Prevalence of the Human Immunodeficiency Virus, other sexually transmitted infections, and health-related perceptions, reflections, experiences and practices among men having sex with men in Dar es Salaam

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EXECUTIVE SUMMARY

Introduction

Men who have sex with Men (MSM) have been reported to be at higher risk of transmission and acquisition of HIV and other sexually transmitted infections (STI). Studies on HIV prevalence among MSM conducted in various African countries have revealed prevalence rates which are higher (2-20 times) than that of the general population. HIV-related research and programming in many parts of Africa including Tanzania have often failed to address anal sex in general and male-to-male penile-anal sex in particular.

Objective

To determine the prevalence of HIV, other sexually transmitted infections and health related perceptions, reflections, experiences and practices among same sex practicing men in Dar es Salaam, Tanzania.

Methods

A respondent driven sampling method was employed for the recruitment of the study participants aged 18 and above. Participants were recruited from all the three municipality of Dar es Salaam. Both qualitative and quantitative data collection methods were used to collect data on socio-demographic characteristics, HIV/STI knowledge and behavioural characteristics. Blood samples were collected for HIV, herpes simplex virus type 2 (HSV2), Syphilis and Hepatitis B testing. Data were entered using EPI INFO version 3.3.2 and analyzed using RDSAT software and STATA statistical software.
Results

A total of 753 participants with median age of 25 years were interviewed. The median age at first anal sex was 18 years and majority (83.0%) were single while 10% reported being married/cohabiting with a woman. Of those interviewed, 31.8% assumed a receptive, 60.8% an insertive and 7.4% both an insertive and receptive position during last anal sexual contact. Condoms and lubricant use was fairly low in this population (48% and 32% had used condoms and a lubricant, respectively, during the last sexual encounter). Only about a quarter had used condoms in their last sexual encounter with a woman. The prevalence of HIV, HSV2, Syphilis and Hepatitis B infections were 22.2%, 40.3%, 1.0% and 4.9%, respectively. HIV infection was associated with HSV2 infection (Adjusted Odds Ratio (AOR), 4.10, 95%CI:2.58, 6.50); age (18-24) as compared to 25 years and above (AOR, 1.62, 95%CI: 1.06, 2.49); being in a sexual relationship with a woman [having a female sexual partner (AOR, 8.01, 95%CI: 4.11, 15.59), married/cohabiting with a woman (AOR,5.49, 95%CI: 1.52, 19.61), last sex with a woman (AOR, 4.34, 95%CI: 2.62, 7.19) and those assumed a receptive position (AOR, 8.66, 95%CI:5.13, 14.64) and both a receptive and insertive position (AOR, 3.44, 95%CI:1.35, 8.74) during last anal sex. The population of MSM in Dar es Salaam was estimated to range from 6,409 to 13,513 MSM

Conclusion and recommendation

Dar es Salaam has a total of 13513 MSM, majority of them were single, but about 6% were married and had children. Pleasure was the most common reason for first sexual experience even though about 10% were initially raped. Heterosexual relationships were found to be fairly high as 84% of the study participants reported to have ever had sex with women. A large majority
(61%) were assumed a penetrating position, and about a third an inserted during penile-anal intercourse. Condom use was generally low as only 48% reported condom use during the last anal sex encounter. MSM have four times higher prevalence of HIV infection as compared to the overall male population in Dar es Salaam. Two fifths (40%) of them were infected with HSV2. Biological, bisexuality and other behavioral risk factors play an important part in HIV transmission and acquisition. Intensified HIV prevention programs that include MSM are urgently needed to realize the zero new infection goal.
CHAPTER 1: INTRODUCTION

All over the world, sex between men has been associated with increased vulnerability for HIV transmission and acquisition (Baral et al, 2011; Mmbaga et al, 2012). Biologically, this vulnerability is linked to the risk for virus transmission that is associated with unprotected penile-anal intercourse when one partner is HIV positive, especially if one or both partners have concurrent STIs and/or other conditions that increase HIV infectiousness and/or susceptibility (Adrian, 2009, Geibel et al, 2010).

The degree to which the biological transmission potential associated with anal sex translates into *de facto* infection rates depends on a number of additional factors on different levels:

- Among issues that may play a role on the *individual level* is the insights and knowledge a given person has; his sexual preferences and roles; whether or not the person is aware of his HIV status; and also the priority that avoidance of HIV transmission has in the person’s own ‘importance hierarchy’.

- On the *interpersonal level* (factors associated with the interaction between sex partners), whether or not virus is present in between them plays a crucial role, as does whether or not information about this is communicated between the partners; the nature of their sexual interactions; the number of other partners each of them has; and whether condoms and lubrication are used or not in these interactions. These factors are, in turn, influenced by how the partners perceive they can trust each other and talk to each other; whether there are gradients or not in their power, experience, and socio-economic status; and whether their sexual encounter occurs as part of transactional sex or forced sex or not. In any sexual encounter involving anal penetration, the risk of acquiring infection from a partner who is
HIV positive is higher for an anally receptive than an anally insertive partner (Geibel et al, 2010; Sanders et al, 2007).

- Among the sub-cultural issues that may influence vulnerability are the degree to which peers and groups manage to create social support for each other, prevailing sub-cultural norms, practices and perceptions that prevail in the social contexts the persons are part of; and the prevalence of HIV and STI in the sexual networks they engage in (Adrian, 2009).

- On a broader societal/structural level, vulnerability may be influenced, among others, by the degree to which MSM are being involved in dialogue and HIV prevention programming; to what degree they experience acceptance, stigmatization and/or discrimination; and to what degree they have access to and utilize preventative and curative health services. The overall HIV prevalence in society also plays an important role (Niang et al, 2003).

The prevalence of HIV, and how HIV infection is associated with factors like those mentioned above, has not previously been studied among men having sex with men in Dar es Salaam (nor in the rest of mainland Tanzania). Knowledge of these factors may be of importance for several reasons and for various stakeholders, among them public health authorities and the men who constitute the population segment in question. For the public health authorities this kind of insight would represent a valuable input to the assessment and design of future HIV-related activities and strategies. For the population segments in question, knowledge, reflection and discussion about HIV prevalence, and the associations between HIV prevalence and individual, interpersonal, sub-cultural and societal factors, might provide impetus to change processes that could help reduce HIV transmission over time. Such a reduction would be beneficial for the sub-populations themselves, but also for the overall population they are part of. In the same way a
high HIV prevalence in the general population may contribute to a high HIV prevalence among men who have sex with other men, likewise, a high HIV prevalence in this group contributes to a high HIV prevalence in the general population (MCKirnan, 1998).

The first HIV prevalence study among MSM in sub-Saharan Africa was carried out as late as 2004 (Wade et al., 2005), more than 20 years into the HIV pandemic. This, and the studies that have been carried out subsequently, indicate that the burden of HIV carried by same-sex practising African men is currently highly disproportionate, while HIV programming targeting this population subgroup at the same time has been highly deficient (Smith et al., 2009). Many men who have sex with men also have sexual relationships with women (Onyango-Ouma et al., 2005), and there is thus no absolute boundary that separates same-sex practising men and opposite-sex practising men and women in society. As a result, to focus on HIV-prevention among men who occasionally or regularly have sex with other men in fact means to focus on HIV-prevention in, and of importance to, the overall population.

It is against this background that this study was proposed. An additional potential benefit of a study like this is that the study-related collaboration with the subpopulation in question may help forge a working relationship between the public health sector and MSM in Dar es Salaam. Such a relationship would be a valuable platform and a necessary prerequisite for future collaboration with the target population about HIV-related interventions and programming.

