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Examining Correlates of Alcohol Related Condom-less Sex among Youth Living in the Slums of Kampala, Uganda

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Abstract

The purpose of this study is to examine the factors associated with alcohol related condom-less sex (ARCS) among youth living in the slums of Kampala, Uganda. Analyses are based on cross-sectional survey data, collected in 2014, of a convenience sample (n = 1,134) of urban service-seeking youth participating in a Uganda Youth Development Link (UYDEL) drop-in center. Logistic regression analyses were computed to determine the factors associated with ARCS. The analytic sample consisted of only youth who reported alcohol use (n = 347). In the bivariate analysis, ARCS was associated with being female (OR: 1.86; 95% CI: 1.21, 2.85), age of first drinking being between ages 13–16 (OR: 2.63; 95% CI: 1.42, 4.86), age of first time drunk being between ages 13–16 (OR: 2.88; 95% CI: 1.47, 5.67), binge drinking (OR: 3.64; 95% CI: 2.21, 5.98), rape (OR: 2.69; 95% CI: 1.64, 4.41), sex work (OR: 5.91; 95% CI: 3.09, 11.29), and being able to refuse sex when intoxicated (OR: 1.69; 95% CI: 1.10, 2.61). In the multivariable analysis, ARCS was associated with binge drinking (AOR: 2.97; 95% CI: 1.71, 5.17) and sex work (AOR: 3.48; 95% CI: 1.62, 7.49). The findings of this study emphasize many unmet needs of this vulnerable population. Strategies that specifically seek to address teenage alcohol prevention and delaying initial alcohol consumption may be particularly beneficial for reducing the spread of sexually transmitted infections via ARCS in this vulnerable population.

Introduction

Kampala, Uganda has a population of 78% youth due to an extremely high birth rate (49 births per 1,000) that is almost triple that of the USA (14 births per 1,000 in the USA) (UNICEF, 2017; Swahn et al., 2014; WHO, 2011; 2014; PRB, 2011; Uganda Bureau of Statistics, 2002). Consistent condom use among youth in Kampala is low and driven by limited accessibility to condoms, lack of knowledge of correct condom usage, and coercion

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Compliance with Ethical Standards Conflict of interest

The authors declare that they have no conflict of interest. Ethical Approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards. IRB approvals were obtained from Georgia State University and the Uganda National Council for Science and Technology to conduct this study in Kampala. Additionally, this study is fully compliant with the provisions of the World Medical Association Declaration of Helsinki. Informed Consent Informed consent was obtained from all individual participants included in the study. All youth provided verbal informed consent for this study

into not using a condom (Zablotska et al., 2007). Youth in Kampala are at a greater risk for condom-less sex due to the high prevalence of sex work since the fees for condomless sex is higher and alcohol, which impairs judgement and decision making, is readily available and heavily consumed (Swahn et al., 2014; Swahn et al., 2016; World Bank, 2018; Weiss et al., 2016; WHO, 2011).

Many vulnerable youths in Uganda resort to sex work out of necessity and high unemployment rates. In fact, over half of youth who engage in sex work started drinking by age 17 (Swahn et al., 2016; Kalichman et al., 2007; Zablotska et al., 2007). Alcohol consumption before and during sex is common, especially among female sex workers in Kampala (Swahn et al., 2017; Mbonye et al., 2014). Among youth engaging in sex work, drinking with clients is encouraged prior to sexual activity, and clients will often seek to get sex workers drunk to avoid payment or to ease condom negotiations (Swahn et al., 2016; Zablotska et al., 2007; Surratt et al., 2007). In addition, there is concern of gender-based violence, including rape with such trauma exacerbated when perpetrated without a condom. These experiences are more likely among by youth who engage in sex work, particularly among those who drink alcohol or among youth whose clients drink alcohol (Swahn et al, 2017).

