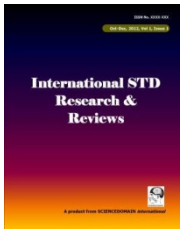

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Disparities in Sexual Activity Indicators among Youth Living in the Slums of Kampala: Comparisons with Representative National and Urban School-Attending Youth

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Authors' contributions

This work was carried out in collaboration between all authors. Author MHS conceptualized the manuscript, designed the study and wrote the first draft of the manuscript. Authors SB and JBP conducted the literature reviews, key points and formatted the manuscript. Author RK organized the data collection of the Kampala Youth Survey and provided insight of the local context. Author HY analyzed the data and interpreted the findings. All authors read and approved the final manuscript.

Original Research Article

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ABSTRACT

Aims: This study examined the extent to which youth who live on the streets and in the slums of Kampala experience more HIV risky behaviors than representative national and urban school-attending youth.
Place and Duration of Study: Analyses were based on three cross-sectional surveys: 1. the Kampala Youth Survey (service-seeking youth living in the slums; conducted in 2011; N=457); 2. The Global School-based Student Health Survey (GSHS; nationally representative sample of school-attending youth, conducted in 2003; N=3,215); 3. The Global School-based Student Health Survey (GSHS; urban representative sample of school-attending youth, conducted in 2003; N=1,709).
Methodology: Analyses restricted to youth between ages 14-17 years assessed the

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differences in prevalence of sexual intercourse, age of sexual initiation, number of partners, and condom use among youth in the three surveys examined. A z-test was used to test the significance of difference in proportions. The prevalence reported in the Kampala Youth Survey was compared to the other two surveys of school-attending youth.
Results: The lifetime prevalence of reporting sexual intercourse was statistically significantly higher (49%) among participants in the Kampala survey compared to the youth in the GSHS National (31%) and GSHS Urban (29%) surveys. Moreover, girls in the Kampala survey reported significantly higher prevalence of sexual intercourse (49%) compared to girls in the GSHS National (23%) and GSHS Urban (22%) surveys. In terms of condom use, the youth in the Kampala survey reported using condoms less in the past year (34%) compared to the youth in the GSHS National (64%) and the GSHS Urban (60%) who reported on condom use at the time of last sexual intercourse.
Conclusion: The youth in the Kampala survey reported higher prevalence of sexual intercourse, having fewer sexual partners, and lower condom use compared to their nationally representative school-attending peers. Prevention strategies that seek to increase condom use specifically appear warranted.

Keywords: Health disparities; vulnerable youth; adolescents; slums; sexual risk behaviors; condom use; HIV/AIDS.

1. INTRODUCTION

HIV/AIDS is an epidemic that remains a key public health priority. It is a particularly significant problem in sub-Saharan Africa, especially in Uganda where the incidence and prevalence of HIV/AIDS remain high [1]. Children and youth living in the slums of Kampala have been categorized as a high-risk group for HIV [2]. Research shows that they self-report high levels of HIV (8%) [3-4]. Despite their high levels of HIV, it is unclear what specific behaviors or sexual practices that increases their likelihood of getting HIV.

Due to limited resources and other hardships, it appears that most of the youth living in the slums of Kampala do not regularly attend school [5-6]. As such, their exposure to health promotion messages and other prevention programs delivered primarily through schools will likely be significantly less than their school-attending peers. Because of their presumed limited exposure to prevention programming, it is reasonable to expect that youth in the slums engage in more risky sexual practices that place them at increased likelihood of acquiring HIV/AIDS and other adverse health outcomes than nationally representative school-attending youth. However, this question has not been empirically examined. This is however an important topic given its relevance for prevention strategies aimed at reducing the spread of HIV and other sexually transmitted infections in this underserved population. Moreover, these unaddressed health concerns will be exacerbated by the rapidly increase in the volume of people in need of services, as Uganda is projected to have the world's highest population growth over the next couple of decades [7].

While there is limited previous research of street youth in Kampala, there are some findings that point to the reasons for why these youth may be at increased risk for HIV. The risk for girls has been attributed in part to substantial gender inequalities with respect to sexual initiation, partner selection and contraception [2, 8-10]. In particular, it has been reported that the prevailing cultural norms entitle boys and young men to exert more control of sexual interactions which may in turn make girls and young women more vulnerable to sexual coercion, sexually transmitted infections, and unwanted pregnancies [8]. It also appears to

be common for girls and young women to use sex to for money to buy essential items [10]. More specifically, street girls reported that it was difficult not to have sex with males when they offer them money and shelter because they do not have money for basic necessities [2]. In contrast, street boys were considered to be at reduced risk for getting HIV because women may be less attracted to them [2]. As such, there are both cultural and practical reasons as to why the sexual practices may vary for boys and girls and also why there may be substantial disparities between youth living in the slums and those attending school.