**Broad Objective**

The major objective of this study was to determine the prevalence of HIV, other sexually transmitted infections and health related perceptions, reflections, experiences and practices among same sex practicing men in Dar es Salaam, Tanzania.
Specific Objectives

1. To describe the socio-demographic characteristics of same sex practicing men in Dar Es Salaam

2. To determine the proportion of same sex practicing men who engage in heterosexual relationships in Dar Es Salaam

3. To describe same-sex practicing men in Dar Es Salaam in terms of their sexual, interpersonal, sub-cultural and societal interactions, experience, reflections and circumstances

4. To estimate the prevalence of HIV, HSV2, HBV and syphilis among same-sex practicing men in Dar Es Salaam,

5. To estimate potential association between HIV, HSV2, HBV, syphilis and associated factors (individual and socio-demographic characteristics interpersonal, sub-cultural and societal).

6. To determine barrier to health seeking behaviours among same-sex practicing men in Dar Es Salaam

7. To estimate the size of MSM population in Dar es salaam
CHAPTER 2: METHODOLOGY

2.1 Study design
A cross-sectional study design was employed in this project in order to collect data to estimate the prevalence of HIV and STIs, the occurrence of characteristics, actions and circumstances that may potentially be associated with risk/vulnerability for these infections, and the magnitude of the associations between infections and risk/vulnerability factors. We also estimated the size of MSM population using two methods namely capture-recapture and service multiplier. Both quantitative and qualitative data were collected in this study using a structured interview schedule and indepth interviews respectively. The triangulation between these data collection methods was done and gave the team an opportunity not only to obtain quantitative estimates but also use qualitative information to explain these estimates.

2.2 Study area
The project was implemented in Dar es Salaam, the largest city in Tanzania with a population of around 5 million people. The city has been among the areas in Tanzania where the prevalence of HIV infection has been consistently high. Currently, the prevalence of HIV in the general population in Tanzania stands at 5.1%, while that of Dar es Salaam is 6.9% (THMIS, 2011/2012).

2.3 Study population
Men were eligible to participate in this study if they were aged 18 years and above and currently living in Dar es Salaam (Residents) and who may, at times or regularly, have sex with a man (or men). Residence was based on having an address in Dar es Salaam and having lived in the city for the past 6 months preceding the survey.
2.4 Sample size and power calculation

2.4.1 Quantitative component
The sample size was calculated in reference to the prevalence of HIV among MSM in Zanzibar (Dahoma et al, 2011) of 12%. We hypothesized that the prevalence of HIV among MSM in Dar Es Salaam would be larger than that of Zanzibar due to higher background prevalence in the general population. We therefore anticipated the HIV prevalence among MSM in Dar Es Salaam to be at least 15% (roughly 25% higher than that of Zanzibar). This means we expect at least a 3.0 percentage point increase in Dar Es Salaam.

The sample size and power calculation is based on a single proportion binomial test

**Numeric Results for testing H0: P = P0 versus H1: P > P0**

<table>
<thead>
<tr>
<th></th>
<th>Given H0</th>
<th>Given H1</th>
<th>Target</th>
<th>Actual</th>
<th>Reject H0</th>
</tr>
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<td>Power</td>
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<td>(P0)</td>
<td>(P1)</td>
<td>Alpha</td>
<td>Alpha</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>BetaIf R&gt;=This</td>
<td></td>
</tr>
<tr>
<td>0.8008</td>
<td>747</td>
<td>0.1200</td>
<td>0.1510</td>
<td>0.0500</td>
<td>0.0495</td>
</tr>
</tbody>
</table>

A sample size of 747 achieves 80% power to detect a difference (P1-P0) of 0.0310 (3.1 percentage point) using a binomial test. The target significance level was 0.0500. The actual significance level achieved by this test is 0.0495. These results assumed that the population proportion under the null hypothesis was 0.1200 (12%).

2.4.2 Qualitative components
In this component data collection was done using in-depth interviews (IDI). A total of 20 IDIs were conducted and these included key informants from the different strata of same sex practicing men. Participants were selected so as to include men of different ages, men with different sexual experiences and role preferences, and men with different HIV statuses.
2.5 Sampling strategies

2.5.1 Quantitative sampling strategy
Respondent driven sampling (RDS), a method developed for the sampling of populations for which a sampling frame cannot be constructed, was used to recruit participants. The method is based on the principle that members of the target population refer other members of the same population to participate so that the sample is established by successive ‘generations’ of recruitment referrals. RDS builds on a mathematical model which provides a theoretical basis for estimation of population proportions and their variances through statistical adjustment. When certain assumptions are met, RDS will asymptotically approach unbiased estimates of characteristics in the population under study. First-order Markov modelling allows calculation of sample weights and standard errors that adjust for the otherwise biased recruitment pattern (Heckathorn, 1997).

2.5.2 Qualitative sampling strategy
Purposeful sampling methods were employed to recruit key informants to participate in the IDI. The participants were selected so as to include men of different ages, men with different sexual experiences and role preferences, and men with different HIV statuses.

2.6 Data collection procedures

2.6.1 Securing considerate and respectful interaction with study participants
Although considerate and respectful conduct is of great importance in all research work, it is of particular significance in studies focusing on issues and practices that may at times be stigmatized, criticized or condemned by some societal actors. Issues pertaining to considerate and respectful conduct were thoroughly addressed in the pre-fieldwork training of study staff. For the study itself, as well as for some study participants, it was believed to be advantageous if there are members of the fieldwork team that are derived from the populations the project
intends to study, in this case MSM. This population was involved in the selection of interview venues and interviewers were trained to practice a high degree of confidentiality.

2.6.2 Selection of seeds
A number of ‘seeds’ (first generation study participants that started the recruitment process) were identified particularly among members of our initial studies or other studies of MSM in Dar es Salaam (Mmbaga EJ et al 2012; Moen et al,2012, Nyoni et al, 2012) . To be able to capture different strata of same sex practicing men such as socio-economic status, age, location, civil status, and others, seeds were selected to represent and subsequently recruit adequate members of these strata for the purpose of external validity of the findings. Initially, five seeds were identified. Referral chain length was measured in waves, where each wave represents one recruitment or step along the chain.

Because seeds do not have recruiters, they were counted as wave zero. Respondents recruited directly by seeds made up wave one. Those recruited by respondents in wave one made up wave two and so on.

After answering the interview questions and providing biological samples for the study, the ‘seeds’ were given three recruitment coupons each and asked to pass them on to other MSM. A phone number was printed on the coupons along with an invitation to call the study manager in case the recipient would like to take part in the study. Persons who call this number were offered to have an appointment scheduled with the study coordinator.

In the event that the seed recruit a non-qualifying participant, the coupon was returned to the seed and asked to bring another recruitee.
Persons who subsequently showed up for their appointment were invited to go through a consenting procedure and their eligibility for participation was assessed. Consenting and eligible persons were then enrolled into the study. At the end of the visit at the study centre, each enrolled participant was in turn provided with three recruitment coupons and asked to pass them on to additional potential study participants. Efforts were made to ensure that each participant recruits only three seeds and that the coupons were not shared among groups. Numbering and recording of each participant’s coupon was done to track who the coupons belonged and was given to whom.

After the interview and specimen collection, each participant was invited to a discussion about HIV/STI, provided with sexual practice-relevant health education regarding HIV/STI, and received condoms and lubricants. Participants were given appointments to come for post-test counselling and be provided with their blood test results.

2.6.3 Recruitment of research assistants
The project recruited three interviewers to undertake the face-to-face interviews. Interviewers were not members of the MSM community but had a good understanding, previous experience, and respectful to this community which facilitated collection of honest responses. Qualified candidates for these positions were provided with formal training covering issues such as the study objectives, data collection methods and tools, proper research conduct, and ethical issues.