The youth in the slums of Kampala are hard to reach and understudied. As it stands, there is currently a gap in knowledge about the correlates of alcohol related condom-less sex (ARCS) among youth living in Kampala despite the high levels of HIV, concerns about HIV transmission, other sexually transmitted infections, and high prevalence of unplanned pregnancies. This study examines correlates of ARCS among youth of Kampala, Uganda with the goal of informing prevention and intervention strategies that can reduce the transmission of HIV and other sexually transmitted infections in this and similar high-risk populations. Our objective focuses specifically on modifiable factors such as alcohol use including binge drinking and other risk behaviors linked to HIV transmission.

Materials and Methods

The current study is based on the “Kampala Youth Survey 2014,” a cross-sectional survey conducted between March and April of 2014 to quantify and examine high-risk behaviors and exposures, focusing on alcohol use, sexual behaviors, and HIV, in a sample of urban youth, 12–18 years of age, living in the slums or on the streets of Kampala, Uganda, who participated in a Uganda Youth Development Link (UYDEL) drop-in center for disadvantaged youth (Uganda Youth Development Link, 2015). Participants were informed about the study and read (or were read) the consent forms for the survey. All participants provided verbal consent to participate in the study, and 1134 youth participants completed the surveys making up the final sample size. Details of the survey have been described previously (Swahn et al., 2016; Swahn et al., 2017; Uganda Youth Development Link, 2015; Culbreth et al., 2018). The study was conducted in accordance with the Declaration of Helsinki, and IRB approvals were obtained from Georgia State University and the Uganda National council for Science and Technology to conduct this study (SS3338)..

The main outcome variable, ARCS, was measured using the following question “because of your own alcohol use, how often during the last 12 months have you experienced the following? – Had sex without a condom.” The variable was coded as ARCS and no ARCS. Sociodemographic and risk factor variables included sex, education level, age of first drink, and first time drunk, having ever been raped, being a sex worker, HIV status, if the respondent thought it was ok for a girl to suggest a condom, if the respondent felt they would be able to refuse sexual intercourse while intoxicated and if they plan to use a condom when they have sex. In addition, the CAGE questionnaire was used to determine problem drinking, and binge drinking was classified as having five or more drinks in a row on one occasion; both of these measures have been defined elsewhere (Culbreth et al., 2018; NIAAA, 2002).

Bivariate logistic regression analyses were used to determine the unadjusted associations between demographic characteristics, risk factors and ARCS. Correlates that showed significance in the bivariate logistic regression were included in a multivariable logistic regression analysis. All analyses were performed using SAS 9.4 (SAS Institute, Cary, NC, USA).

Results

Among participants ($n = 1134$), 30.6% ($n=347$) reported alcohol use in the past year and were asked “because of your own alcohol use, how often during the last 12 months have you experienced the following? -had sex without a condom” (Table 1). Of the 347 youth, 175 (50.4%) reported ARCS. Among problem drinkers, similar proportions of youth engaged in ARCS as those who did not (52.4% vs 47.6%; $p=0.58$). Among drinkers, most initiated alcohol use between 13–16 years (71.2%). In addition, a higher percentage of youth who initiated alcohol between ages 13–16 reported ARCS (55.5%) compared to those who initiated alcohol at younger or older ages ($p=0.005$). Similarly, among drinkers most reported their first episode of drunkenness also between ages 13–16 (59.4%) to, and significantly more reported ARCS than other age groups ($p = 0.005$). Binge drinkers had a higher prevalence of ARCS compared to non-binge drinkers (59.9% vs 40.1%, $p = 0.005$). Those who engaged in sex work were more likely to report ARCS compared to youth who did not engage in sex work (81.4% vs 42.6%, respectively, $p = 0.005$).

