiced and perceived susceptibility to HIV infection among bar workers in Temeke district Dar es Salaam.

1.5.2 Specific Objective

Specifically, the study intended to:

1. Determine type of sexual behaviours practiced by bar workers in Temeke district, Dar es Salaam.
2. Determine what worries most for unprotected sex among bar workers in Temeke district, Dar es Salaam.
3. Determine perceived susceptibility to HIV infection among bar workers in Temeke district, Dar es Salaam.
4. Identify incentives that make bar workers engage in risk sexual behaviours in Temeke district, Dar es Salaam.

CHAPTER 2

2.0 LITERATURE REVIEW

Heterosexual contact remains the major route for HIV transmission in most parts of sub-Saharan Africa where the HIV epidemic is expanding rapidly. In 2007, UNAIDS/WHO reported that unprotected heterosexual sex constituted about 80% of all new infection in Tanzania where 1.4 million people were estimated to be living with HIV, most of them in the reproductive age of 19 – 49 years. The probability or risk of HIV transmission for any single heterosexual sex exposure is directly related to the amount of HIV in blood or semen exchanged. With high frequency (daily or weekly) of sex partner exchanges, there will invariably be a high prevalence of factors that can increase the amount of HIV circulating in peripheral blood or cause lesions in the genital or rectal epithelium and, thus, increase the amount of HIV or the amount of infected blood or sexual fluids exchanged during intercourse. Anal intercourse poses a higher risk of HIV transmission compared with vaginal intercourse because of the greater amount of tissue trauma that may occur (23). In a country with generalised HIV epidemic like Tanzania, with the absence of an effective vaccine or readily available antiretroviral therapy, promotion of safer sexual practices continues to be the most single important method for prevention of HIV transmission.

Bar and hotel workers have been classified as populations mostly affected in Tanzania, together with "mobile populations" which consists of those who work and stay away from home for varied lengths of time during a year (2). These include commercial sex workers (CSW), petty traders, migrant workers, military personnel and long distance truck drivers. Several studies done among bar workers have shown that their HIV prevalence is significantly higher than the prevalence of normal population (2, 5, 6). In selected regions in Tanzania, HIV prevalence among bar workers have been reported to be 68% in Mbeya, 32% in Moshi, 50% in Dar es Salaam, 75% in Arusha (2, 5, 6). These are several folds higher than the national average of 5.7 % (1).

Background characteristics of bar workers in Bangkok revealed that the majority (73%) were men aged 17 and 21 years and 86% were born outside the city (24). One-third had attended formal school and more than half had never worked in bar before. Further analysis showed that almost all (95%) bar workers self reported that they had chosen bar work to solve their unemployment problem. Bars did experience 50% turn-out within two months. Analysis also showed that less than half of the bar workers were introduced to the job by their friends. Studies in Tanzania show similar levels of education among bar workers (5, 6). The proportion of bar workers who had completed primary school in Mbeya and Moshi were 74% and 83% respectively. Secondary education attendance has been reported to be 9% in Mbeya. These data further show that the proportions of these bar workers who are married, divorced/widowed or single are 21%, 44% and 35% respectively (5, 6). More than half had at least one live birth. Mobility is high, and one fifth of the bar workers had changed residence during the past year.

Although homosexual and heterosexual anal intercourse may have been practiced earlier in the continent, they are more being disclosed in recent times in different parts of Africa (19). Recent reassessment of epidemiologic evidence indicates that a substantial amount of such practices. More and more cases of both homosexual and heterosexual anal sex have been reported. For example, 42% of a sample of South African truck drivers admitted to engaging in heterosexual anal sex (25). Twelve percent of female college students in a Togo study reportedly had experienced anal intercourse (20). In Zimbabwe, 35% of a large representative sample of persons aged 18–27 reported having engaged in anal intercourse in the preceding two months (19). Figures are also alarming among groups that practice sex business. Nearly more than two fifths (42.8%) of prostitutes in a South African sample admitted engaging in anal sex (26); more than 40% of female sexual workers in Meru in Kenya reported ever practicing anal sex (21) – although another study in different location within Kenya indicated that fourteen percent of prostitutes studied in a Kenyan sample admitted to anal intercourse (27). The extent of anal sex between men and women in the city of Dar es Salaam is unknown. Barmaids are known to indulge in high sexual behaviours but the extent of anal sex practiced among them is unknown.

The actual risk of HIV transmission through oral sex has been difficult to assess. This is in comparison with the well known risk of unprotected vaginal and anal sex (28). Some studies have shown that unprotected oral sex is associated with HIV infection (29). There have been reports of cases among both women and men indicating the acquisition of HIV infection from oral sex. Literature reports of women who acquired HIV infection after performing oral sex on their seropositive male partner (30). Cases of infection in men have been reported following oral sex with their female partner. It includes one man who was reported to have been infected through prostitute (16, 31) .These reports calls for additional factors that should be present for HIV infection to occur through oral sex on top of the known protective functions of saliva.

Saliva does not contain blood and that enzyme in saliva such as peroxidases and thrombospondin-1 inhibits HIV. Also, the oral mucosa lining contains few cells that have receptors for HIV virus to attach. There is consensus that, additional factors needs to be available that would increase risk of HIV transmission through oral sex (17). These include oral trauma, sores, inflammation, concomitant sexually transmitted infections, ejaculation in the mouth, and systemic immune suppression. A hazardous combination of poor oral health and taking ejaculate in the mouth has been known to increases the risk of HIV transmission. Repeated exposure to oral sex and partner being HIV infected (differing by stage of infection) further raises the risk of HIV infection. Less has been document about oral sex among bar workers. The extent of oral sex among people known to indulge in high risk sexual behaviours is also unknown in Tanzania.