A study manager who was a member of the study population (same sex practicing man) was recruited to assist in the study. The manger served as a gateway for participant’s recruitment and interview through screening to ensure that participants are truly member of the study population. He played an important part in organizing the interviews between the three interviewers by setting up interview schedule. This guaranteed that there was no overcrowding of participants at
the interview venues a situation that would have threatened confidentiality. All the coupons sent out by seeds and subsequent participants had the study managers phone number for him to serve as the initial contact between the participants and the study.

2.7 Data collection tools

2.7.1 Quantitative interviews
A structured interview schedule was prepared and administered face-to-face to all consenting participants. The interview collected information on socio-demographic characteristics (such as age, marital status, education level, residential location); self-understandings with regards to sexuality and gender; sexual desires and practices; knowledge and history of HIV/STI; perceptions about HIV and HIV prevention and transmission; perceptions and use of condoms and lubrication; sexual partners and partnership characteristics; friendships, families, social connectedness and social support; experience of stigma, denouncement, violence and abuse; and access to and utilization of health services.

2.7.2 Qualitative interviews
Qualitative interviews were set to collect information on the individuals, interpersonal and societal issues surrounding same sex practice. Issues related to partner selection, sexual preferences such as insertive and receptive anal sex, perceived susceptibility to HIV infection, extent of, reason and mechanism of coping with stigma, access, barriers and preference to health care services and issues surrounding condom use such as partner characteristics, attitude and perception. Experience and reasons for involvement in commercial sex were explored. A qualitative protocol and interview guide covering the above related areas was prepared.

2.8 Sequence of events at the study site
During their visits to the study centre, each participant went through a sequence of events:
• At arrival, the participant were provided with information about the study and offered an opportunity to ask questions before written informed consent was requested.

• Face-to face interviews were then conducted.

• A trained counsellor then provides pre-test counselling.

• A specimen was thereafter drawn in order to test for HIV, HSV-2, HBV and syphilis.

• The participants were given an appointment to come to collect his test results where post-test counselling was provided and a health education session about safer sexual practices followed.

• The participant received a pack of condoms, a tube of lubricant and a refund for their transport costs.

2.9 Laboratory procedures
HIV status was determined using AlereDetermine™ HIV-1/2 assay (Allere Medical Co., Ltd, Japan). All samples that were reactive on the first rapid assay were confirmed on a second rapid assay Uni-Gold™ HIV-1/2 (Trinity Biotech Plc, Ireland). Discrepant results between the first and second rapid assays were resolved by Enzygnost HIV Integral II Antibody/Antigen ELISA (Siemens, Germany). Screening for the presence of hepatitis B surface antigen (HBsAg) was done using SD BiolineHBsAg rapid test (Standard Diagnostics, Inc., Korea) and reactive samples were confirmed on a microparticle enzyme immune-assay (MEIA) (Abbott AxSYM, Germany). Syphilis screening was performed using Venereal Disease Research Laboratory assay (VDRL; Omega Diagnostic, UK) and all reactive samples were confirmed by Treponemal Particle Hemagglutination assay (TPHA; Omega Diagnostic, UK). Herpes simplex virus (HSV)
Prevalence of HIV, other STI, and health-related perceptions, reflections, experiences and practices among men having sex with men in Dar es Salaam

2 serostatus was determined using HSV-2 IgG ELISA (Abbott Murex, UK) and all those reactive were tested further on HSV-2 IgM ELISA to exclude active infection.

2.10 Data management

2.10.1 Quantitative data
Data was checked daily by the study team for completeness and consistence. Data was entered into the computer using EPIINFO software version 3.3.2 and data cleaning was done using the same program. A special software package for analysis of RDS data (RDSAT) was used together with STATA version 12 for windows. Because selection probability is not the same for each of the participants when RDS is applied, but larger networks are more likely to be represented than small (Heckathorn, 1997), weighting data based on network size was done by calculating weight as an inverse of the participants network size (PNS). To reduce clustering and ensure the whole sample of 753 is reflected in the analysis, we multiplied the weight by the sample size (N) and divided it by the sum of the weight (∑w)

\[
\frac{1}{\text{PNS}} \times \frac{N}{\sum w}
\]

This sampling estimators based on RDS II estimator (Volz E, Heckathon DD, 2008). Weighted point estimates and 95% confidence intervals (CI) were calculated. Regression models were built to identify independent determinants of HIV serostatus. Significance level was set at 5% level and all the analysis were two tailed.

2.10.2 Qualitative data
Qualitative data analysis was done inductively following grounded theory procedures. This allowed the study team to follow up and clarify issues that emerged from IDI as data collection progressed. Data generated was transcribed, coded and classified according to major themes with assistance from NVIVO 9 software.
2.11 Size estimation of MSM population

2.11.1 Capture-recapture method for population estimation
Capture-recapture method is a method used to estimate population size that has been applied in biology to quantify the population of wild animals and birds. In this study, two rounds of surveys were conducted. During the first survey, the main data for this study was collected and this lead to the first sample of MSM. During the second survey, another study manager who was also a member of the MSM population was recruited and different set of seeds were identified and used to generate the second sample of SMS. In the second survey only data to establish the participation of study participants in the first survey was collected and those appearing in survey one only, surveys two only or both surveys were identified.

If \(c_1\) and \(c_2\) are the total number of participants in the two surveys and \(m\) was the number identified in both captures (matches), then the population size \(n\) could be estimated as

\[
n = \frac{c_1c_2}{m}
\]

2.11.2 Service Multiplier methodology
This method relied on two sources of data where service records for MSM attending PASADA and survey data were used. The number of participants who sought services from PASADA during the past 3 months preceding the survey was collected from the service centre. The first round of survey using RDS was used to estimate proportion of people in the survey who also sought services at PASADA during the same period of 3 months. The formula \(S = N \times p\) where \(S\) = Actual population recorded at PASADA, \(N\) = size of the MSM population and \(p\) = proportion of MSM from the survey reporting use of PASADA services during the past 3 months preceding the survey was used for size estimation of MSM in Dar es Salaam.
2.12 Ethical consideration

The study was reviewed and received ethical clearance from the Muhimbili University of Health and Allied Sciences ethical committee in Tanzania.

Participants were required to provide written informed consent before interview or specimen collection. Confidentiality was highly observed during the conduct of this study particularly to the general community and other family members that do not need to know the participants sexual preferences and practices. No emotional reaction or breakdown was observed. However, plan to refer these participants to the Department of Psychiatry of the Muhimbili University for further management was available. Participants who had a positive HIV test results received post-test counselling and a choice of a care and treatment centre was discussed. The aim was to assists infected participants to access health care services from a convenient and yet friendly health facility as preferred by the participant.

To maintain confidentiality and to enable effective collection of biological samples, three interview venues within the University premises were used. This location was very convenient for the study because many people including staff, students and patients move in and out obscuring identification potential for study participants. Seeds were involved in recommending for the interview venues.
CHAPTER 3: RESULTS

3.1 Social demographic characteristics of respondents

A total of 753 MSM participated in the study. Slightly more than half (52.7%) were from Kinondoni district, 21.5% were residents of Temekte district and the rest were from Ilala district. Their age ranged from 18 to 60 years with a median of 25 years. About half (51.8%) were youth (younger than 24 years) while 10% were over thirty five years. A large majority (83.2%) were unmarried at the time of the interview; and only 6.3% were married. Almost a third (29.5%) of the respondents had children, the majority (72%) of whom had only one child.

