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Prevalence and Factors Associated with Sexual Violence among Male Sex Workers (MSW) on Antiretroviral Therapy in Nairobi, Kenya

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Abstract

Sexual violence is commonly thought of as an issue affecting primarily women and girls; however, stigma, discrimination, and violence are also expressed towards men who have sex with men (MSM), male sex workers (MSW), and transgender (TG) individuals. Our study examined the prevalence and predictors of Sexual Violence among Male Sex Workers in Kenya

A cross-sectional survey was administered among 260 MSW living with HIV reached through a combination of chain referral and venue-based sampling in Kenya.

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There is a high prevalence of sexual violence among MSW in this population 48.5% (n=126). Religious denomination; main source of income; duration on treatment; receiving gifts and materials in return for sex; and belonging to a group were significantly associated with sexual violence ($p<0.005$).At the multivariate analysis level; Respondents that received gifts and materials in return to sex were 2.1 times more likely to experience sexual violence compared to those that did not (CI: 1.1-4.9). Those who did not belong to a group were 1.8 times more likely to experience sexual violence (CI: 1.9-3.7).

A better understanding of sexual violence among MSM/MSW/TG populations is necessary in order to develop clear and specific recommendations for future interventions targeting this issue.

1. Introduction

In most modern legal contexts, sexual violence is illegal. Sexual violence can include, but is not limited to: sexual assault, sexual harassment or unwelcome sexual advances, requests for sexual favors, and other verbal or physical harassment of a sexual nature [1]. While Sexual violence is commonly thought of as an issue which has affected primarily women and girls[2], studies illustrate that stigma, discrimination, and outright violence are also expressed toward men who have sex with men (MSM), male sex workers (MSW) and transgender (TG) individuals because they contradict traditional male gender roles[3]. Such forms of violence are based out of unfounded fear of homosexuals (homophobia) and from the belief that men are superior to women (sexism). Thus, this manifestation of violence toward MSM, MSW, and TG persons can also be considered a form of sexual violence.

There is a dearth of data on MSW activity. Within the past 5 years, a limited body of literature has highlighted the existence of MSM in sub-Saharan Africa. One study found an HIV prevalence of 21.5% among a snowball sample of 442 MSM in Senegal where national HIV prevalence is 1.6%. A separate study of MSM risk behavior in Senegal reported a large proportion of their sample had received money for sex; [4] indicating that transactional or commercial sex may play an important role in some African MSM networks. Researchers modeled the Kenyan HIV epidemic and estimated that 4.5% of new infections in Kenya in 2005 occurred through men having sex with men [5]. In Nairobi, Kenya, MSM who self-identified as sex workers were significantly more likely to have experienced discrimination or violence than other MSM in the sample [6].

Despite the widespread nature of violence against members of these populations, the MSW programs that exist tend to focus primarily around behavioral interventions that rely on HIV and other STI prevention awareness. Most sexual violence efforts to date have focused on women and girls while neglecting sexual violence and its consequences for MSW populations; resulting in limited expertise and lack of clear and targeted recommendations for conducting sexual violence interventions with varying vulnerable populations. The importance of addressing sexual violence in HIV response was underscored by recent work among female Sex workers in Kenya where it was estimated that reduction on prevalence of violence among female sex workers from 32% to 2.4%, would decreased new HIV infections by 27% among FSW and by 12% among adult population in general population[1]. The present study seeks to identify factors associated with sexual violence among MSW in an attempt to gain a better understanding of this issue and consequently advise the development

of future behavioral interventions.

2. Methods

This study was conducted in Nairobi County, Kenya. Nairobi County, one of the 47 developed governance units of Kenya, is the capital and largest city. The estimated HIV prevalence in Nairobi County is 8.6% [7]. Participants were recruited for a cross-sectional survey between July and August of 2015 through a combination of peer-based, chain-referral, and convenience. Inclusion criteria included: being on ART; being born a man, reporting having sold sex for money, goods, or favors in the past 12 months, being over the age of 18, residing in Nairobi, and being able to provide written consent in English or Swahili.

Respondents were members of a community-based organization (CBO). Prior to commencing data collection an exhaustive list of male sex workers living in Nairobi registered under the CBO, Health Option Health Options for Young men with AIDS / STI (HOYMAS), which primarily serve male sex workers and other men who have sex with men were developed alongside information on the number of male sex workers enrolled on ART treatment sites. The initial seeds were trained on all the study procedures and objectives before being provided with recruitment materials to recruit their peers. Each eligible respondent was given 300 KES upon completion of the interview to compensate for their travel expenses.