Sex mixing patterns and the proportions of persons who have multiple and concurrent sex partners is one of the primary determinants of the rapidity and extent of sexual HIV transmission (32). Bar workers have two categories of sexual partners: "regular" and "Casual" and the sexual practices vary considerably (6). Regular sexual partners are perceived to be relatively permanent and are responsible for providing shelter, food, security and other acute needs (5, 6). For the casual partners, the nature of the sexual relationships is often commercial, involving the exchange of gifts or money. Regarding payment women are usually totally dependent on the generosity of their client. This type of sexual relationship renders women especially vulnerable

to demands for unsafe sex by their clients and to violence. In Mbeya, majority of women bar workers interviewed (90%) reported to have had a sexual partner, whom they perceived as a "regular" as opposed to a "casual" partner and 57% reported "casual" partners besides their regular partner during the past year (5). In 75% of these casual sexual relationships some payment was involved. As to who is a casual partner, Bangkok study showed that, in two weeks prior to interview, 100% of bar workers reported to have had sex with male customers, 23% with female customers, 13% with non-customer males, and 50% with non-customer females (30). Such trends are not well known among bar workers in Dar es Salaam as will form important part of preventive strategies. If such situation exists in Dar es Salaam, male clients of female bar workers may function as a bridging group for HIV transmission in the general population despite the generalized HIV epidemic that Tanzania experience (33, 34). If sexually active persons have many different sex partners, but only one at a time for months or years (i.e. serially, as in most western countries), it would be difficult for HIV to spread rapidly in persons whose only risk of infection is heterosexual intercourse. When multiple sex partners are usually concurrent, HIV or any STI can spread rapidly and extensively (35).

Alcohol has a controversial role in influencing risk sexual behaviours. Studies have clearly showed the association of alcohol and reported history of physical, sexual violence and number of sexual partners (7). It has been shown further that women who abused alcohol were more likely to report STIs symptoms. Women who had multiple sexual partners were more likely to have an STI compared to women with one sexual partner. Other studied have shown that alcohol abuse have no direct association with prevalence of STIs and is only through its association with multiple sexual partners (7, 36). This role of alcohol and likelihood of reported STI symptoms needs further research.

Some previous studies have examined predictors of condom use in the last sexual act without taking into account the frequency of use over a defined time period (37, 38) while others have used 'Ever use/Never use' as the main outcome variable (39). Other studies have examined factors associated with consistent condom using self reports over a relatively brief period of

time, say last sexual act, two weeks or two months (40, 41). For condom to be effective in reducing HIV infection in the general population, it should be used consistently over extended time period, and therefore studies to examine factors associated with long-term consistent condom use are important in identifying groups at highest risk of HIV and in the design of intervention programmes. In Africa, despite of the availability of several programmes for social marketing and provision of condoms at low or no cost to the general population, condom use in the region continues to be low (6). Reported ever used condom among women of childbearing age in Kigali, Rwanda was found to be only 7% (24). Only 15% of STD patients in Uganda reported to have used condom during their last sexual act (42). Studies done on condom use in northern Tanzania have shown differing results. They reported varying rates from 12.8% to 20.7% (1, 6). In Mbeya, "Ever condom use" was as low as 50% with both regular and casual partners (5). Despite that the overall effect of condom use in prevention of HIV transmission may be significantly higher in populations where both STDs and HIV infections are prevalent as in bar workers; few studies have been done to assess condom use among this group in Dar es Salaam.

In general, condom use is relatively higher in men and in subjects who are unmarried but decreased with increasing age and increasing number of total number of live births. Subjects who reported using condoms when they exchanged sex for money or gifts were seven times more likely to be consistently use condom. Studies have shown differing association results if condom use and level of education, alcohol use, increasing number of sexual partners and concurrent partners (19). Studies show alaming results that the following factors are not associated with increased condom use: religion, and ethnicity, knowledge about and personal experiences with HIV/AIDS, partners who discuss about HIV/AIDS in the past year, perceived risk of HIV infection, perceived condom effectiveness, reported 'high' and 'average' condom self-efficacy. Those reported to have experienced some embarrassment about condoms were less likely to use them consistently (6). In the same study condoms were reported by 95% of bar that it was readily available for use. Perceived risk for HIV infection among individuals practicing high risk sexual behaviours is very low. This has lead to low adoption of low risk behaviours.

For example, thirty-two percent of the bar work attendees surveyed in northern Tanzania did not perceive themselves to be at risk (6). Their perceived risk to HIV infection did not increase condom use.

Bar workers are important population sub-group that interact directly with the general population. Understanding of sexual practices that are practiced by bar workers and their risk to HIV infection is important so as to device interventions to effectively reduce HIV prevalence. Perceived susceptibility to HIV infection has also been shown to be important predictor of adopting low risk behavours.

CHAPTER 3

3.0 METHODOLOGY

3.1 Study design and its description:

A cross-sectional descriptive study was conducted between May and June 2010 among bar workers in Temeke district in Dar es Salaam, Tanzania. This was a 'snapshot' analysis of behaviours of bar workers in Temeke district during the time of the study that predispose to contracting HIV. This aided in providing frequencies of sexual practices and characteristics of risky sexual behaviours practiced by bar workers in the district. Further, this provided understanding of the extent to which bar workers perceived susceptibility to acquiring HIV infection. This aimed at providing data for the entire population of bar workers under study in the district (62 - 63).

3.2 Study area

Temeke district is one of the three districts in Dar es Salaam region. It is bounded by Kinondoni district in the north, Ilala district in the south, Indian Ocean to the east and Coast region to its South-West. It covers a total area of 786.5 square kilometers. The 2002 National Census showed that the district had a total population of 768,451 (44). The district is divided into three divisions and twenty four wards, ninety seven streets, fifteen villages and sixty two hamlets (43). The district has 4 hospitals, 6 health centers, 105 dispensaries and 2 maternity homes. It had 487 registered bars with an average of 4 workers per bar.

The district has tropical climatic conditions. It has hot and humid weather throughout the year. There are two rainy seasons, the long rains that fall during April and May and the short rains that fall during November and December. The main economic activities in the district include international and local trade, manufacturing industries, tourism, transport, communication and agriculture in low land areas. Other economic activities include petty business, fishing, small scale mining and quarry and construction works.

This study was conducted in Temeke district, Dar es Salaam due to several reasons. Dar es Salaam is the second region with highest HIV prevalence in the country, after Iringa region. The region has estimated HIV prevalence of 9.3% which is higher than the estimated national prevalence of 5.7% (49). In the region, women have higher HIV prevalence than men. It is also one of the regions with high percentage of women and men who practice unprotected sexual intercourse with multiple sexual partners (1, 3, 43). Temeke district, where this study was conducted, has a good mix of people from different regions of the country due to many depots and business points, although the original inhabitants were Zaramo and Ndengereko. It serves as entry point of many people from rural areas, with varying cultural practices. Generally, largest proportions of people in this district are of low income.

3.3 Study population

Study population was workers in bars in Temeke district. These were workers of both sex assigned to sell alcohol at a business establishment regardless of their employment status or place of residence, working duration or working experience.