Almost all (98.9%) had formal education even though 16.1% were primary or secondary school dropouts. Incomplete primary or secondary school was due to a variety of reasons including family hardships, particularly lack of money, death of parents and disciplinary problems in schools. Some said they dropped out of school because they wanted to make money while others blamed their social groups for dropping out of school.

At the time this study was conducted, about a third (32.3%) of the study participants were living with parents or guardians, 35.5% were living alone, and 20.2% were living with other relatives. Nearly 6% said they were living with male partners and the rest (6%) were living with their wives and children as summarized in Table 1.
Table 1: Social demographic Characteristics of the Study sample

<table>
<thead>
<tr>
<th>Variable</th>
<th>Category</th>
<th>n</th>
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</tr>
</thead>
<tbody>
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<td>(46.3)</td>
</tr>
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<td></td>
<td>25-34</td>
<td>308</td>
<td>(41.2)</td>
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<tr>
<td></td>
<td>35 and above</td>
<td>99</td>
<td>(12.4)</td>
</tr>
<tr>
<td>Marital status</td>
<td>Single</td>
<td>623</td>
<td>(83.2)</td>
</tr>
<tr>
<td></td>
<td>Married/cohabiting</td>
<td>74</td>
<td>(5.9 )</td>
</tr>
<tr>
<td></td>
<td>Divorced/separated/widowed</td>
<td>52</td>
<td>(6.9 )</td>
</tr>
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<td>District of residence</td>
<td>Ilala</td>
<td>190</td>
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<td>(51.7)</td>
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<td>Primary School completed</td>
<td>284</td>
<td>(38.2)</td>
</tr>
<tr>
<td></td>
<td>Secondary School drop out</td>
<td>85</td>
<td>(11.4)</td>
</tr>
<tr>
<td></td>
<td>Secondary School Complete</td>
<td>308</td>
<td>(41.5)</td>
</tr>
<tr>
<td></td>
<td>Post-Secondary Education</td>
<td>23</td>
<td>(3.1)</td>
</tr>
<tr>
<td>Occupation</td>
<td>Employed by Govt/Parastatal</td>
<td>17</td>
<td>(2.8)</td>
</tr>
<tr>
<td></td>
<td>Employed by Private Company</td>
<td>91</td>
<td>(15.1)</td>
</tr>
<tr>
<td></td>
<td>Self employed</td>
<td>200</td>
<td>(33.2)</td>
</tr>
<tr>
<td></td>
<td>Student</td>
<td>39</td>
<td>(6.5)</td>
</tr>
<tr>
<td></td>
<td>Petty trader</td>
<td>240</td>
<td>(39.8)</td>
</tr>
<tr>
<td>Currently living with</td>
<td>Alone</td>
<td>258</td>
<td>(35.3)</td>
</tr>
<tr>
<td></td>
<td>Parents/Guardians</td>
<td>236</td>
<td>(32.3)</td>
</tr>
<tr>
<td></td>
<td>Relatives</td>
<td>148</td>
<td>(20.2)</td>
</tr>
<tr>
<td></td>
<td>Wife and Children</td>
<td>44</td>
<td>(6.0)</td>
</tr>
<tr>
<td></td>
<td>Male Partner</td>
<td>42</td>
<td>(5.7)</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>3</td>
<td>(0.4)</td>
</tr>
</tbody>
</table>
3.2 Risk behaviour practices

3.2.1 MSM Initial Sexual Experience
Age at first sexual experience varied from 6 to 32 years with a median of 16 years. About a quarter (26%) of the respondents reported to have had their initial sexual experience before the age of fifteen years whereas about a third (31.7%) had engaged in sex for the first time after reaching 18 years of age. Almost two thirds (64.1%) had their first sexual experience with a female sexual partner and the rest said their first sexual experience was with another man.

A significantly higher proportion of those who had their first sexual experience before the age of fifteen reported that the first sexual partner was a male compared to those who had their first experience at a later age (P< 0.001). A majority of the study participants (59.%) had had vaginal penetrative sex during their first sexual experience whereas 39% had had anal sex. Only a small minority (1.1%) had initially tried oral sex. Again, those who had had their first sexual experience before fifteen years of age were significantly more likely to report anal sex during as first sexual experience compared to those who had their first sexual experience after 15 years of age (P<0.001).

Very few of the study participants (only 15.7%) had taken any precaution against HIV/STI infection during their first sexual experience and the lower the age at first sex, the less likely the person was to have used any protective measure against HIV/STI infections. A few of those who practiced anal sex used solid cooking oil as lubricant.

When asked what worried them most during the first sexual experience, more than half (53.1%) said they did not worry about anything. A few (11.8%) worried about HIV infection while 5% said they were concerned about getting other sexually transmitted diseases. No one indicated
that they had been worried that their religious leaders would find this out, but 13.1% said they had been concerned that their parents may find it out.

Table 2: Age at first sexual experience by sex of partner, type of sex and condom use

<table>
<thead>
<tr>
<th></th>
<th>Age at 1st Sexual Experience</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&lt;15</td>
<td>15-17</td>
</tr>
<tr>
<td>Sex of the partner</td>
<td>Male</td>
<td>118 (61.1)</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>75 (38.9)</td>
</tr>
<tr>
<td>Type of Sex</td>
<td>Vaginal</td>
<td>69 (35.6)</td>
</tr>
<tr>
<td></td>
<td>Oral</td>
<td>2 (1.0)</td>
</tr>
<tr>
<td></td>
<td>Anal</td>
<td>123 (63.4)</td>
</tr>
<tr>
<td>Condom Use during 1st Sexual exposure</td>
<td>Yes</td>
<td>16 (8.3)</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>177 (91.7)</td>
</tr>
<tr>
<td>Main Concern</td>
<td>HIV Infection</td>
<td>9 (5.1)</td>
</tr>
<tr>
<td></td>
<td>Other STI’s Infection</td>
<td>7 (4.0)</td>
</tr>
<tr>
<td></td>
<td>Parents informed</td>
<td>44 (25.0)</td>
</tr>
<tr>
<td></td>
<td>Pregnancy to the female partner</td>
<td>10 (5.7)</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>4 (2.3)</td>
</tr>
</tbody>
</table>

3.2.2 Sexual position
Sexual position has a bearing on the risk of HIV infection among MSM. In our study population, about two-thirds (60.8%) of the participants reported to take the insertive position, 31.8% assumed the receptive position and only 7.4% reported to take both insertive and receptive positions.

3.2.3 Awareness on different types of sexual practices
Nearly all study participants were aware of a range of different types of sexual practices. All of them were aware of vaginal sex, 97.6% were aware of oral sex, and 98.9% knew about masturbation. A few mentioned a type of sexual practice using breasts of women.
Among those who were aware of oral sex, 84.8% had friends who had tried it and 82.4% said they had tried it themselves. This type of sexual behavior had several street names. These include licking and blowing cone, ‘kuladuda’, kulaulimi, kuliwa mate’.

A large majority (93.8%) said they were aware of many people who enjoyed sex by masturbation, and 83.4% said they had friends who practiced it. Almost three quarters of the respondents had also practiced it themselves. Common street names for this practice included ‘kuchezakiduku’, kujikojoza, punyeto, puli, masta, puchu, kujichua, bluswheni, brashi

### 3.2.4 Venues, Partners and Incentives for the first Anal Sex Experience

Age at first anal sexual experience ranged from 5 to 30 years with a median of 18 years. Over half (56.3%) of the respondents reported that their first anal sex experience was after 18 years and one fifth (20.2%) had their first experience occurred during early adolescence (before 15 years).