Sample size calculations were based on an estimated 78.2% of ART adherence among adult men and adjustments made for the differences observed between MSM and heterosexual men [1] which required a minimum of 210 participants. Ultimately, recruitment generated a total of 260 participants who provided informed consent and were eligible to participate in the study.

The quantitative data was collected using a semi-structured questionnaire programmed into a tablet computer administered using face to face interviews with the research participants. The participants completed a face-to-face questionnaire administered by a trained male interviewer at a dedicated site in a private room where no identifying information was collected. The mobile application Open Data Kit (ODK) was used to administer the survey using a smart phone or tablet. Participants could refuse to answer any question. Data from the ODK was exported into Microsoft Excel which was used to compare the data and reconcile discrepancies. Data was then exported to Stata 12 for analysis.

The research protocol, survey, and consent forms were reviewed and approved by the Institutional Review Board at the Kenyatta National Hospital. All participants provided written informed consent. All study related activities were conducted in a safe and private location at the recruitment venue.

3. Study Measures

The primary exposure for this analysis is consistent with best practices when measuring sexual violence which was a composite of two variables *"have you been assaulted in the past 6 months because of your sexual identity"* and *"have you been forced to have sex in the past three months"*. Participant's responses were dichotomous, (yes/no).

Participants also self-reported demographic characteristics including age, marital status, number of children, education level (highest attained), self-report on adherence, perception of quality of care, Duration on ARVS, receiving any gifts or materials for sex, exchanged money for sex, belonging to any group, knowledge status on ARV and HIV, and waiting time at the clinic.

4. Statistical Analysis

Prevalence estimates of sexual assault were calculated overall and by demographic characteristics. Based on the type and distribution of the variable, the chi-squared test and the Wilcoxon rank-sum test were selected to evaluate the difference between groups of participants exposed and unexposed to sexual violence. Descriptive analysis and bivariate logistic regression models were constructed to explore associations of sexual violence with other covariates. Multivariate regression was also conducted adjusted for potential confounders. Missing data (<4%) was dealt with through list-wise deletion. Data was analyzed using Stata statistical software 14[2].

5. Results

Prevalence: The respondents that reported experiencing sexual violence was 48.5% (n=126).

***Sexual Violence*:** For those that experienced Sexual violence; 46% (n=58) were between the ages of 19-29 years; 50.8% (n=64) and 33.3% (n=42) had Secondary and Post-secondary education. For Marital status 57.7% (n=71) were unmarried and 20.3% (n=25) were married to men. Approximately 62.7% (n=79) were non-adherent. The main source of income for majority of the respondents that experienced sexual violence was sex work 51.6% (n=65). Most of the respondents were on ART treatment for more than one year 68% (n=83). The perception of care for majority of the participants was good 86.5% (n=109). Most of the participants (90.5%) received gifts and materials in exchange for sex and 80.9% belonged to a group. In reference to knowledge for ARV and HIV approximately 70% (n=88) were very knowledgeable. Majority of the respondents (74%) had waiting times of longer than 1 hour.

***Factors associated with Sexual Violence*:** At the bivariate analysis, religious denomination; main source of income; duration on treatment; receiving gifts and materials in return for sex; belonging to a group were significantly associated with sexual violence ($p<0.005$)

At the multivariate analysis level; Respondents that received gifts and materials in return to sex were 2.1 times likely to experience sexual harassment as compared to those that didn't (CI: 1.1-4.9) also those who did not belong to a group were 1.8 times likely to experience sexual harassment as compared to those that didn't (CI: 1.9-3.7).

6. Discussion

The prevalence of sexual violence among the MSW in this population was quite high. Rethinking sexual health and treatment adherence among MSW living with HIV in Kenya must include addressing the high levels of sexual violence and enabling victims to come forward for assistance from the police and health services. Male

violence against women is rightly understood to be a public health crisis in Kenya due to its high prevalence and established risk with HIV infection. Increasingly, Male violence in the general population in Kenya has started to receive media attention. The high levels of MSW sexual violence reported indicates that MSW are far more likely than other men to experience sexual assault, Indeed, the prevalence of sexual violence reported by MSW in this study is not comparable to the prevalence of sexual violence reported by Kenyan Female Sexual Workers (43%) [3].