3.4 Sample size estimation

The minimum sample size n was obtained using the formula developed by W.G Cochran (61) to be used in populations that are large:

$$n = \frac{Z^2P(100-P)}{\varepsilon^2}$$

Where:

P = Proportion of bar workers who reported to have multiple sexual partners, basing on previous studies, was estimated as 57% (5).

E= margin of error set at 5%

Z= standard normal deviate set at 1.96 for 95% confidence level

$$n = \frac{1.96^2 \times 57(100-57)}{5^2} = 377$$

The minimum sample size was 377 participants. However, in order to account for missing data and other unforeseen challenges, the sample size taken was 419.

3.5 Sampling technique

3.5.1 Selection of bars

A multistage random sampling technique was used in selecting bars. Two divisions were randomly selected from the three divisions in the district. Then, four wards were randomly selected from each division.

3.5.2 Selection of study participants

Every bar in the eight wards was visited. The Manager of each bar was asked for the number of bar workers in the facility - both employees and non employees. Half of the workers in each bar were randomly selected to participate in the study. Follow up was done to get those that were selected to participate in the study but were not available during time of data collection.

3.6 Inclusion and exclusion criteria

3.6.1 Inclusion criteria for bars

- All establishments that sell alcohol, regardless of their registration status provided that they were in the study area
- That had a place for customers to sit and accommodate at least five customers
- That had at least two (2) bar workers working or scheduled to work at evening shift in the day when this study was conducted

3.6.2 Inclusion criteria for study participants

All those who were assigned to sell alcohol at a business establishment regardless of their employment status, place of residence or bar working experience. Both of those who work full time or part time were included into this study.

3.6.3 Exclusion criteria for bars

- Hotels, restaurants, guest houses or any other business points that do not have a place to sell alcohol
- Any business establishment that do not sell alcohol
- Any business establishment selling alcohol but with less than two working or scheduled worker during the day of study

3.6.4 Exclusion criteria for study participants

Bar attendants whose primary responsibility did not include selling alcohol

3.7 Ethical consideration

Study clearance and reference letters were obtained from Muhimbili University of Health and Allied Sciences Ethical Review Board. Temeke District Executive Director was requested for permission to conduct the study in the district. Permission was also sought from respective bar owners or managers for their bars to participate in the study. Participants were asked for their willingness to participate in the study. Principle researcher or research assistants provided participants with information related to the aim of the study. Participation was voluntary and every participant was free to withdraw from the study at any time without penalty. Written consent using common university format was sought from participants who were above 18 years. None of the participants interviewed were below 18 years. If we had encountered participants who were below this age, permission was planned to be sought from respective bar managers, parents or guardians. The study did not record names of participants and instead, codes were used to maintain confidentiality.

3.8 Data collection

3.8.1 Data collection instruments

Data was collected using structured interviews. Questions were first formulated in English and later translated into Swahili which is Tanzanian official language spoken and written by most people. Retranslation of Swahili questionnaire to English was done to check for validity of the instrument.

3.8.2 Selection and training of research assistants

Research assistants were selected basing on the availability and required knowledge on research. Two research assistants were trained after a brief overview of the purpose of the study. The major focus of the training was on how to conduct interviews after requesting informed consent from the interviewee. Research assistants were also trained about what this study was all about and shown how to establish good rapport before and during interview. Training was provided also for ethical procedures and sensitivity interviewing so as to treat interviewees of both sex sensitively.

3.8.3 Pilot testing

The interview guide was pre-tested using bar workers in five different bars located in Kinondoni district. The principal researcher and research assistants conducted the pilot testing. Kinondoni district was selected for pre testing because it has a similar set up to that of Temeke. Kinondoni district has many widely scattered bars and therefore it was easy to select bars that were located far from Temeke district. This was important to avoid linkage of study related questions/information among targeted participants. Then, minor changes of questions were made basing on results of the pre-testing.

3.8.4 Data collection

Data were collected by the researcher and two trained research assistants. A convenient place was selected from every bar where data collection for all participants in a respective bar was done. Interviews took average of 30 minutes and were mainly done before and during evening

shift that usually started at 1600 Hours and ended at 2200Hours. Bar managers were informed a day earlier. Staff were informed by their bar manager to come an hour before the start of their working shift so that interviews are conducted in advance.

One participant was interviewed at a time. No other participant was allowed to move around or sit near the place of interview. Interviews were conducted for selected participants in one bar at a time. Interviews were made on one street at a time. Data collection was done every day of the week including weekends.

Quality of data collected was regularly checked. Morning of every other day, the principal investigator and research assistants discussed on problems faced during data collection the previous day and clarifications on such problems were made. The principle investigator also did check up of all information collected if the questionnaires were all filled correctly.

3.9 Data analysis and presentation

Responses obtained from the study participants were coded and computerized. Data were entered in SPSS program version 15.0. Running of frequencies was done in order to check for data entry errors. Data entry errors that were identified were corrected by referring to a specific question with errors in the questionnaire. After data cleaning, frequencies were obtained for all variables and those with adequate variation were further analyzed as presented in the next chapter.

3.10 Limitations of the study

Talking about sexual issues in African culture is a very sensitive issue and more so for sexual practices. Some participants may have provided information that was socially acceptable and hence introducing bias in the study results. In African cultures, men tend to over estimate their sexual behaviour as expected by peers and women usually under estimate their sexual behaviour due to cultural reasons. Behaviours such as anal and oral sex are culturally unacceptable consequently rates revealed might be much lower than actual practices.

Information bias for sensitive issues of sex often happens for reported behaviours leading to under reporting. Four participants refused to answer some questions regarding anal sex but none withdraw from the study.

CHAPTER 4

4.0 RESULTS

4.1 Social - demographic characteristics of the sample study

A total number of 419 participants participated in the study. The majority of the participants 364 (86.9%) were females. The age of the respondents varied from 18 to 59 years with a median age of 29 years. About three fifths of study participants 69 (61.1%) were in the age group of 25 – 34 years and 22.4% were youths aged 24 years or younger. The rest were adults 35 years and older. About 16% of the participants did not have any formal education and very few (1.2%) had post-secondary education. Over 60% completed primary school and over 19% joined secondary school but dropped out.