The most common venue where the first anal sex experience had taken place was at the home of the partner (37.9%). This was followed by guest houses (27.8%) and the home of the respondent (26.8%). A few first practiced anal sex at school (6.7%) and others said they first practiced it in prison, in cars, along the beach, in the bush, or in abandoned buildings.

Friends were the most common initial anal sex partner (68.8%) reported, followed by fellow students (8.9%) and neighbours (7.7%). Other initial anal sex partners mentioned include prison remandees, bosses at workplace, strangers, relatives, and street children. Respondents who were younger than 15 years at first anal sexual experience had higher proportions reporting the first partner to be a fellow student (17%) and close relative (11.2%) compared to their older counterparts.
Most respondents (77.7%) first tried anal sex because they wanted pleasure and 11.8% did it because they wanted money. About one out of every ten (9.7%) were raped and a few said they were playing with fellow boys or first tried it after watching a video game. Those who had their first anal sexual experience before the age of 15 years were significantly more likely to report rape (15.4%) compared to those who debuted at later ages (P<0.05) Table 3

<table>
<thead>
<tr>
<th>Venue</th>
<th>AGE (YRS) AT FIRST ANAL SEXUAL EXPERIENCE</th>
<th>&lt; 15</th>
<th>15-17</th>
<th>18-25</th>
<th>26+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home</td>
<td></td>
<td>13 (10.7)</td>
<td>15 (10.7)</td>
<td>13 (4.3)</td>
<td>0</td>
</tr>
<tr>
<td>School Dormitory</td>
<td></td>
<td>55 (45.5)</td>
<td>61 (43.6)</td>
<td>100 (33.0)</td>
<td>17 (33.3)</td>
</tr>
<tr>
<td>Partners home</td>
<td></td>
<td>13 (10.7)</td>
<td>25 (17.9)</td>
<td>112 (37.0)</td>
<td>21 (41.2)</td>
</tr>
<tr>
<td>Guest house/Hotel</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Partner</th>
<th>AGE (YRS) AT FIRST ANAL SEXUAL EXPERIENCE</th>
<th>&lt; 15</th>
<th>15-17</th>
<th>18-25</th>
<th>26+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Close relative</td>
<td></td>
<td>17 (11.2)</td>
<td>6 (3.4)</td>
<td>5 (1.4)</td>
<td>0</td>
</tr>
<tr>
<td>Fellow Student</td>
<td></td>
<td>26 (17.1)</td>
<td>19 (10.8)</td>
<td>22 (6.9)</td>
<td>0</td>
</tr>
<tr>
<td>My School teacher</td>
<td></td>
<td>10 (6.6)</td>
<td>4 (2.3)</td>
<td>4 (1.1)</td>
<td>0</td>
</tr>
<tr>
<td>Neighbour</td>
<td></td>
<td>14 (9.2)</td>
<td>16 (9.1)</td>
<td>24 (6.6)</td>
<td>4 (0)</td>
</tr>
<tr>
<td>Friend/Lover</td>
<td></td>
<td>72 (47.4)</td>
<td>118 (67.0)</td>
<td>272 (75.1)</td>
<td>55 (88.7)</td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td>13 (8.5)</td>
<td>13 (7.4)</td>
<td>35 (9.7)</td>
<td>3 (4.8)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Motive</th>
<th>AGE (YRS) AT FIRST ANAL SEXUAL EXPERIENCE</th>
<th>&lt; 15</th>
<th>15-17</th>
<th>18-25</th>
<th>26+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raped</td>
<td></td>
<td>22 (15.4)</td>
<td>15 (8.7)</td>
<td>31 (9.0)</td>
<td>2 (3.4)</td>
</tr>
<tr>
<td>For pleasure</td>
<td></td>
<td>109 (76.2)</td>
<td>143 (83.1)</td>
<td>258 (74.8)</td>
<td>49 (83.1)</td>
</tr>
<tr>
<td>Needed a gift</td>
<td></td>
<td>1 (0.7)</td>
<td>1 (0.6)</td>
<td>3 (0.9)</td>
<td>0</td>
</tr>
<tr>
<td>Needed money</td>
<td></td>
<td>11 (7.7)</td>
<td>13 (7.6)</td>
<td>53 (15.4)</td>
<td>8 (13.6)</td>
</tr>
</tbody>
</table>

3.2.5 Sexual Relationships with Female Sexual Partners
Almost 84% of the study participants said they had had sex with female sexual partners. Whereas 7.7% had had one female sexual partner in their lifetime, 8.2% had had two and 11.9% had had three, a large majority reported four or more partners in their lifetime. At the time the study was conducted 65.8% had female sexual partners. Three months before the study, 22.1% of the participants had three or more female sexual partners, 20.9% had two, 36.2% had one and only 20.8% had none. During the same period, 25% had sex with three or more male sexual partners, 28.2% had two and 38% reported only one.

3.2.6 Condoms and Lubricant Use
Condom use with both male and female partners was not a common practice. Less than half (45.5%) reported that they used condoms during their last sex with a male partner. A few respondents said they also used lubricants. Condom use during the last sexual encounter was more common with male sexual partners (45.5%) than with female sexual partners (27.5%).

<table>
<thead>
<tr>
<th>Condom Use</th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Used a condom during last sex with a female</td>
<td>177 (27.5)</td>
</tr>
<tr>
<td>Used a condom during last sex with a male</td>
<td>340 (45.5)</td>
</tr>
<tr>
<td>Used a Condom during the last sex</td>
<td>388 (52.0)</td>
</tr>
<tr>
<td>Ever used a condom during sex</td>
<td>691 (92.8)</td>
</tr>
</tbody>
</table>

When asked why some men who have sex with men do not use condoms the following response pattern was obtained:

- Condoms reduce sexual pleasure 80.2%
- Excessive use of alcohol 40.9%
- Convinced by partners 33%
• To show love to the partner 30.1%

• Difficulties of getting condoms 19.6%

• Other reasons including: lack of money, they caused itching and unplanned sex

When asked what worried them most when they have sex without condoms, most of the respondents (81.7%) said HIV infection. Some were afraid of other sexually transmitted infections (12.8%) and a few (5.4%) said they did not worry about anything in particular when they had unprotected anal sex.

When asked what had worried them most during their last anal sex experience, most of the men (79.8%) said they were worried about HIV infection whereas 11.7% were worried about other sexually transmitted infections. However, 8.6% reported that they did not worry about anything. There were some who were concerned faeces may enter into their sexual organs while others mentioned fear of condom breakage. Fear of losing sexual interest and faeces blocking their urethra was also mentioned.

Awareness of lubricants was fairly high (95.5%) and 89.1% said they had ever used them. Among those who used lubricants the last time they has sex, KY jelly was the most common type used (32%), followed by Vaseline (26%). Saliva was used by 10% of the respondents and a small proportion of the respondents (.9%) said they used water based lubricants. When asked what were the major sources of lubricants, slightly more than half (53%) said they bought them from drug stores, and 36.2% got them from friends. A few obtained them from other sources such as NGOs where they worked, cosmetic shops and from sailors.
Availability of lubricants were reported to be difficult by almost two thirds (61.4%) of the respondents, including 28.5% who said it was very difficult to get them. About a third said it was easy to get hold of lubricants, including 7.2% who were of the opinion that it was very easy to get them.

3.2.7 Participation in Group Sex
Involvement in group sex was reported by 27.5% of the study participants and slightly more than 7% had been involved in such sexual activity in the last three months preceding the study. Over half were involved in groups which had more than three members.

3.2.8 Use of Alcohol, Drugs and Sex
Nearly two thirds (66%) used alcohol. Beer was the most common drink used (99.5%) followed by hard drinks (31.1%) and wines (6.6%). A few respondents (4.1%) used local brews and the same proportion used the hard local brews commonly called ‘gongo’.