Given the dearth of research of the scope of sexual health needs and concerns among these vulnerable youth, this study compares service-seeking youth living in the slums of Kampala to urban and nationally representative youth from Uganda on several sexual health indicators (i.e., prevalence of sexual intercourse, age of sexual initiation, multiple partners and condom use) to inform the identification and implementation of prevention and intervention strategies among service-seeking youth in the slums.

We have not found any comparable research examining the prevalence of these sexual health indicators among youth in the slums and among the school students in Kampala. However, findings from other data sources provide important comparisons. For example, according to the Uganda AIDS indicator survey in 2011 [11], the median age of first sexual intercourse is about 17 years of age among women and just over 18 years of age for men. Moreover, about 39.8% of women and 23.3% of men, 15-19 years of age report having had sexual intercourse within the past year. Additionally, 33.8% of women and 31.5% of men 15-19 years of age reported using condoms at last high-risk sex [11]. As such, these numbers provide some context for the sexual health indicators and their prevalence in a broader population study of youth which can then be compared to those examined in this study of vulnerable youth in the slums and those of students in Kampala.

2. METHOD

The current study is based on three cross-sectional surveys, the Global School-based Student Health Survey (GSHS: National), conducted in 2003, of nationally representative students across Uganda, the Global School-based Student Health Survey (GSHS: Urban), conducted in 2003, of nationally representative students in Urban areas in Uganda, and the Kampala Youth Survey of service-seeking youth in Kampala. The GSHS surveys were developed and supported by the World Health Organization with technical support from the Centers for Disease Control and Prevention (CDC) [12]. The goal of the GSHS is to provide data on health behavior and relevant risk and protective factors among students across regions served by the United Nations. Country-specific questionnaires, fact sheet, public-use data files, documentation, and reports are publicly available from CDC and WHO [13]. In brief, the GSHS consists of a self-administered questionnaire, administered primarily to students 13-16 years of age. The survey uses a standardized scientific sample selection process, common school-based methodology, and a combination of core questionnaire modules, core-expanded questions, and country-specific questions. This study conducted secondary analysis of the restricted data files for Uganda. Data were collected from Ugandan students (N=3,215) in 2003. The school response rate was 80% and student response rate was 76% yielding an overall response rate of 69%. IRB approvals were obtained from the Georgia State University to conduct these secondary analyses.

The overarching goal of the cross-sectional survey called the “Kampala Youth Survey,” conducted in May and June 2011, was to quantify and describe high-risk behaviors and exposures in a convenience sample of urban youth living on the streets or in the slums, 14-24 years of age, who were participating in a Uganda Youth Development Link (UYDEL) [14];

drop-in center for disadvantaged street youth. UYDEL serves on average about 650 youth per month through these drop-in centers. Face-to-face surveys, lasting about 30 minutes, were administered by social workers/peer educators employed by UYDEL. The study was implemented across 8 drop-in centers across Kampala. Participating youth received snacks and transportation for completing the survey. No identifying information was collected and the surveys were completely anonymous. Surveys were administered in English or Luganda, to the extent possible, in private settings and rooms, to ensure privacy of survey questions and responses.

Each social worker/peer educator received training on the study methodology, each of the survey questions and its translation into Luganda (local language) if needed, and recruited potential participants among attendants at their specific drop-in Center. Recruitment took place using word-of-mouth, and each attendant was eligible for participation if they were between 14 and 24 years of age. No exclusion criteria were applied beyond the age range. Participants were informed about the study and read (or were read) the consent forms to indicate their willingness to take the survey. The consent process required that emancipated street youth 14 to 17 years of age provide their own consent for participating in the survey (Because youth 14 to 17 years of age who "cater for their own livelihood" are considered emancipated in Uganda, parental permission/consent had been waived.) The same consenting process was followed for youth 18 to 24 years of age.