Of all study participants, over 62% participants were Christians and the rest were Muslims. The majority of them were either single (35.6%), divorced (30.5%) or cohabiting (20.5%). Very few (6.7%) were married. A large proportion of them (93%) were from upcountry. Two-thirds of the workers were residents of Temeke district where this study was done and the rest came from other district in Dar es Salaam region. Over 44% reported to have 2 – 5 children and less than 20% did not have a child.

All respondents had one to ten dependants with a median of two (2) dependents. Over 46% had either 3 or more dependants while a quarter of them had only one dependant. The rest had 2 dependants. The demographic characteristics of the study sample were as summarized in table 1.

Table 1: Socio-demographic characteristics of the sample population

Characteristics	Males	%	Females	%	Total	%
Age						
<25	3	(5.5)	91	(25.0)	94	(22.4)
25 – 34	30	(54.5)	226	(62.1)	256	(61.1)
>34	22	(40.0)	47	(12.9)	69	(16.5)
Total	**55**	**(100)**	**364**	**(100)**	**419**	**(100)**
Sex	55	(13.1)	364	(86.9)	419	(100)
Education						
No formal education	2	(3.7)	64	(17.6)	66	(15.8)
Primary education	12	(21.8)	241	(66.2)	253	(60.4)
Secondary education	40	(72.7)	55	(15.1)	95	(22.7)
College and above	1	(1.8)	4	(1.1)	5	(1.2)
Total	**55**	**(100)**	**364**	**(100)**	**419**	**(100)**
Religion						
Roman catholic	20	(36.4)	118	(32.6)	138	(33.2)
Protestants	20	(36.3)	105	(28.7)	125	(29.6)
Muslims	15	(27.3)	141	(38.7)	156	(37.2)
Total	**55**	**(100)**	**364**	**(100)**	**419**	**(100)**
Marital status						
Single	21	(38.2)	128	(35.2)	149	(35.6)
Married	16	(29.1)	12	(3.3)	28	(6.7)
Cohabiting	7	(12.7)	79	(21.7)	86	(20.5)
Divorced	3	(5.5)	125	(34.3)	128	(30.5)
Widowed	8	(14.5)	20	(5.5)	28	(6.7)
Total	**55**	**(100)**	**364**	**(100)**	**419**	**(100)**
Current place of living						
Temeke	29	(52.7)	239	(65.7)	268	(64)
Ilala	5	(9.1)	51	(14.0)	56	(13.4)
Kinondoni	21	(38.2)	74	(20.3)	95	(22.7)
Total	**55**	**(100)**	**364**	**(100)**	**419**	**(100)**
Have children						
Have no child	16	(29.1)	65	(17.9)	81	(19.3)
Have 1 child	2	(3.6)	151	(41.4)	153	(36.5)
Have 2 – 5 children	37	(67.3)	148	(40.7)	185	(44.2)
Total	**55**	**(100)**	**364**	**(100)**	**419**	**(100)**

4.2 Background history as a bar worker

Of the 417 participants who responded to the question on what they were doing before joining their current profession, over 32% said they were straight from home. Nearly 26% changed from petty business into bar work and about a quarter of them were either former students or

worked in saloons. Over 57% of bar workers said they had worked in 1 to 4 other bars before and about 39% had only worked where they were working during the study. The remaining proportion had already worked in more than four bars. While 38% got the job in bars on their own initiatives, about a quarter of them were introduced in this profession by friends and 21% by either bar managers or bar owners. The characteristics of bar workers interviewed were as summarized in table 2.

Respondents time duration as bar workers where they were interviewed varied from less than a month to more than 12 years with a median duration of 6 months. Less than a third (31.3%) had less than 3 months in the same bar while nearly a quarter of them had more than 12 months experience as bar workers at the same place.

Paying for accommodation was a primary responsibility to over two thirds of the bar workers and more than 57% needed extra support. The main source of this supplemental funding for over two thirds of bar workers came from informal sexual partners. Only 12% had to take loan and the rest had to secure funds from friends, parents or relatives. Among those who had no primary responsibility for paying rent, over two thirds of their accommodations were paid by formal and informal sexual partners and the rest were staying either with parents or relatives.

Table 2: Characteristics of bar workers before joining their current bar

Characteristics	Males	%	Females	%	Total	%
Work before joining bar work						
Houseboy/house girl/ shamba boy	5	(9.2)	46	(12.7)	51	(12.2)
Petty business	8	(14.5)	90	(27.3)	107	(25.7)
Hotel	1	(1.8)	22	(6.1)	23	(5.5)
Saloon, school and others	34	(61.8)	68	(18.8)	102	(24.5)
At home	7	(12.7)	127	(35.1)	134	(32.1)
Total	**55**	**(100)**	**362**	**(100)**	**417**	**(100)**
Number of previous bar they have worked						
None	14	(25.5)	150	(41.3)	164	(39.2)
1 - 4	29	(52.7)	212	(58.2)	241	(57.5)
5 or more	12	(21.8)	2	(0.5)	14	(3.3)
Total	**55**	**(100)**	**364**	**(100)**	**419**	**(100)**
Who introduced to this bar						
Bar manager/bar owner	6	(10.9)	63	(22.8)	89	(21.2)
Friend	33	(60.0)	75	(20.6)	108	(25.8)
Relative	2	(3.6)	40	(11.0)	42	(10.0)
Customer	0	(0.0)	11	(3.0)	11	(2.6)
Adverts	0	(0.0)	3	(0.8)	3	(0.7)
Their own	14	(25.5)	147	(40.4)	161	(38.4)
Other	0	(0.0)	5	(1.4)	5	(1.2)
Total	**55**	**(100)**	**364**	**(100)**	**419**	**(100)**

Changing areas of residence was assumed to be a common feature of bar workers. However, a year before the study, only 30% of the respondents changed residence 1 to 2 times and very few (7%) had changed their residence 3 – 6 times. A large majority (62%) have stayed in the same residence for the past one year.

4.3 Age during the first sexual experience

Almost two thirds of the study participants had their first sexual experience by age of 17 years and by the age of 20 years, over 80% reported to be sexually active. Mean age of coitarche was 16.8 years. When asked what motivated them to have sex when they first tried, 38.4% said that they were motivated by a need to satisfy their feelings, almost a quarter (24.8%) had sex due to peer pressure and over 19% were raped. Need for gift and other reasons accounted for the remaining proportion. Very few of them (8.8%) took any precautions against consequences of unprotected sex the first time they tried.