About a third of the respondent said the used alcohol once per week, 29.6% twice per week and 17.7% three times per week, whereas nearly 22% said they drank alcohol every day. Among those who used alcohol, 40.9% did so the last time they had sex and almost a third (32.6%) said they had been drunk the last time they had sex.

Alcohol and drug use was common used during sex and in this study, respectively 66.0% and 45% of the participants reported using alcohol and drugs during last anal sex (Figure 1).
Marijuana was the most commonly used drug, but some also used heroine, valium, khat and what
they called ‘cocktail’.

3.2.9 Perceived Susceptibility to HIV infection
When each respondent was asked what he felt was the probability that he may be infected with HIV, a majority (62%) reported their self-perceived risk as “high”, while one out of five reported a “small” risk or no risk at all (Figure 2).

Figure 2: Perceived susceptibility to HIV infection among MSM in Dar es Salaam
Among respondents who felt they had “no” risk of HIV infection, about two thirds (71.7%) used condoms during last sex whereas only 42% of those who felt they had a high risk reported to have used a condom during last sex. A higher proportion of those who reported to use lubricants, reported to be at high risk of HIV infection.

Table 5: HIV Risk perception among MSM in Dar es Salaam

<table>
<thead>
<tr>
<th>HIV RISK PERCEPTION</th>
<th>None</th>
<th>Small</th>
<th>Medium</th>
<th>High</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Condom use during last Sex</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>13 (28.3)</td>
<td>44 (46.8)</td>
<td>62 (43.7)</td>
<td>268 (57.9)</td>
<td>387 (51.9)</td>
</tr>
<tr>
<td>Yes</td>
<td>33 (71.7)</td>
<td>50 (53.2)</td>
<td>80 (56.3)</td>
<td>195(42.1)</td>
<td>358 (48.1)</td>
</tr>
<tr>
<td>Use of Lubricants</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>22 (47.8)</td>
<td>31 (32.6)</td>
<td>31 (21.8)</td>
<td>73 (15.9)</td>
<td>157 (21.1)</td>
</tr>
<tr>
<td>Yes</td>
<td>24 (52.2)</td>
<td>64 (67.4)</td>
<td>111 (78.2)</td>
<td>387 (84.1)</td>
<td>586 (78.9)</td>
</tr>
</tbody>
</table>

Many respondents (62.7%) said they had already tested for HIV, and 92.9% said they had been given their results.

### 3.3 Access to Health Care

The major interest in this section was to find out challenges MSM face in accessing health care and whether the problem was with general health issues or only with those related to anal sex. More than one third (35.2%) of the respondents said MSM have problems accessing health care. The most common problems they mentioned were stigma and discrimination by health workers. Some said they are sometimes chased away or not treated in time. When asked from which types of health facilities are these challenges more prominent almost three quarters (73.2%) said government health facilities, 9.7% said from private health facilities and the rest said both.

Three months prior to this study, 23.2% said they had had a health problem and 86.4% of them had gone to seek care in different health facilities. Almost half (55.3%) had gone to government...
health facilities, 28.7% had attended private health facilities, and 13.3% had reported to a NGO health facility. A few of the men (2.7%) had looked for care in religious health organizations. Almost one third (32.2%) of the respondents believed the health care providers suspected they were MSM.

Study participants were also asked if in the last six months they had had any health problem due to their engagement in anal sex, to which 10.3% answered yes. Most of the men who fell into this group (75.7%) had looked for care from different health facilities. More than half of the facilities they had gone to were government owned, 35.7% were private, 7.1% belonged to NGOs and 3.6% were owned by religious organizations.

However, when asked how the health care workers treated them, when seeking services for general diseases or anal sex related diseases, nine out of ten (90.0%) reported health care to consider them as other patients (Figure 3).
Respondents were also asked if they had a friend who had experienced negative reactions from health care workers. Fairly few (16.2%) said that they had friends who had such experiences, and almost all of them (97.5%) believed that this had happened because they were MSM.

Only 5.2% of the study participants reported to have personally been stigmatized by health care workers. A large majority of those who had had such experiences believed they had occurred because they were MSM.

### 3.4 Biological estimates

#### 3.4.1 Prevalence of HIV, Herpes Simplex Virus Type 2, Hepatitis B and Syphilis

Of the 753 participants interviewed, 85.7 gave blood for HIV, HSV2, HBV and Syphilis testing.
The prevalence of HIV infection was 22.3% (95% Confidence interval: 18.5-26.2) and the HSV2 prevalence stood at 40.9% (95% CI: 36.3-45.6). The syphilis prevalence was 0.11 (95% CI: 0.01-0.20) and the prevalence of HBV was 0.5% (95% CI: 0.3-0.7).

HIV infection and HSV2 were highly prevalent among MSM who assumed the penetrated position during anal sex followed by those who practiced both penetrated and penetrating positions (Figure 4).

Figure 4: Prevalence of HIV and HSV2 by sexual position among MSM in Dar es Salaam
Table 6: Prevalence of HIV and HSV2 by socio-demographic characteristics among MSM in Dar Es Salaam

<table>
<thead>
<tr>
<th>Variable</th>
<th>Category</th>
<th>N</th>
<th>HIV</th>
<th>HSV2*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age groups</td>
<td>18-24</td>
<td>346</td>
<td>18.2</td>
<td>39.0</td>
</tr>
<tr>
<td></td>
<td>25-34</td>
<td>308</td>
<td>26.7</td>
<td>37.7</td>
</tr>
<tr>
<td></td>
<td>35 and above</td>
<td>99</td>
<td>26.0</td>
<td>56.5</td>
</tr>
<tr>
<td>Marital status</td>
<td>Single</td>
<td>623</td>
<td>23.9</td>
<td>39.8</td>
</tr>
<tr>
<td></td>
<td>Married/cohabiting</td>
<td>74</td>
<td>13.2</td>
<td>33.3</td>
</tr>
<tr>
<td></td>
<td>Divorced/separated</td>
<td>52</td>
<td>16.7</td>
<td>57.1</td>
</tr>
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<td>District of residence</td>
<td>Ilala</td>
<td>190</td>
<td>28.3</td>
<td>38.7</td>
</tr>
<tr>
<td></td>
<td>Kinondoni</td>
<td>159</td>
<td>19.7</td>
<td>36.8</td>
</tr>
<tr>
<td></td>
<td>Temeke</td>
<td>389</td>
<td>22.0</td>
<td>51.4</td>
</tr>
<tr>
<td>District of residence</td>
<td>Top/insertive</td>
<td>323</td>
<td>10.5</td>
<td>31.8</td>
</tr>
<tr>
<td></td>
<td>Both</td>
<td>33</td>
<td>21.2</td>
<td>46.9</td>
</tr>
<tr>
<td></td>
<td>Bottom /receptive</td>
<td>127</td>
<td>46.5</td>
<td>59.5</td>
</tr>
<tr>
<td>Religion</td>
<td>Christian</td>
<td>132</td>
<td>28.8</td>
<td>38.9</td>
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<td></td>
<td>Muslim</td>
<td>353</td>
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<td>Primary School drop</td>
<td>35</td>
<td>25.0</td>
<td>45.8</td>
</tr>
<tr>
<td></td>
<td>Primary School comp</td>
<td>284</td>
<td>20.0</td>
<td>42.9</td>
</tr>
<tr>
<td></td>
<td>Secondary School d</td>
<td>85</td>
<td>23.5</td>
<td>43.8</td>
</tr>
<tr>
<td></td>
<td>Secondary School C</td>
<td>308</td>
<td>22.5</td>
<td>35.1</td>
</tr>
<tr>
<td></td>
<td>Post-Secondary Educ</td>
<td>23</td>
<td>25.0</td>
<td>36.4</td>
</tr>
<tr>
<td>Occupation</td>
<td>Employed by Govt/</td>
<td>17</td>
<td>42.9</td>
<td>42.9</td>
</tr>
<tr>
<td></td>
<td>Parastatal</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Employed by Private</td>
<td>91</td>
<td>35.2</td>
<td>50.0</td>
</tr>
<tr>
<td></td>
<td>Company</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
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<td>Self employed</td>
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<td>16.5</td>
<td>35.5</td>
</tr>
<tr>
<td></td>
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<td>39</td>
<td>18.5</td>
<td>17.4</td>
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<tr>
<td></td>
<td>Petty trader</td>
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<td>41.8</td>
</tr>
<tr>
<td>Have children</td>
<td>Yes</td>
<td>153</td>
<td>12.4</td>
<td>41.3</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>600</td>
<td>25.9</td>
<td>40.6</td>
</tr>
</tbody>
</table>