Over the ten-day survey period, 507 youth were approached for participating in the survey. Among these youth, 46 declined and 461 agreed to participate, yielding a participation rate of 90.9%. Four of the surveys were missing substantial numbers of responses and were therefore excluded, yielding 457 completed surveys for the final analytic sample of youth between the ages of 14 and 24 (31.1% boys and 68.5% girls). The mode for age was 17 years (n=81) and 67% of participants were between ages 16 and 20. IRB approvals were obtained from the Georgia State University and the Uganda National Council on Science and Technology to conduct this study in Kampala.

2.1 Measures

The Kampala survey questionnaire was modeled from the Global School-based Student Health Survey [12-13]. For this study, five specific measures were examined: sexual intercourse during lifetime ("Have you ever had sexual intercourse?") and in the past year ("In the past year/during the past 12 months have you had sexual intercourse?"). Responses to both questions were coded as "yes" versus "no". Age of first sexual intercourse ("How old were you when you had sexual intercourse for the first time?") were dichotomously coded to use an age cut-point of 13 to indicate less than 13 years versus 13 years and older. The lifetime number of sexual partners for sexual intercourse ("During your life, with how many people have you had sexual intercourse?") were dichotomously coded to indicate with less than 4 partners versus 4 or more partners. Finally, the question about condom use differed between the surveys. In the Kampala survey, the question asked "How often did you or your partner use a condom when having sexual intercourse?" and in the GSHS the question asked "The last time you had sexual intercourse, did you or your partner use a condom?" with a "yes" or "no" response option. For the Kampala survey, participants who reported using a condom most of the time were coded as "yes" versus those who were coded "no" who reported using a condom "sometimes" or "never".

2.2 Analysis

A z-test was used to test the significance of difference in proportions. The prevalence reported in the Kampala Youth Survey was compared to the other two surveys of school-

attending youth. A z-test is used when the sample size is large or when the population variance is known. In our sample, the smallest cell count was five (5). Therefore, no Fisher's exact test was needed. Also, to conduct comparative analyses across surveys, the ages of participants were restricted to those between 14 and 17 years of age in the Kampala survey and youth who reported being between age 14 and through 16+ in the GSHS surveys. The sample sizes for analyses were GSHS: national; N= 2,838, GSHS: Urban; N=1,524 and the Kampala Youth Survey; N=192. Furthermore, in comparisons of number of sexual partners and condom use, analyses were limited to those sexually active.

3. RESULTS AND DISCUSSION

Overall, participants in the Kampala survey reported higher prevalence of sexual intercourse both in terms of lifetime and in the past year Table 1. The lifetime prevalence of reporting sexual intercourse was statistically significantly higher (49%) among participants in the Kampala survey compared to the youth in the GSHS National (31%) and GSHS Urban (29%) surveys. Moreover, girls in the Kampala survey reported significantly higher prevalence of sexual intercourse (49%) compared to girls in the GSHS National (23%) and GSHS Urban (22%) surveys. Similar findings were observed in terms of sexual intercourse occurring in the past year. Overall, the youth in the Kampala survey reported significantly higher prevalence of sexual intercourse in the past year (37%) compared to the youth in the GSHS National (14%) and GSHS Urban (13%) surveys. The boys in the Kampala survey reported more frequently that they had had sexual intercourse in the past year (38%) compared to the boys in the GSHS National (18%) and GSHS Urban (17%) surveys. The girls in the Kampala survey also reported more frequently that they had had sexual intercourse in the past year (36%) compared to the girls in the GSHS National (9%) and GSHS Urban (9%).

Table 1. Prevalence and comparisons of sexual factors across three surveys, overall and by sex (GSHS 2003 and Kampala Youth Survey)

	Kampala Study (age14-17) %			**GSHS National (age14-16+) %**			**GSHS Urban (age14-16+) %**		
Variable	Overall % (n)	Boys % (n)	Girls % (n)	Overall % (n)	Boys % (n)	Girls % (n)	Overall % (n)	Boys % (n)	Girls % (n)
Sexual Intercourse (ever)	48.7 (93)	47.9 (34)	49.2 (59)	30.7** (568)	38.1 (364)	22.7** (204)	29.1** (320)	36.9 (199)	21.5** (121)
Sexual intercourse (past year)	36.8 (70)	38.0 (27)	36.1 (43)	13.3** (320)	17.5* (214)	8.8** (106)	12.8** (174)	16.8* (110)	9.1** (64)
Age of first sexual intercourse <13 years.	10.0 (19)	15.5 (11)	6.7 (8)	11.2 (212)	15.7 (155)	6.4 (57)	11.8 (128)	16.9 (92)	6.9 (36)
Number of sexual partners intercourse ≥4	8.4 (16)	11.3 (8)	6.7 (8)	6.4 (116)	8.7 (82)	4.0 (34)	6.3 (68)	8.4 (45)	4.4 (23)
Condom Use (past year/last time having sex)	33.5 (59)	27.3 (18)	37.3 (41)	64.1** (355)	64.5** (229)	63.2** (126)	60.4** (192)	58.1** (115)	64.4** (77)