4.4 Awareness of different types of sexual behaviors

All participants had heard of vaginal sex and all had friends who practice it. All female participants reported to have sexual partner who requests for it. Awareness of other types of sexual practices was fairly high. Almost all of them have heard about anal and vaginal sex. Over 45% of study participants had friends who have practiced anal sex. Request for anal sex by sexual partners was reported by over 39% of all bar workers. Awareness of oral sex was also very high and two thirds of study participants said had friends who had practiced it and nearly 56% reported that potential partners had requested for such sexual favors.

Table 3: Awareness of different types of sexual practices among bar workers

Sexual practices	Heard		n	Friend practiced		n	Partner requests		n
Oral	375	(90.4)	419	253	(66.4)	415	212	(55.8)	380
Masturbation	335	(80.0)	419	138	(40.4)	342	60	(18.0)	334
Anal	415	(99.0)	419	189	(45.2)	418	161	(39.3)	419

4.5 Practices of different types of sexual behaviors

All of 419 participants practiced vaginal sex. Over one thirds (35.4%) reported to have practiced oral sex. More than one fifth of participants (22.5%) reported to have practiced anal sex.

Table 4: Rates of oral, masturbation and anal sex practices by sex among bar workers in Temeke district

Sexual practices	Male	%	Female	%	Total	%	n
Oral	21	(38.2)	113	(35.0)	134	(35.4)	378
Masturbation	33	(60.0)	47	(16.5)	80	(23.5)	340
Anal	26	(49.1)	67	(18.6)	93	(22.5)	414

Rates of oral sex practice decreased with increasing age, varying from over 44% among youths aged younger than 25 years to 26% among young adults aged 34 years and older. However, this variation was not statistically significant (X^2 = 5.5, P value = 0.06). Anal sex practices were reported by nearly 39% of youths and declined to about 30% among young adults who were 34 years or older. Variation in anal sex practices by age was statistically significant (X^2 = 25.29, P value < 0.01). Masturbation practices were highest 21 (33.3%) among those who were over 34 years or older but this difference was not statistically significant (X^2 = 25.29, P value = 0.12).

Information on the most recent anal sex, oral sex and masturbation practices were analyzed. It was revealed that 42% of participants who had practiced anal sex did it two months prior to this study. Proportions for oral sex and masturbations were 61.7% and 11.4% respectively. Many of those who practiced masturbation (60.5%) were assisted by their sexual partners and the remaining proportion did it on their own. Sex of partner involved in sexual practices was not assessed.

4.6 Worries of consequences of unprotected sex

During their first sexual act, more than two-thirds of bar workers worried most about pregnancy. Very few (5%) worried about parents, neighbours and religious leaders finding out what they had done. Only 1.2% of bar workers reported that they were worried of contracting STI infection other than HIV during their first sexual act and the rest said they did not worry about anything. Less than 9% of bar workers reported to have done something to protect themselves against consequences of sexual intercourse during their first sexual act.

The worries experiences during first sexual act have changed over time if compared to what they worried for sexual act at time of interview. About 87% of bar workers were now worried most of contracting HIV infection followed by pregnancy (11.8%). None of them worried of contracting STI and finding out of what they have done by parents, religious leaders, neighbours and others. Less than 1% report to be not worried about of anything. About 30.3% report to have protected against consequences of sexual intercourse.

Most bar workers who worried about getting pregnant or contracting HIV infection were single (42.6%) followed by those who were cohabiting (25.9%) and divorced (18.3%) (X^2 = 47.3, P value < 0.01). Further, a bigger proportion of those who had attended formal education were significantly worried of being infected with HIV or getting pregnancy (87%) if compared to those who had no formal education (X^2 = 27.9, P value < 0.01). Of those who had formal education, worry to contracting HIV infection or getting pregnancy decreased with increase in level of education.

Most participants who reported to have sexual relationships outside formal relationships were significantly more worried (52.0%) of being infected with HIV or getting pregnancy compared to those without (X^2 = 41.7 , P value < 0.01). Incentives to engaging into risk sexual behaviours like gifts (X^2 = 0.1, P value = 0.71), drinks X^2 = 2.9, P value = 0.09), alcohol (X^2 = 0.8, P value = 0.35) and shelter (X^2 = 0.6, P value = 0.43) did not significantly increase or decrease worries of bar workers for being infected with HIV or getting pregnancy.

4.7 Perceived risk to HIV infection

All participants reported to be sexually active and had practiced vaginal sex. Other sexual practices reported by bar workers included oral sex (35.4%), masturbation (23.5%) and anal sex (22.5%). Only a minority of them reported to have taken protection measures against consequences of unprotected sex last time they performed such sexual practices. Condom use for the last vaginal sexual act was reported to be 30.3%.

Although high risk sexual behaviours which made respondents susceptible to HIV infection were very common, only 53.2% perceived themselves to be at risk of being infected. Over sixty eight percent of the study participants believed that they were HIV negative. Highest proportion of those who had oral sex (44.4%) believed that they were HIV negative followed by those who had anal sex (36.8%). Over one third (35.7%) of those who had practiced masturbation believed that they were HIV negative. Nearly one third (32%) had never taken a HIV test. Half of them reported to have taken a HIV test within 2 years prior to this study.