*HSV2-Human Simplex Virus Type 2

HIV prevalence was higher among those aged 25 years and above, among single men, among those without formal education, among those employed by the government and among men reporting to have no children. For HSV2, a large proportion of the infections was observed.
among age above 35 years, among divorced/separated individuals and among those living in Temeke district (Table 6)

3.4.2: Predictors of HIV infection among MSM in Dar es Salaam

We examined for independent determinants of HIV infection among MSM in Dar es Salaam using multivariate logistic regression analysis. Men who were infected with HSV2 were four times more likely to be HIV seropositive as compared to those without HSV2 (Adjusted Odds Ratio (AOR), 4.10, 95%CI: 2.58, 6.50). Young age (18-24) was associated with almost twice increased likelihood of HIV infection as compared to those aged 25 years and above (AOR, 1.62, 95% CI: 1.06, 2.49). Participants who reported being in a sexual relationship with a woman were eight times more likely to be infected with HIV (AOR, 8.01, 95% CI: 4.11, 15.59), and participants who reported to be married/cohabiting with a woman had a five times higher probability of being infected with HIV as compared to those who were single (AOR, 5.49, 95%CI: 1.52, 19.61). Moreover, participants who reported that their last sexual encounter was with a woman had a four times higher likelihood of being HIV positive (AOR, 4.34, 95% CI: 2.62, 7.19). Sexual position taking also had a considerable bearing on the risk of HIV infection. Participants who reported to assume a receptive position (AOR, 8.66, 95%CI: 5.13, 14.64) and both a receptive and insertive position (AOR, 3.44, 95% CI: 1.35, 8.74) during last anal sex were more likely to be HIV infected than those who assumed an insertive position.

3.5 Size estimation of MSM population in Dar es Salaam

To estimate the size of MSM population in Dar es Salaam, two theoretically different size estimation methods were used. These were capture-recapture method and service multiplier method.
3.5.1 Capture-recapture method
The first capture method included 753 participants and the recapture survey utilizing different seeds recruited 749 participants. The number of MSM who participated in both surveys was 88. If \( c1 \) and \( c2 \) are the total number of participants in the two surveys and \( m \) as the number identified in both captures (matches), then the population size (\( N \)) could be estimated as

\[
N = \frac{c1c2}{m}
\]

Using this formula, the MSM population (\( N \)) will be \( 753 \times 749/88 \approx 6409 \) MSM

3.5.2 Service Multiplier method
We collected information on the service utilization at PASADA for men who have sex with men during the past 3 months preceding the survey. A total of 500 MSM received various services at PASADA. Of the participants interviewed, 25% reported to have ever heard of PASADA and 3.7% reported to have utilized services at PASADA during the past 3 months preceding the survey.

To estimate the MSM population in this multiplier method, the following formula was used.

\[
S = N \times p \quad \text{where} \quad S = \text{Actual population recorded at PASADA}, \ N = \text{size of the MSM population}, \ p = \text{proportion of MSM from the survey reporting use of PASADA services during the past 3 months preceding the survey.}
\]

\[
N = S/p = 500/0.037 = 13,513
\]

The two size estimation methods gave estimates ranging from 6409 - 13,513 MSM. As expected, the multiplier method gave somewhat large number of MSM due to the fact that these methods capture even less active MSM who could still seek health services while capture-recapture method is more likely to capture the active segment of the population.
CHAPTER 4: RESULTS FROM THE QUALITATIVE SUB-STUDY

A subset of the participants (22 men) took part in in-depth interviews. In this section we provide a brief overview of some salient points that came up in this study component.

4.1 Conversational openness

The interviews were characterized by a marked degree of openness and frankness. Among other things, participants explained what they find attractive in other men (and women); told about relationships they had been part of; provided detailed descriptions of sexual practices and experiences; reflected on what they did and did not do to prevent HIV infections; talked about the experience of receiving a positive or negative HIV test result; discussed their relations with family members, friends, neighbours, and other community members; and provided descriptions of their experiences with the health care system. A very clear impression emerging from the interviews is thus that men are willing and able to engage in frank and open discussions about intimate aspects of their social and sexual lives, and we consider this as a tremendous asset for future HIV prevention work with and among same-sex attracted men.

4.2 Scripts for male same-sex relations

An overarching script that contributes to organise same-sex relations in Dar es Salaam divides men who engage in such relations into rather distinct categories on the basis of (a) sexual position taking in penile-anal sex and (b) considerations about gendered expressions and identities.

One category is made up of males who are receptive in anal sex and who often are associated with varying degrees of effeminacy. These men were often referred to with the English word ‘gay’ (and at times also with the term ‘bottom’). More traditional Swahili terms like shoga and msenge were also used, but not very frequently. The reason given for this was that these are
terms that are perceived of as “bitter” and stigmatizing, and also commonly used as derogatory terms in contemporary street language.

A second category of same-sex practicing men consists of those who are penetrating in anal intercourse with other men. The term ‘gay’ is not an appropriate term for men in this group. On the contrary, these men were most often referred to with words that simply mean ‘man’ – such as the Swahili bwana. At times another English word was used; ‘tops’. Men in this group tended to be perceived of, and perceive of themselves, as quite ordinary and “real” men.

A third category consisted of those who may take both receptive and insertive roles in penile-anal sex. This pattern appeared to be more frequently mentioned among younger study participants. Men in this group were sometimes informally referred to with the expression mchicha mwiba and the English term ‘versatile’ was also in use.

Although some of the terms mentioned above are borrowed from English, it should be pointed out that the concepts they refer to are in part different from those that are most common in contemporary western contexts. In the west, the concept “gay”, for example, tend to embrace any man who identifies as same-sex attracted, and “gay relationships” are understood as relations between men with the same sexual identity. In Dar es Salaam, on the other hand, it is common to understand same-sex relations as unions between males with non-similar identities; While one partner is perceived of as “gay”, the other is “a man”.

### 4.3 HIV prevention agency

All of the men who took part in the qualitative interviews had concerns about HIV and thoughts about how to protect themselves and others from infection. Men also consciously attempted, in a range of different ways, to act so as to limit the chances of getting infected or infecting others.
This basic orientation – or what could be called the ‘HIV prevention agency’ among the study participants – did not mean that there was any lack of challenges to HIV prevention in practice. On the contrary, many men felt they faced difficult and complex challenges. A notable example was the dilemma of how to balance the value of a good sexual relationship against the potential for HIV transmission. We will return to challenges like this in the following paragraphs, but let us first note that we find that the existence of a fundamental orientation towards HIV protection is another valuable asset for future HIV prevention work. It also underlines a point of some practical relevance. HIV prevention among MSM in Dar es Salaam should not primarily consist of the dissemination of simplistic messages or encouragements (such as messages simply saying “prevent HIV from transmitting”), but need to engage specifically with the concrete challenges and dilemmas men experience in their own sexual lives.

