Examining gender-differences in the prevalence of HIV and alcohol health risk and promotion knowledge among service-seeking youth who live in the slums of Kampala, Uganda

Alicia C. May
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Examining gender-differences in the prevalence of HIV and alcohol health risk and promotion knowledge among service-seeking youth who live in the slums of Kampala, Uganda

By

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A Thesis Submitted to the Graduate Faculty of Georgia State University in Partial Fulfillment of the requirements for the degree

MASTER OF PUBLIC HEALTH

ATLANTA, GEORGIA

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Table of Contents

Acknowledgements ........................................................................................................... 4
Approval Page ................................................................................................................ 5
Abstract ........................................................................................................................... 6
Authors Statement ......................................................................................................... 7
Notice to Borrowers ....................................................................................................... 8-9

Chapter I
Introduction ..................................................................................................................... 10-15
Purpose of the study ...................................................................................................... 15
Research Questions ...................................................................................................... 15

Chapter II
Literature Review .......................................................................................................... 16-31
HIV Health Promotion Campaigns ............................................................................ 15-20
Impact of Radio and Television Campaigns .............................................................. 16-18
HIV Health Promotion Campaigns Following WHO Guidelines ......................... 18-19
HIV Health Campaigns that were Unsuccessful ...................................................... 19-20
Modes of Delivering Health Promotion Messages ............................................... 20-21
Social Media ................................................................................................................. 21
Mobile Phone and SMS Text ...................................................................................... 20-21
Overarching HIV Health Promotion Considerations .............................................. 21-23
The Role of Health Literacy in Health Promotion Messages ................................... 23
Religion in HIV Health Promotion Messages ............................................................ 23-24
Alcohol Prevention Campaigns ............................................................................... 24
References ..................................................................................................................... 25-31
Chapter III

Author Page ............................................................................................................. 32
Abstract ..................................................................................................................... 33
Introduction ............................................................................................................... 34-38
Methods .................................................................................................................... 38-40
    Measures .............................................................................................................. 39
    Data Analysis ...................................................................................................... 40
Results ....................................................................................................................... 40-42
    Alcohol Use ......................................................................................................... 41
    HIV and Sexual Intercourse ................................................................................. 41-42
Discussion ................................................................................................................. 42-45
References ............................................................................................................... 46-49
Tables ....................................................................................................................... 50-52
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Examining gender-differences in the prevalence of HIV and alcohol health risk and promotion knowledge among service-seeking youth who live in the slums of Kampala, Uganda

By

Alicia C. May

Approved:

______________________________________________

Committee Chair:

______________________________________________

Committee Chair:

Date:
Abstract

Objective: To examine gender-differences in the prevalence of HIV and alcohol health risk and promotion knowledge among service-seeking youth who live in the slums of Kampala, Uganda.

Methodology: Analyses were based on data from the Kampala Youth Survey (N=457) of service-seeking youth ages 14 to 24 years of age, collected in 2011 in Kampala, Uganda. Exposure to health promotion messages, specifically for HIV prevention, reducing risky sex behaviors and alcohol consumption were included in the survey. The data was analyzed in SPSS v. 21.

Results: The population consisted of 31.2% boys and 68.8% girls aged 14-24. Seventy percent of youth reported being sexually active. Overall, 8% of participants reported being HIV positive. Chi-square analysis revealed that gender differences with respect to HIV prevention messaging and knowledge. For example, girls were more knowledgeable than boys, that a healthy-looking person can have HIV. There were also significant gender differences with respect to alcohol harm and prevention knowledge where girls were more likely than boys to know about “the bad things that can happen when you drink” and also know how to get help to stop drinking.

Conclusions: Our findings show substantial differences between boys and girls with respect to their knowledge about HIV and alcohol prevention and harm. Clearly, additional efforts are needed to increase health promotion messaging overall, but also to specifically target boys and increase their knowledge of alcohol and harm. Gender-specific approaches seems warranted that are also tailored for the experiences of youth living in urban poverty.
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CHAPTER 1

Introduction

Background

World Health Organization (WHO) defines health promotion as “the process of enabling people to increase control over, and to improve their health” (WHO Health topics Health promotion). There are five strategies WHO has identified as essential for achieving greater health equity through health promotion: build healthy public policy, create supportive environments, strengthen community action, develop personal skills and reorient health services (WHO| Jakarta Declaration on Leading Health Promotion into the 21st century).