*<0.05 ,**<0.01 *Comparisons are made against the Kampala Youth Survey*

With respect to the age of first sexual intercourse and of reporting having had sexual intercourse with four or more partners, there were no statistically significant differences between the youth in the Kampala survey and the GSHS National and GSHS Urban surveys. In contrast, with respect to condom use, the youth in the Kampala survey reported using condoms less in the past year (34%) compared to the youth in the GSHS National (64%) and the GSHS Urban (60%) who reported on condom use at the time of last sexual intercourse.

This study sought to determine whether youth, primarily non-school-attending, living in the slums of Kampala, had disparate sexual health activity indicators than nationally representative school-attending youth living across Uganda or living in urban areas. In the comparisons, even when restricted to youth living in urban areas specifically, those who live in the slums report substantially higher prevalence of lifetime and past year sexual activity and lower levels of condom use which indicate that there is need for more interventions to increase condom use.

These findings, while preliminary, demonstrate very high levels of sexual activity among the youth in the slums compared to their school-attending peers coupled with very low levels of condom use. These findings mirror research of street youth conducted elsewhere [14]. There are several suggested recommended strategies for how to improve these situations [2, 8-10] including enhanced sexual education and at earlier ages, female empowerment, and the breakdown of the patriarchal control of sexual encounters.

Intriguingly, our comparisons did not find any differences between youth in the slums and the school-attending youth with respect to initiation of sex prior to age 13 and also with having four or more partners. These findings are promising and indicate that efforts focusing primarily on increased condom use may be most warranted [15].

The study also examined patterns by gender and found that for all measures examined, patterns were essentially the same for boys and girls, with the exception of the lifetime prevalence of sexual intercourse. With respect to having had sexual intercourse ever, the girls in the national and urban GSHS were significantly less likely than the girls in the Kampala study to report having had sexual intercourse in their life time (the comparisons for boys were not statistically significant). It was surprising to note that the lifetime prevalence for sexual intercourse among boys and girls in the Kampala study were quite similar. While we do not know exactly why this is, it can be perhaps assumed that girls living in the most poor circumstances, like those participating in the Kampala study, are more likely to engage in sex for a number of reasons, and in particular because of bartering for essential items [10] and also perhaps because of sexual victimization.

There are several important limitations that should be considered when interpreting the findings from this study. Most importantly, these limitations include different study methodologies and data collection years which could have impacted the findings in multiple and unknown ways. Also, the study participants in the Kampala youth survey were not randomly selected, but were youth who self-selected to attend the drop-in centers and to take part of the study. Therefore, the findings may not be representative of street and slum youth in Kampala and may not be generalizable to populations elsewhere. It is particularly important to point out that these youth who seek services may be vastly different than their peers who do not seek any services or guidance. Finally, the sample size of the Kampala youth survey was relatively small.

4. CONCLUSION

Future research is needed to better determine strategies for providing improved access to condoms and their use during sexual intercourse. Several strategies have already been suggested for how to enhance condom use to address HIV [16] and there are systematic reviews of interventions for increasing condom use [17]. However, our findings related to limited use of condoms may also be linked to recent news reports of inadequate condom supply in Uganda [18-19]. Although we did not examine factors related to adequate supply of condoms as well as the increased and consistent use of condoms, these are clearly increasingly important issues in order to address our findings and that of others indicating a significant unmet need with respect to condom use during sexual intercourse among vulnerable youths in Uganda and elsewhere [15-16]. However, because of the rapid population growth in Uganda [7], the unmet needs of the youth in Kampala will most likely continue to increase and exacerbate the spread of HIV given the very high prevalence in this population.

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ETHICAL APPROVAL

The analyses for this project were based on secondary analyses of existing data. However, The Institutional Review Board at Georgia State University and also the Uganda National Council on Science and Technology approved the original Kampala Youth Survey administration. The authors have no conflict of interest to disclose.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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