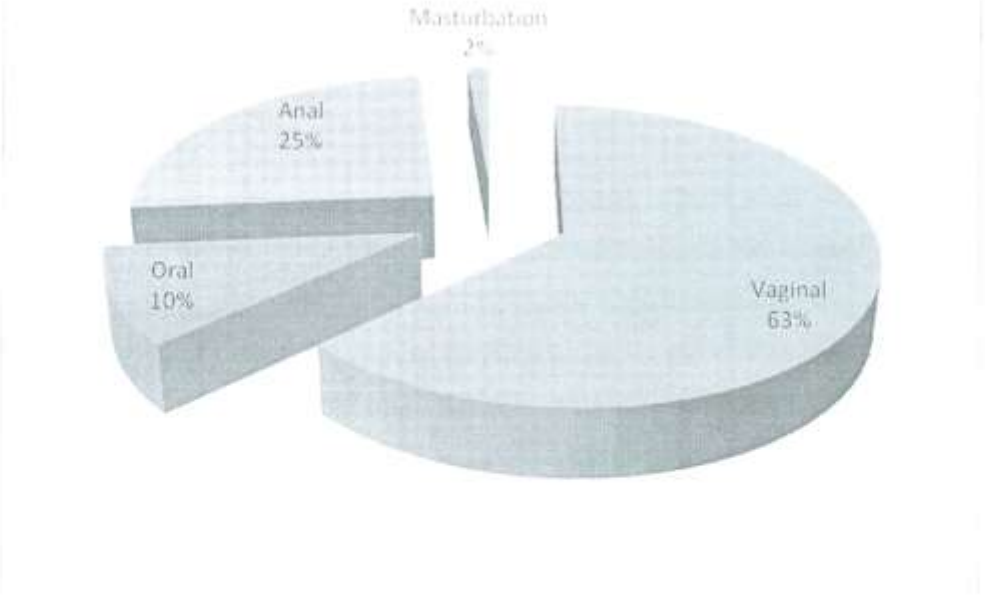
Perceived chances of contracting HIV varied significantly with sex where females (58.0%) were more worried than men (21.8%) (X^2 = 25.1, P value < 0.01). Perceived chances of contracting HIV increased with increasing age. Those who were aged 24 – 35 years significantly perceived more at risk (64.4%) of contracting HIV infection than those aged 25 years or younger (25.7%) (X^2 = 16.2, P value < 0.01). Perceived chances to HIV infection significantly decreased with increasing working duration as bar worker (X^2 = 13.3, P value < 0.01).

Perceived chances of contracting HIV infection was significantly higher among those who perceived condoms to be not effective in preventing HIV infection (54.8%) than those who did (50.6%) (X^2 = 0.7, P value = 0.41). Those who reported to take alcohol were significantly more worried of contracting HIV infection (56.3%) than those who did not (45.1%) (X^2 = 4.0, P value = 0.04) and reported risk increased with amount of alcohol consumed. The risk was

highest among those who reported to take more than five beers equivalent to two 2 ½ liters a week (69.2%) compared to 62.5% for those took less than five beers (X^2 = 35.3, P value < 0.01). Those who had taken a HIV test before significantly reported to have lower chances of contracting HIV infection (47.7%) than those who had not (67.7%) (X^2 = 14.3, P value < 0.01).

4.8 HIV Risk Perceptions by Type of Sexual Behaviour

Many participants (63%) reported that the sexual practice that carries the highest risk of HIV infection was vaginal sex. Only 25% believed anal sex practices have the highest chance of HIV infection. A fairly a small proportion (2%) believed masturbation has the highest risk for HIV infection.



n=357

Figure 1: Perceived Risk of HIV Infection by type of sexual behaviour among bar workers in Temeke district

4.9 Condom availability, use and perceived effectiveness

This study assessed condom use among study population. Although more than 82% reported condoms to be easily available in their area; condom use during the most recent sexual act was reported by only 30.3% of the study participants. There was no significant difference in condom use by sex (X^2 = 1.3, P value = 0.25). About half of the study participants (51%) said they did not use a condom during their last sexual act because they were drunk. This was followed by the duration of sexual relationship (26.2%). Some (7.5%) reported that they did not use condom they were not effective in preventing HIV and 8% report that condom reduces sexual pleasure. Support from partner and other reasons formed the remaining proportion.

4.10 Alcohol use

Of the 419 participants interviewed, over 72% reported to be taking alcohol. More than 60% consumed more than five (5) beers a week and the rest took less than five (5) beers. Of the 32.1% who reported to have taken alcohol last time they had sex, 40% said they did so while they were drunk.

Alcohol intake was significantly associated with number of bars a bar workers have worked (X^2= 28.0, P value <0.01), total duration they have worked as a bar worker (X^2=16 , P value <0.01), having sexual relationship outside formal sexual relationship (X^2=34.0 , P value <0.01), perceived chances of contracting HIV infection (X^2= 4.1, P value = 0.04) and perceived chances of testing HIV negative (X^2= 23.0, P value <0.01). Alcohol intake was positively associated with anal sex practices (X^2= 11.8, P value =0.01), their views on condom effectiveness (X^2= 13.1, P value =0.01), subsequent precautions against its consequences (X^2= 6.5, P value<0.01) and indulging with oral sex (X^2=28.5, P value <0.01).

There was no significant difference of alcohol intake by age (X^2=2.1, P value=0.36), sex (X^2=0.09, P value = 0.77) and changes in residence for the past year (X^2=0.19, P value = 0.66). Also, there was no significant difference among those who take alcohol in relations to the number of dependants they have and the decision to take a HIV test (X^2=10, P value

<0.01). Alcohol intake did not significantly influence condom use in the last sexual act (X^2=2.1, P value = 0.15).

4.11 Incentives for risk sexual behaviours among bar workers

This study also assessed what incentives influenced bar worker to indulge into risk sexual behaviors. Of the 419 participants interviewed, almost all (97.6%) reported that they may be motivated by cash or gift to engage into risky sexual behaviours. There was no significant difference between males and females (X^2 = 0.2, P value = 0.69). Alcohol was reported to be important incentive to 55.6% participants to practice risk sexual behaviours, significantly influencing more females (92.2%) than men (66.7%) (X^2 = 23.6, P value < 0.01). Securing or maintaining their job was reported to be a main motivator to risk sexual practices among 13.8% only. Securing or maintaining job was a significant incentive to more females (57.5%) than men (30.8%) (X^2 = 5.7, P value = 0.01). Influences for engaging in risk sexual behaviours with aim of securing or maintaining shelter formed the remaining proportion. Influence of securing or maintaining shelter in practicing risk sexual behaviours did not vary significantly by sex (X^2 = 0.1, P value = 0.74).

Likelihood of cash to influence bar workers to engage into risk sexual practices was not significantly associated with age (X^2= 3.1, P value 0.54). Further, cash was not found to significantly influence type of sexual practices likely to be practices; anal sex influenced (X^2= 0.3, P value 0.59), oral sex (X^2= 0.6, P value 0.46). Alcohol was also found not to significantly influence bar workers to indulge into oral sex (X^2= 19.3, P value <0.01) and anal sex (X^2= 22.1, P value < 0.01)

CHAPTER 5
DISCUSSION, CONCLUSSION AND RECOMMENDATION

5.1 DISCUSSION

This study involved 419 bar workers where the majority were females. Other studies done in Mbeya (5), Moshi (6) and Arusha (7) have shown that most bar workers are females. The majority of study participants (61.1%) were aged 25 – 34 years with median age of 29 years. The age composition of participants in this study showed an older generation than what has been found in other studies (2, 5, 6, 7). Participants have more bar work experience than what has been found in other studies. For example, proportion of bar workers with a work experience of more than 2 years was 71% in this study as compared to only 32% in another study done in Mbeya (5). Furthermore, bars in the district experienced 50% job turnover within six months. This is a lower job turnover proportion if compared to what has been documented in other studies (5, 6). Such studies report a 50% job turnover proportion within two months or less. Reasons for such differences were not explored in this study.