The WHO global status report on alcohol and health (2014) explains that alcohol is a psychoactive substance and one of the most prevailing causes of death worldwide (“WHO | Global status report on alcohol and health 2014,” n.d.). In this report, WHO features some of the adverse effects of using alcohol, including social and economic burden to communities (“WHO | Alcohol,” n.d.-a). WHO World Health Statistics rank Uganda as having the 5th highest alcohol consumption rate based on country population size, but when population is controlled for, are highest consumers of alcohol in eastern Africa. Alcohol use is pervasive among street and slum youth in Sub-Saharan Africa. In Ghana, 81.1% of street youth aged 11-13 reported using alcohol in the last month (Asante, Meyer-Weitz, & Petersen, 2014). Page and Hall (2009) analyzed data from the Global Student Health Survey from 2003 and 2004; they found that youth in Sub-Saharan Africa, specifically Uganda, Kenya, Botswana, and Zambia, were at a higher risk of having sex if they had reported drinking. Additionally, the frequency of alcohol consumption, per day, within a 30 day period was associated with a greater likelihood of ever having sex.

Worldwide, 5% of all deaths of young people between the ages of 15 and 29 are attributable to alcohol use (WHO | Alcohol Fact Sheet). WHO Global School-based student
health survey found that alcohol use is increasing among youth. Specifically, alcohol use among youth (aged 13-15) had increased by 71% over a five-year period (WHO | School –based survey).

Understanding the association of alcohol use and its impact on HIV is an important topic in Sub-Saharan Africa. Ghebremichael and colleagues explained that using alcohol could speed up the rate of HIV transmission in Sub-Saharan Africa (2009). According to WHO countries who report high amounts of alcohol consumption are synonymous with having higher rates of HIV (Fritz, Morojele, & Kalichman, 2010). The use of alcohol has been linked to both the prevalence (Fisher, Bang, & Kapiga, 2007; Hahn, Woolf-King & Muyindike, 2011) and incidence (Geis et al. 2011, Ruzagira et. al. 2012) of HIV. The mechanism behind the linkage is that alcohol consumption leads to risky sex behaviors, such as not using condoms, and makes transmission of the HIV virus easier.

HIV-positive individuals are most likely to transmit HIV through unprotected sexual activity (Scott-Sheldon et. al. 2012; Weiser et. al. 2006). A study conducted among Uganda youth revealed only 18% of the HIV-positive sample used contraception (Beyeza-Kashesya et al., 2011). As reported by Beyeza et. al. the HIV-positive individuals not adopting safe sex practices are the greatest threat to spreading HIV by engaging in behaviors which increase the risk of transmitting HIV (2011). Beyeza et al. suggested that safe sex education should be provided to the adolescents in schools, which may be helpful in avoidance of risky sexual behavior and thus in controlling HIV/AIDS and also teen pregnancy (2011). Assessment of the knowledge of HIV/AIDS among these youth reveal that they are not ignorant to safe sex practices but still do not practice safe sex. A study conducted in Tanzania shows that 98.4% of youth had the knowledge of how HIV/AIDS is transmitted, but, only 36% acknowledged the use
of condom. (Lema, Katapa, & Musa, 2008). Even among homeless children and street children, the knowledge of HIV/AIDS was found to be moderate - high, but again, the condom use rate was low (Mudingayi, Lutala, & Mupenda, 2011). Current research does not indicate any specific reasons why youth fail to adopt sexual risk reduction behavior, despite being aware of the risks. Maswanya et al. explains that if a sex partner believes that their peers do not use condoms, they will be less likely to use condoms when engaging in sexual intercourse (1999).

The current research reveals that students have variety of sources on HIV/AIDS information, such as radio, newspaper, television, religious leaders, health personnel, teachers, friends, and parents (Maswanya et al., 1999). The findings of Maswanya and colleagues explain that 69% of youth in their study thought that the HIV information provided to them was adequate (1999). In this study, girls had less knowledge of safe sex practices as compared to boys; and the teenagers had less knowledge as compared to older youth (Maswanya et al., 1999).

The study conducted by Buga and colleagues to assess sexual behavior, knowledge, and attitudes about sexuality among adolescent schoolgirls revealed that the knowledge of reproductive biology about women was poor (1996). The majority of girls did not approve premarital sex, and adolescent pregnancy. They also did not approve the idea of introducing sex education in schools, or the provision of contraceptives by schools (Buga, Amoko, & Ncayiyana, 1996).