In the bivariate analysis ARCS was significantly associated with binge drinking (OR: 3.64; 95% CI: 2.21, 5.98), age of first drink between ages 13–16 (OR: 2.63, 95% CI: 1.42, 4.86), age of first time drunk between ages 13–16 (OR: 2.88; 95% CI: 1.47, 5.67) (Table 2). Among the demographic variables, being female (OR: 1.86; 95% CI: 1.21, 2.85), having a history of rape (OR: 2.69; 95% CI: 1.64, 4.41), and engaging in sex work (OR: 5.91; 95% CI: 3.09, 11.29) were significantly associated with ARCS. In the multivariable analyses (Table 2), binge drinking (AOR: 2.97; 95% CI: 1.71, 5.17) and sex work (AOR: 3.48; 95% CI: 1.62, 7.49) were statistically associated with ARCS. Sex, age of first drink, age of first time drunk, rape, a being able to refuse sex while intoxicated were no longer statistically associated with ARCS in the multivariable analysis

Discussion

In our study of youth in the slums of Kampala, nearly half of the drinkers reported ARCS. Girls and those less educated were also more likely to report ARCS. Binge drinkers were more likely to report ARCS, even after adjusting for other potential confounders. Based on previous research, it is clear that greater quantities of drinking in one instance play a more harmful role in the usage of condoms than moderate drinking over extended periods of time (Mbonye et al., 2014). Delaying alcohol use will be an important strategy, perhaps even by even a few years which may be protective given the high prevalence of ARCS combined with early drinking initiation, drunkenness, and binge drinking (Ehrensstein et al., 2004). As has been noted elsewhere, prevention programs need to begin even earlier than seventh grade, in our case prior to age 13, and must address the combined risks of early drinking and sexual experimentation (Stueve & O'Donnell, 2005).

Youth engaging in sex work had a high prevalence of ARCS, and this was statistically significant in both the binary and the multivariable analysis. Sex workers in Kampala have stated that some clients will pay more to have sex without a condom and addressing alcohol-harm reduction strategies among youth could empower them to take better control of their sexual health and find other means of work (Swahn et al., 2016). Promoting condom use during risky sexual behavior has been a consistent focus for HIV prevention programming, but strategies should also focus on addressing ARCS among vulnerable youth (King et al., 2004).

Despite strengths of this study, it was subject to several important limitations. First, the study utilized a cross-sectional convenience sample. However, this population is difficult to reach and is understudied; therefore, the collection of this data provides an invaluable insight to this population. Because of the cross-sectional design, this study did not assess temporality and cannot infer causality. Sensitive topics were used in the questionnaire, and misclassification may be present and have likely produced an underestimate of the overall and true prevalence of risky behaviors in the population. Self-reporting over the past year and self-reporting about actions due to intoxication are subject to recall bias. Future studies should conduct longitudinal analyses between alcohol use and sexual risk behaviors among this population (Kalichman et al., 2007; Swahn et al., 2017; Mbonye et al., 2014).

Alcohol consumption among youth in Kampala is high, and underage alcohol use is an important public health matter, especially when coupled with inconsistent condom use. Interventions to reduce teenage alcohol use have rarely been implemented in sub-Saharan Africa (Weiss et al., 2016). Additionally, the high HIV prevalence and high transmission rate among youth in this area is a cause for concern which seems to be exacerbated by early and heavy alcohol use through ARCS. Establishing and strengthening intervention programs that seek to reduce alcohol use and also provide education to mitigate risk among drinkers by encouraging the youth to use condoms, even when under the influence of alcohol, may decrease HIV incidence and prevalence in the community.

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Table 1.

Characteristics of youth living in the Slums of Kampala who engaged in alcohol-related condom-less sex (N=347)