4.4 The unattractiveness of condoms
Just under half of the participants in this study had used a condom the last time they had sex. While many of those who took part in the qualitative arm of the study were among these, it was common in conversations to highlight condoms as an unattractive constituent of sexual relations. What many emphasized was that condoms separate bodies that are expected to be close in sexual encounters and that they therefore reduce the opportunities to give and experience love and bodily pleasure in appropriate ways. As such condoms are in reality perceived to lower the quality of a sexual relationship.

The unattractiveness of condoms did not, on the other hand, appear to be linked to any major lack of knowledge of condoms or their functions and advantages. On the contrary, most of the study participants were acutely aware of these. Also, many of the men who thought of condoms as unattractive nonetheless used them, at least in some sexual encounters.
However, since condoms were perceived to lessen the appeal and value of sexual interaction, many men said that they tended to drop condom protection especially with lovers that they perceived of as particularly important or with whom they were in a long-term relation. In these most ‘valuable’ relationships it was perceived of as particularly important to avoid detracting from the sexual pleasure and genuineness associated with direct genital contact.

Considerations like these created significant challenges for some of the men who were HIV positive. While they wanted to protect their lovers from infection, they often found it difficult to envision how they would introduce condoms into sexual relationships with those they cared the most for.

The perception of condom-protected sex as sex lacking in pleasure and enjoyment needs to be seen in connection with the low experience MSM in Dar es Salaam have with appropriate sexual lubrication. It is well documented in studies elsewhere that condom use in anal sex is associated with considerable discomfort if they are used without sufficient amounts of an appropriate sexual lubricant. Many of the men in this study had little or no experience with such lubricants and pointed to their low availability and high cost in Dar es Salaam as an explanation for this. As a result, many of the men who felt that condoms detract from the sexual experience had never used a condom together with a sexual lubricant.

An important goal for future HIV prevention with and among men who have sex with men in Dar es Salaam will have to be the promotion of condom usage. A crucial part of such efforts should be to make available and promote appropriate and free (or highly affordable) sexual lubricants to be used together with condoms. The reason for this in not only the important role lubricants play in protecting condoms from breakage in penile-anal sex, but also the ability they
have to eliminate much of the discomfort that is associated with un-lubricated condom use in such sexual activity.

4.5 Telling others about one's HIV positivity

Some of the study participants had told others about their being HIV positive. However, many other said that they would wish that as few people as possible should know it if they were HIV positive. Several reasons were mentioned for why it might not be a good idea to let others know. Some said that if one’s HIV positivity became broadly known in the community, one might “lose freedom” and status there. Others struggled with the question of whether to let their lovers know about their positivity. On the one hand, they might have liked to tell them in order to protect them against HIV infection. On the other hand, many feared that knowledge of one’s positivity could bring an important relationship to an end, or even generally reduce one’s sexual attractiveness (if the information got shared with other same-sex attracted men; i.e. potential future partners). The principal fear expressed in these conversations was that one would become socially and sexually isolated if knowledge about one’s HIV positivity was known.

While some men had friends with whom they had discussed issues like these, others had mostly kept thoughts of this kind to themselves.

For future HIV prevention efforts among MSM in Dar es Salaam, it would appear important to support activities that promote discussions among men about the balance between openness and privacy regarding one’s HIV status. While openness about HIV status may not be a goal in itself, the combination of non-disclosure and non-use of condoms (or other HIV prevention strategies) would contribute to increase the likelihood for HIV transmission. To contribute to a discursive environment which fosters increased awareness of issues like these would appear to be crucial to contribute to.
4.5 Experiences of acceptance and rejection

The degree to which the study participants had told others about their same-sex relations varied considerably: Some consciously wanted family members, neighbours and other community members to know; others felt that people could tell whether they themselves made explicit or not, and yet others wanted only their close friends to know.

There was a wide variety also in experiences of acceptance and rejection in the wider society. Men experienced both considerable degrees of acceptance and support and considerable degrees of rejection and detachment.

Some study participants talked about their supportive friends, neighbours, family members and colleagues. Others lived in neighbourhoods where “everyone” knew that they were gay and had never experienced any adverse comment or reaction. Yet others had been met with clear expressions of rejection, both verbally and physically. Many had been called names; some had been thrown stones at, some had been disowned by their parents; and some had experienced rape or physical violence.

4.6 Perceptions of the Dar es Salaam MSM study

Among the themes explored in the qualitative part of the study was also how the Dar es Salaam MSM study was perceived among the men who took part in it. While some had critical remarks about some practical aspects of it (such as having to wait for a rather long time to receive their test results), almost all held highly favourable overall views of it. Among characteristics highlighted as particularly positive were the opportunities the study afforded for HIV testing in a supportive environment, and many appreciated the discussions and learning they took part in during the time they spent at the study centre. Several looked forward to the study results
becoming known since these were expected to inform MSM about “the real situation” prevailing among them and hopefully spark joint efforts to improve health and prevent HIV.

Yet, a different set of considerations often took centre stage in the conversations. It was repeatedly emphasized that the study was perceived as a sign of recognition of the men it focused on. Since it was perceived to provide respectful services to these men at a leading national institution, moreover, it was understood to send an implicit critical message to health care providers who might be judgmental or discriminatory of MSM. The study was also thought to demonstrate for men who might be avoiding health care that professional and respectful services are possible and exist. Some men said that participation in the study made it clear for them that they were not alone or part of a negligible group, but part of a larger context of men they could identify with.

Some study participants talked about the study almost as if it might represent a new permanent service. While the temporary nature of a study like this may leave these men disappointed in the future, these comments carry with them implicit requests for readily available and dedicated preventative and curative care for MSM in Dar es Salaam.
CHAPTER 5: CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion
A majority of the MSM in this study were single whereas about 6% were married and had children. Pleasure was the most common reason for the first sexual experience even though about 10% were initially raped. Heterosexual relationships were found to be fairly common as 84% reported to have had sex with women. A large majority of the study participants (61%) took a penetrating position in penile-anal sex, whereas one third took a penetrated position. Condom use was generally low as only 48% reported condom use during the last anal sex encounter. Condoms were more commonly used with male partners than with female sexual partners. A major barrier for condom use was reported to be reduced sexual pleasure which inhibits the ability to demonstrate love to a partner. High cost and poor availability of lubricants compounded this challenge.

Although it is assumed that MSM can access care due to stigma and rejection, the findings show the contrary for both MSM related illnesses as well as general illnesses.

MSM have four times higher prevalence of HIV as compared to the overall male population in Dar es Salaam and the infection rates are particularly high (46%) among men who are receptive in anal sex. About two fifths (41%) of the men were infected with HSV2, and HSV2 infections were very common among the men who engage in receptive anal sex (60%) as compared to those who engage in insertive anal sex (32%). A significant association was found to exist between HIV and HSV2 infection. Biological, bisexuality and other behavioral risk factors play an important part in HIV transmission and acquisition.
5.2 Recommendations

Based on the information generated from the MSM involved in the study, we recommend the following:

1. Intensified HIV prevention programmes that include MSM are urgently needed to realize the zero new infection goal.

2. Use of both condoms and lubricants should be promoted among MSM to reduce HIV and other STI infections.

3. Interventions to improve communication among MSM should be done in order to improve intimate perceptions which inhibit condom use.
REFERENCES