Parental guidance plays in role in how youth perceive safe sex practices. There are parents who do not support sex education and teaching how to effectively use condoms in schools (Iyaniwura, 2006). Many parents support sexual abstinence, but not the use of contraception. These parents believe, contraceptive use by adolescent may promote promiscuity
and infertility in future (Iyaniwura, 2006). The findings of Asekun and colleagues reveal that youth who report a poor attitude towards parental communication about sexual intercourse were associated with a higher likelihood of pre-marital sex and unsafe sex (2011). This emphasizes the importance of early sex education within the family setting (Asekun-Olarinmoye, Olajide, Abodurin, & Asekun-Olarinmoye, 2011).

The findings from the study of Oladepo and colleagues explain that knowledge of HIV transmission and prevention methods were high among adolescents and most respondents favored the promotion of abstinence as an HIV prevention strategy (2011). Sexual abstinence was found to be significantly associated with perceived self-efficacy to refuse sex and negative perception of peers who engage in sexual behaviors. Majority of the focus group discussants, in this study, suggested the involvement of parents, media, schools, faith-based institutions and non-governmental organizations in promoting the adoption of abstinence education (Oladepo & Fayemi, 2011). Dlamini et. al.reported that among high school youth, those who were abstainers from sexual intercourse were less likely to drink alcohol than their sexually active counterparts (2009). Understanding that youth who live in the slums often do not have parental guidance, or the ability to attend school, is important to remember when creating health promotion messages on risky alcohol consumption and sex behaviors specific to the slum youth populations (Mthembu & Ndateba, 2012).

The United Nations (UN) report on Global trends in Urban Youth Development reports that nearly half of the global population is under the age of 24 and that over 300 million of these people are youth (aged 15-24) living in the slums of Africa. This number has increased 100 million in just six years. (UN-Habitat population factsheet may 2015). The World health organization states that as of 2013, 48% of people living in Uganda are under the age of 15
(WHO country profile). The number of people who live in the slums of Kampala, Uganda is estimated to be around 3.5 million and is expected to reach eight million by 2020 (UN-habitat). The number of youth who live in the slums is difficult to estimate due to the transient nature of living in the slums, however if the projections from the UN hold true, this number could reach upwards of 5 million by 2020 (Mufune (2000) and Chigunta (2002)). Successful health promotion strategies in places like the slums may seem impossible on the surface, however Lilford et. al. reported that while the concentrated nature of living in the slums does spread disease, the neighborhood effect could be the key to unlocking successful health promotion campaigns in slums areas (2017).

The literature establishes that the street children and the homeless are more at risk of contracting HIV/AIDS and are also at higher risk of alcohol and drug abuse. Some studies, suggest that the knowledge of HIV/AIDS among the street children is moderate while some find it to be high but, condom use is found to be low in both conditions (Mudingayi et al., 2011), (Mthembu & Ndateba, 2012). There are a lot of misconceptions prevalent among these youth regarding HIV/AIDS knowledge. The United Nations Uganda HIV and AIDS Country progress report states that only 38.5% of youth aged 15-24 can correctly identify ways to prevent sexual transmission of HIV and can correctly identify transmission myths (2014 Uganda HIV and AIDS country progress report). WHO reports that 51% of the population of Uganda drink alcohol (Uganda 2014 Global; Status report), this includes the youth aged 15-24.

There are gender differences apparent between boys and girls, especially when it comes to sexual intercourse. Dlamini et. al. reported that only a quarter of high school girls were sexually active, while 72.4% of boys reported being sexually active and age of first sexual experience was younger for boys than the girls (2009). Nalwadda, et. al. reported gender
differences in condom use efficacy and adherence to condom use myths, specifically with boys between the ages of 15-24 (2010).

WHO reports that HIV is the leading cause of death in Uganda. As of 2012, the rate of infection has stabilized at 61.4% since 2000. The 2011 WHO report on Global status and drinking stated that Uganda ranked highest in alcohol consumed among all of Sub-Saharan countries when controlled for population size. Because the population of youth living in the slums of Sub-Saharan Africa and specifically Uganda is increasing very rapidly, it is vital that the health of this population is addressed. A key element in addressing their health needs is understanding how best to deliver health promotion messaging, specifically centered on how to address risky alcohol consumption and how this behavior leads to risky sex behaviors.