Our findings suggest associations with sexual violence that may inform individual and contextual risk-reduction. Not belonging to a group and receiving gifts and materials in exchange for sex were consistently associated with sexual assault, consistent with other studies [4]. As our measures were not specific to events, it is also plausible that these associations between receiving gifts, not belonging to a group, and violence risk may reflect periodic rather than concurrent associations

7. Limitations

A limitation of this cross-sectional design is that the direction of the associations cannot be determined, and while sexual violence is associated with various health outcomes, causality cannot be shown. The sample for this study was relatively small and primarily focused on MSW on ART and recorded a small number of events, which resulted in large confidence intervals. The sample was also derived from chain-referral and venue-based convenience sampling due to the difficulty with recruitment among this extremely mobile and vulnerable population in Nairobi. Due to non-randomized nature of this recruitment method, it cannot be determined if this sample is fully representative of MSW in Kenya. Furthermore, data on what individuals were recruited by whom or from where were not recorded, so that data analysis adjusted for clustering by recruitment chain or venue was not possible.

The current analysis, which examines sexual violence, does not include forced sex by other perpetrators. The measure may therefore underestimate the prevalence of sexual violence overall among MSW because it does not reflect victimization from non-paying partners, family members, police, strangers and others. Sexual violence indicators were reported in face-to-face interviews where participants may have been uncomfortable disclosing victimization. However, the anonymous nature of the interview, training of male interviewers to be sensitive, and participant's ability to refuse to answer any question may have helped to mitigate under-reporting.

8. Conclusion

These findings provide valuable insights into the prevalence of, and other factors associated with, sexual violence among MSW in Kenya. More research is needed in Kenya to examine the prevalence and correlates of sexual violence among MSW by clients and non-clients as well as sexual violence in the general population. Efforts to reduce sexual violence against sex workers should be prioritized in Kenya as a way to improve treatment outcomes, the health and safety of MSW as well as address the spread of HIV/STIs. The high rate of sexual violence among MSW is not only an issue of human rights and safety but also an issue of sexual, reproductive, and mental health. Given the unique needs of MSW and their exposure to additional forms of

violence, specifically client violence, suggests that including strategies to reduce violence against MSW in the country's health strategic plan would be an important step in improving sexual, physical, and mental health outcomes for Kenyan sex workers and the population as a whole.

9. Recommendations

The health sector plays an integral role in driving structural and societal norms changes that impact on overall well- being. There is need for an integrated and comprehensive approach in provision of health services while safeguarding human rights. The high prevalence of sexual violence among male sex workers requires both prevention and management approach through a well-established linkage in services to ultimately reduce their social vulnerability. In addition, while the findings were non-significant in multivariable analysis (likely because of small cell sizes), the direction of the binary logistics between experiencing sexual violence and other demographic covariates such as age-group; education level; religious denomination; marital status may merits further examination to advice interventions. Additional research should explore the utility of individual-level interventions to improve risk avoidance and resilience among MSW. It is also important to examine the impact of reducing sexual violence in reduction of HIV incidence among MSW for policy directions. Overall, while more research is needed to understand the risk factors and health consequences associated with sexual violence among MSW, it is clear that our study findings deserve attention in HIV and sexual health programming and in delivery of health, legal, and social services.

9.1 Tables

Table 1: Distribution of Factors associated with Sexual Violence among Male Sexual Workers

	Sexual Violence					
	Yes		**No**			
	Count	**%**	**Count**	**%**	**Chi Square**	**P Value**
Age Groups					**0.21**	**0.64**
19-29years	65	48.9	58	46		
30+ years (REF)	68	51.1	68	54		
Education Level (n=256)					**5.62**	**0.06**
Primary	24	17.9	20	15.9		
Secondary	49	36.6	64	50.8		
Post-secondary (REF)	61	45.5	42	33.3		
Religious Denomination (n=257)					**5.1362**	**0.007**
Muslim	5	3.8	15	12.1		
Catholic	41	30.8	51	41.1		
Protestant (REF)	81	60.9	52	41.9		
None	6	4.5	6	4.8		
Marital Status (n=256)					**3.33**	**0.342**