Demographic variables and correlates		Total N=347 (%)	ARCS n = 175(%)	No ARCS n =172 (%)	Chi-Square Tests, (df), p-value
Problem Drinkers (CAGE > 2)	Yes	164 (47.7)	86 (52.4)	78 (47.6)	0.31, (1), p=.58
	No	180 (52.3)	89 (49.4)	91 (50.6)	
Sex	Male	155 (44.7)	65 (41.9)	90 (58.1)	8.09, (1), p=<.005
	Female	192 (55.3)	110 (57.3)	82 (42.7)	
Age of First Drink	<13	44 (12.7)	20 (45.5)	24 (52.6)	10.43, (2), p=.005
	13–16	247 (71.2)	137 (55.5)	110 (44.5)	
	>16	56 (16.1)	18 (32.1)	38 (67.9)	
Age of First Time Drunk	Never Drunk	46 (13.3)	15 (32.6)	31 (67.4)	13.92, (2), p=<.005
	<13	23 (6.6)	11 (47.8)	12 (52.2)	
	13–16	206 (59.4)	120 (58.3)	86 (41.8)	
	>16	72 (20.8)	29 (40.3)	43 (59.8)	
Binge Drinker	Yes	242 (20.1)	145 (59.9)	97 (40.1)	27.41, (1), p=<.0001
	No	103 (29.9)	30 (29.1)	73 (70.9)	
Education Level	<Primary	123 (35.8)	67 (54.5)	56 (45.5)	4.27, (2), p=0.12
	Completed Primary	75 (21.8)	42 (56.0)	33 (44.0)	
	Completed Secondary	146 (42.4)	64 (43.8)	82 (56.2)	
Rape History	Yes	96 (27.7)	65 (67.7)	31 (32.3)	15.85, (1), p=<.0001
	No	251 (72.3)	110 (43.8)	141 (56.2)	
Sex Work	Yes	70 (20.2)	57 (81.4)	13 (18.6)	33.70, (1), p=<.0001
	No	277 (79.8)	118 (42.6)	159 (57.4)	
HIV Positive	Yes	55 (16.0)	31 (56.4)	24 (43.6)	0.92, (1), p=0.34
	No	288 (84.0)	142 (49.3)	146 (50.7)	
It is ok for a girl to suggest condoms	Agree	264 (76.1)	132 (50.0)	132 (50.0)	0.083, (1), p=0.77
	Don't agree	83 (23.9)	43 (51.8)	40 (48.2)	
Able to refuse sex while intoxicated	Agree	208 (59.9)	94 (45.2)	114 (54.8)	5.70, (1), p=0.017
	Don't agree	139 (40.1)	81 (58.3)	58 (41.7)	
Plan to use condoms	Agree	250 (72.1)	119 (47.6)	131 (52.4)	3.55, (1), p=0.06
	Don't agree	95 (27.4)	39 (41.1)	56 (59.0)	

Table 2.

Demographic and correlates associated with alcohol related condom-less sex among youth living in the Slums of Kampala.

Demographic Variables and Correlates		Unadjusted OR (95% CI)	Adjusted OR (95% CI)
Sex	Male	1.00	1.00
	Female	1.86 (1.21–2.85)	1.41 (.83 – 2.41)
Problem Drinkers (CAGE > 2)	Yes	1.13 (0.74– 1.72)	
	No	1.00	
Age of First Drink	<13	1.76 (.78–3.98)	.95 (.27–3.31)
	13–16	2.63 (1.42–4.86)	1.21 (.50–2.92)
	>16	1.00	1.00
Age of First Time Drunk	Never Drunk	1.00	1.00
	<13	1.89 (0.68– 5.28)	1.02 (.26–3.98)
	13–16	2.88 (1.47– 5.67)	1.48 (.70–3.11)
	>16	1.39 (0.64 – 3.03)	.80 (.30–2.11)
Binge Drink	Yes	3.64 (2.21 – 5.98)	2.97 (1.71–5.17)
	No	1.00	1.00
Education Level	<Primary	1.00	
	Completed Primary	1.06 (0.60–1.90)	
	Completed Secondary	0.65 (0.40–1.06)	
Rape	Yes	2.69 (1.64–4.41)	1.31 (.71–2.43)
	No	1.00	
Sex Work	Yes	5.91 (3.09 – 11.29)	3.48 (1.62–7.49)
	No	1.00	
HIV Positive	Yes	1.33 (0.74 – 2.37)	
	No	1.00	
It is ok for a girl to suggest condoms	Agree	1.09 (0.66 – 1.76)	
	Don't agree	1.00	
Able to refuse sex while intoxicated	Agree	1.69 (1.10 – 2.61)	1.41 (.87–2.28)
	Don't agree	1.00	
Plan to use condoms	Agree	1.58 (0.98 – 2.55)	
	Don't agree	1.00	