The median age at coitarche was found to be 16 years for both men and women. This compares well with ages at first sex in other African countries (45). First sexual experience was motivated by peer pressure and satisfying their feelings for most of the participants (63%). Nearly one fifth did their first sexual act by force suggesting that raping in the society may be more prevalent than what is commonly believed. Similar reasons were reported by their age mates in the national HIV/AIDS and Malaria Indicator Survey 2007 – 2008 (1) which documented similar reasons. Sex mixing pattern and concurrent multiple sexual partnerships is reported to be common among bar workers. More than half of bar workers (52%) reported to have "casual" sexual partners in addition to formal sexual partner. Similar findings are reported by other studies where the proportion was 57% (5, 6).

This study has revealed that sexual practices such as oral sex, masturbation, anal sex and vaginal sex are known and practiced among bar workers in Temeke district. Almost all bar

workers have heard of these practices. Further, more than two thirds of bar workers report of friends having practiced oral sex. Over two fifths of bar workers report to have friends who have practiced anal sex and masturbation. Given attitudes towards such sexual practices in this society, these findings were not expected. Social norms in most countries in Africa are against openly speaking of sexual practices. This is especially so for anal sex. Participants in other studies have shown to under or over estimate actual rates of sexual practices (46 – 48). Males have been reported to overestimate sexual practices and the vice versa is true for females. This has also been shown by the hesitations in direct reporting of such behaviours among women when interviewed. For example, one study in South Africa was asking female prostitutes about anal intercourse with their most recent client. Participants were allowed to respond in both a direct (yes/no) and in a vague manner where women would report several types of sexual practices without providing really specifications as what they were. Zero to 4% of women provided their responses directly. When they were given opportunity to answer indirectly, 2 – 11% answered in a positive way (49). The current study needed participants to respond directly. Therefore, reported practices of vaginal and anal sex for females are likely to be underestimated of the actual practices. Again, reported vaginal and anal sex for males is likely to be overestimate of the actual practices for males.

This study has revealed that the rate of anal sex practices among bar workers in Temeke district is 22.5%. Bar workers who indulge into anal sex, do it with their partners who are members of the general population. This is contrary to what has long been believed about anal sex practices among the general population. It is believed in Sub- Saharan Africa including Tanzania that anal sex practices are rare among the general population (22). This persistent denial may have been the cause of lack of documentation of such practices among bar workers and in the general population. However, anal sex practices have been documented among Commercial Sex Workers in other countries (50). Reported rates vary but are considerably higher than assumed; 35% in Zimbabwe, 42.8% in South Africa, 40% in Meru – Kenya and 55% in Côte d'Ivoire (19, 21, 25 - 27, 50). One study did report lower anal sex rates among commercial sex workers of 8% in Abijan (50). Rates of anal sex among female college

students in Togo have been have been reported to be 12% (20). Among couples in USA, 38.2 percent of men between 20 and 39 and 32.6 percent of women ages 18 to 44 engage in heterosexual anal sex (51).

During their first sexual acts, the study found that bar workers worried more about getting pregnant rather than contracting HIV infection. However, their recent worries are predominantly on HIV infection and only a few (10%) are worried about pregnancy. Only 30% of bar workers reported to have used condoms during their last sexual act despite the fact that the majority worried of HIV infection. These condom use rates were reported in events where condoms were reported to be readily available by 82% of bar workers. Other studies in the past have shown, condom use rates to range from 12.8% to 20.7% (5, 6, 7). A study done in Uganda found condom use in the last sexual act was 15% (48). Higher rates of condom use found in the current study could be attributed to the time when comparison studies were conducted i.e. 2000 – 2003. If this increase would be due to the ongoing efforts of HIV prevention for a period of over 7 – 10 years, then this might signify the need for more effort in this target group to effectively see an increase in condom use. Very low protection rates have been reported for other sexual practices too. Condom use rates during anal sex appear to be negligible. This implies that condom use during last risk sexual practice for vaginal sex are lower if compared to what was found in the HIV/AIDS and Malaria Indicator Survey of 2007 – 2008 where 43% of women and 53% of men used condom during the last high risk sexual practice (1).

Several reasons may explain the low rates of condom use among bar workers as found in this study. About half of bar workers perceive themselves to be at low risk of contracting HIV infection. This perception may be one of the reasons influencing their current practices towards condoms use for HIV prevention. Others perceive condoms to be ineffective in preventing HIV infection as well as they reduce sexual pleasure. Incentives that are likely to be received from their partners could influence lower condom use rates. Condom use has been shown to depend on the level of financial support received from the partner because of the

higher demand for unprotected sex among partners (6). Perceived low risk to HIV infection and financial gain has also been shown to influence condom use among bar workers in other studies (6, 19). This brings attention on the fact that condom availability is not the only factor that increases condom use among bar workers. This is contrary to what has been shown in other population sub-groups like teenagers where just improving condom availability results to increased condom use (65 - 67). Despite reports by UNAIDS, WHO and UNFPA that the male latex condoms is the single, most efficient, available technology to reduce the sexual transmission of HIV and other sexually transmitted infections (68 - 74), a significant proportion of bar workers doubt its effectiveness.

Understanding risks of HIV infection for different sexual practices is important in interventions towards HIV prevention. Most bar workers (63%) perceive unprotected vaginal sex to carry the highest risk for HIV infection. Only a small proportion (25%) among them reported anal sex to have the highest risk of HIV infection. This is contrarily to what has been known in the scientific community regarding risks of HIV infection through anal sex (8 – 10, 28). Despite high rates of anal sex practices among bar workers, less is done in protecting against its consequences. Condom use rates during anal sex among this group of bar workers have been as low as 5.3%. Although this study did not assess specifically as to why participants didn't use protection for anal sex, one study in Zambia among MSM reported that 80% of respondents did not know whether condoms have to be used during anal sex and more than half believed that anal sex is safer than having vaginal sex (52).