	Sexual Violence					
	Yes		No			
	Count	%	Count	%	Chi Square	P Value
Never married	86	64.7	71	57.7		
Married to man	19	14.3	25	20.3		
Married to woman (REF)	18	13.5	13	10.6		
Deserted/separated/divorced	10	7.5	14	11.4		
Self-Report on Adherence (n=260)					**0.7417**	**0.389**
Adhered (REF)	57	42.5	47	37.3		
Not adhered	77	57.5	79	62.7		
Main Source of Income (n=249)					**13.03**	**0.005**
Sex work	36	29.3	65	51.6		
Small business (REF)	43	35	28	22.2		
Casual laborer	21	17.1	16	12.7		
Salaried employee	23	18.7	17	13.5		
Time on ARVs (n=251)					**4.465**	**0.035**
Less than a year	58	45	39	32		
More than a year (REF)	71	55	83	68		
Perception on Quality of Care (n=260)					**0.00002**	**0.989**
Bad perception	18	13.4	17	13.5		
Good perception (REF)	116	86.6	109	86.5		
Received Gifts and Materials for Sex (n=260)					**12.973**	**<0.001**
No (REF)	36	26.9	12	9.5		
Yes	98	73.1	114	90.5		
Belonging to a group (n=260)					**8.403**	**0.004**
No	47	35.1	24	19.1		
Yes (REF)	87	64.9	102	80.9		
Knowledge status on ARV and HIV medication (n=260)					**0.235**	**0.889**
Slightly knowledgeable (REF)	7	5.2	5	4		
Knowledgeable	35	26.1	33	26.2		
Very knowledgeable	92	68.7	88	69.8		
Exchanged Money for Sex					**1.956**	**0.162**
At Least 5 times (REF)	43	43.8	61	53.5		

	Sexual Violence					
	Yes		No			
	Count	%	Count	%	Chi Square	P Value
More than 5 times	55	56.2	53	46.5		
Waiting time for ARVs at the clinic					**0.0678**	**0.795**
At most 1 Hour	31	24.6	31	26.1		
Longer than 1 hour	95	75.4	88	73.9		

Table 2: Unadjusted and Adjusted Odds Ratio showing Factors associated with Sexual Violence among Male Sex Workers

Covariates	Unadjusted Odd Ratio	CI	Adjusted Odd Ratio	CI
Age Groups				
19-29years	**1.12**	**(0.7-1.8)**	**1.24**	**(0.67-2.3)**
30+ years (REF)				
Education Level (n=256)				
Primary	**1.17**	**(0.6-2.4)**	**1.1**	**(0.4-2.5)**
Secondary	**1.84**	**(1.1-3.2)**	**1.5**	**(0.8-2.9)**
Post-secondary (REF)				
Religious Denomination (n=257)				
Muslim	**4.67**	**(1.6-13.6)**	**3.1**	**0.5-16.1**
Catholic	**1.93**	**(1.1-3.3)**	**2**	**0.4-7.9)**
Protestant (REF)				
None	**1.55**	**0.5-5.1)**	**1.1**	**(0.2-4.3)**
Marital Status (n=256)				
Never married	**1.8**	**(0.7-4.6)**	**1**	**(0.4-2.6)**
Married to man	**1.14**	**0.5-2.5)**	**1.6**	**0.5-4.5)**
Married to woman (REF)				
Deserted/separated/divorced	**1.93**	**0.6-5.7)**	**1.8**	**(0.5-6.2)**
Self-Report on Adherence (n=260)				
Adhered (REF)				
Not adhered	**1.2**	**(0.7-2.0)**	**1.1**	**(0.6-2.0)**
Main Source of Income (n=249)				
Sex work	**2.7**	**(1.4-5.2)**	**1.9**	**(0.9-3.9)**

Small business (REF)				
Casual laborer	**1.2**	**(0.5-2.6)**	**0.9**	**(0.3-2.2)**
Salaried employee	**1.13**	**(0.5-2.5)**	**1**	**(0.4-2.4)**
Time on ARVs				
Less than a year	**1.7**	**(1.0-2.9)**	**1.5**	**(0.8-2.9)**
More than a year (REF)				
Perception on Quality of Care (n=260)				
Bad perception	**1**	**(0.5-2.0)**	**1.1**	**(0.7-1.5)**
Good perception (REF)				
Received Gifts and Materials for Sex (n=260)				
No (REF)				
Yes	**3.5**	**(1.7-7.1)**	**2.1**	**(1.1-4.9)**
Belonging to a group (n=260)				
No	**2.3**	**1.3-4.1**	**1.8**	**(1.9-3.7)**
Yes (REF)				
Knowledge status n ARV and HIV medication (n=260)				
Slightly knowledgeable (REF)				
Knowledgeable	**1.3**	**(0.2-2.4)**	**1.1**	**(0.2-5.1)**
Very knowledgeable	**1.3**	**(0.5-1.7)**	**1.1**	**(0.2-4.6)**
Exchanged Money for Sex (n=260)				
At Least 5 times (REF)				
More than 5 times	**2.2**	**0.9-5.1)**	**2.2**	**(0.9-5.0)**
Waiting time for ARVs at the clinic				
At most 1 Hour				
Longer than 1 hour	**1.2**	**(0.6-1.2)**	**1.1**	**(0.6-1.9)**

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