Several studies have shown that anal sex carries the highest risk of HIV infection in contrast to what has been known and reported by bar workers in this study (8 – 10, 22). The danger of anal sex is on the lining epithelium of rectum which is more fragile than lining of vagina and cervix. Due to anal sex practices, HIV prevalence among subgroup that practice anal sex has been very high if compared to the normal population. Studies conducted in some African countries shows that anal sex practices is responsible for the high HIV infection among MSM

subgroup if compared to the general population and is at the peak of HIV/AIDS transmission (53, 54). Prevalence of HIV has been shown to be very high among MSM. HIV prevalence has been reported as; Mombasa, Kenya (24.5%); Blantyre and Lilongwe in Malawi (21.4%); Ghana (25%); Dakar, Senegal (21.8%); Zambia (33%); South Africa (15.8%); Nigeria (13.5%); Windhoek, Namibia (12.4%); Gaborone, Botswana (19.7%); Mauritania (19%) and Cote D'Ivoire (18.5%) (55). Recent documentation is showing that MSM are 19 times more at risk of HIV infection than the general population because of the anal sex practice (56). Given the known high risk of infection through anal sex, reported high rates of anal sex practices among bar workers increase their susceptibility to HIV infection. The reported high HIV prevalence among this group of bar workers could be a result of such high risks sexual practices. As a result, sex mixing pattern of bar workers with the general population needs to be further assessed to ascertain the role of anal sex on HIV transmission.

Alcohol use is very common among bar workers and has been shown to influence sexual relationships to most of them (5, 6, 7). There is increasing evidence that acknowledges alcohol as a contributing factor to the HIV/AIDS epidemic (64). Most bar workers who are alcohol users have reported to have multiple sexual partners. It has been shown in the current study that they are less likely to report condom use during their sexual relationships. Further, those who use alcohol perceive to be at lower risk of HIV infection than those who don't and are less likely to take preventive measures such as taking an HIV test. Most of them blame condoms to be ineffectiveness in preventing HIV infection. Events before alcohol intake are likely to be remembered and reported than those happening after alcohol intake. This may explain as to why users of alcohol are likely to report on having multiple sexual relations as they start such relations before they get drunk. Such sexual relationships established under alcohol influence hampers their ability to remember if condom was used during subsequent sexual act.

Other reasons have been pointed to be exclusively out of the physical effects of alcohol to the human body. A study that was undertaken by WHO in several countries including Kenya and South Africa found that inebriation was considered a culturally acceptable excuse for acting

irresponsibly (57). In issues of sex, this referred to engorging in unsafe sexual activities and in some places, it was exclusive to men. Alcohol selling points have also been claimed to facilitate sexual networking where people go to specifically meet sexual partners with intention of engaging in sex (58, 59). In these studies, participants reported that low lighting, seductive music, unisex toilets, and lack of condoms were conducive to sexual intercourse. In a study conducted in Uganda assessing the perceptions surrounding women's acceptance of drinks from men in a bar, it was found that men viewed it as signifying consent to sex and that refusal could then "justify" resorting to sexual coercion (60). Further research conducted in other places in Tanzania has linked risky drinking places, sexual networking, and increased prevalence of HIV/AIDS (5, 6, 7). This explains as to why reducing alcohol misuse in itself only (without addressing the underlying socio-cultural context) would be insufficient to lower sexual risks in all circumstances.

Bar workers have clearly shown to have very low understanding of risks of different sexual practices that they practice. Despite that they practice high risk sexual practices, condom use has been very low. Incentives for risky sexual practices have shown to be cash or gift, securing job and or maintaining it, securing accommodation and alcohol. With sex mixing pattern involving the general population, interventions for HIV prevention among bar workers are highly needed.

5.2 CONCLUSSION

Anal sex practices have been revealed to be practiced among bar workers. Other sexual practices include vaginal sex, oral sex and masturbation. Most bar workers report of friends who have experienced such practices. Requests from their partners for anal and vaginal sex are high among bar workers. Sex mixing patterns have been found to involve members of the general population. Most of anal and vaginal sexual practices are unprotected, posing bar workers and their partners in the general population at high risk of HIV infection.

Although bar workers report to worry most of contracting HIV infection as a consequence of unprotected sex, their perceived susceptibility to HIV infection is found to be low. Concurrent multiple partners are common. More than half of bar workers (52%) have casual sexual partners in addition of formal sexual partners. Most of them regard anal sex to have low risk of HIV infection. Low perceived susceptibility to HIV infection and low awareness of the risk of anal sex to contracting HIV infection have been found to influence their practices towards HIV prevention. Further, bar workers are likely to practice risk sexual practices through the influence of cash or gifts, securing or maintaining job, having a drink or alcohol and getting or securing a place to live. All of these factors, if not addressed, make bar workers vulnerable to acquiring HIV infection.

Data on high risk behaviors and low rates of reported condom use with both regular and casual partners informs of a large unmet need for interventions supporting behaviour change for effective HIV prevention among bar workers.

5.3 RECOMMENDATIONS

1. This study has revealed that anal sex practices are common among bar workers in a heterogeneous population of Dar es Salaam. There is a need to do further research to see if such practices are available among bar workers other areas with more of a homogenous population. This should be area of interest for further research for students in training institutions, research organizations like NIMRI, organizations fighting HIV/AIDS like TACAIDS and other Non Governmental Organizations involved in research.

2. Bar workers have shown to have low perceived susceptibility to HIV infection despite that they are practicing high risk sexual behaviours. Interventions for raising their perceived susceptibility are highly needed. TACAIDS through its local offices at district level should prioritize interventions directed towards high at risk populations that include bar workers by developing these interventions so as to reduce HIV transmission.

3. Awareness on the HIV risks of various unprotected sexual practices have been found to be low among bar workers. Thus, few bar workers take required protection against consequences of unprotected sex. There is urgent need for interventions to raising their awareness on the risk of HIV infection that will aid bar workers take required protective measures. This can be done by incorporating awareness campaigns with the ongoing programs for condom distribution done by programs doing social marketing such as PSI

4. Interventions for HIV prevention among bar workers needs to address issues of poverty reduction as cash or gift, shelter and need for alcohol have found to motivate risky sexual behaviours. There is a need to build support bar workers with income generation activities, increase pay and formalization of their work so that they reduce

dependency to their partners. Local government, Non Governmental Organizations and other Civil Society Organizations should work together in addressing this urgent need.

CHAPTER 6

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