**Purpose of the Study**

The purpose of this study to ascertain how youth who live in the slums receive health promotion messaging and what behaviors should be highlighted when creating messages for this population.

**Research Questions**

1. What is the prevalence of basic alcohol and HIV knowledge among youth who live in the slums of Kampala?

2. Does the prevalence of HIV and alcohol knowledge vary by gender?
CHAPTER II

Literature review

The literature review will encompass a variety of HIV specific health promotion campaigns targeting people who live in Sub-Saharan Africa. Studies contained in this review will focus HIV interventions and campaigns designed to increase awareness and knowledge of HIV prevention methods, modes of delivering health promotion messages, the health literacy of the youth, cultural needs of prevention messaging, and campaigns designed to delay the age of drinking and increase safe sex practices. Gender differences on how boys and girls are exposed to health promotion messages and observed understating of these messages will be included.

IIA. HIV Health Promotion Campaigns

Impact of Radio and Television Campaigns

Research has revealed that the use of media, e.g. radio PSA’s and Television messaging are effective for disseminating public health campaign messages. (Odhiambo, O. et. al. 1989) Promoting and informing youth on safer sex practices as a way to decrease likelihood of contracting HIV is common in Sub-Saharan Africa. Convisser, J. et. al. (1992) found that promoting AIDS prevention messaging in song lyrics targeted towards teenagers in Zaire was significantly effective for recall at 93 percent. Most astonishing was at the six month follow up, 85% of those who were exposed to the song reported changing their behavior. Keller, S. (1997) replicated this study in Uganda, where teens were exposed to songs encouraging HIV testing and other health promotion messages. Keller found that there was an uptick in condom use after six months of exposure, from 46% at pretest to 69% in posttest. Karlyn, A.S. et. al. (2001) conducted a radio PSA campaign in Mozambique and found that the campaign was successful with intent to change behaviors (97.2%) where as 62.8% of people who were not exposed to the
PSA’s expressed intent to change sexual behaviors. The radio is an important tool in disseminating HIV/AIDS information to groups aged 15-19. Moyo, I.M. et. al. (1993) conducted a study looking at what behavioral factors play into HIV transmission. In this study, youth reported that parents were not the primary source of information on HIV/AIDS and sexual education, but 74% of these youth report getting their information from radio, even when they may not be the target for the intended intervention, they were still exposed and retained information from radio PSA’s. In Zambia, a multimedia campaigned designed to target youth aged 13-19 was reported to be successful for increasing condom use. Respondents were 2.1 times more likely to use a condom at last sex if they were exposed to three or more television advertisements. (Underwood, C. et. al. 2006) To better understand the dose response of a HIV prevention mass media campaign, people in Kenya aged 15-39, Agha, S. (2003) conducted a household survey of 2,213 sexually active people on their exposure to and other behavioral factors from the campaign. The research revealed that those exposed reported a decrease in awkwardness in purchasing condoms, and an increase in self-efficacy to use condoms. For the dose response element, the more a respondent was exposed to the messages in the campaign, the greater the variables mentioned previously were believed. Timing of HIV prevention messaging is also a factor in behavior change campaigns. Eloundou-Enyegue, P.M. et. al. (2005) conducted a study looking at how timing of HIV prevention messaging effects behavior. In this study, a campaign launching a condom called Salama was restructured in 1993 and results of this study are based on the time frame from 1993 to 1996. Only males aged 16-26 were chosen to participate in this study. The researchers discovered that the marketing exposure of the condoms was much more accelerated than the HIV prevention messages that were delivered through other campaigns during this time. The condom advertisement had a much more far reaching and higher
dose rate than the HIV prevention messages and is the potential reason that youth adopted this protective behavior of condom use, before understanding the protective nature of condom use in contracting HIV. Kaufman, M.R. et. al. (2014) reported on a behavior change campaign to increase condom use and HIV testing among people who live in Malawi. BRIDGE II was designed to influence behavior change communication by breaking down barriers and societal norms around HIV. There were community and radio components to this campaign. Age of participant ranged from 18-50+ with 18-29 years olds most represented. There were 594 people who participated in this study. The results revealed that the campaign was effective for increasing HIV knowledge ($\beta = 0.20$, CI- 0.06-0.34) and self-efficacy ($\beta=0.35$, CI=0.08-0.62) but not for HIV risk perception ($\beta=0.17$, CI=-0.13 to 0.46). Thus suggesting that when people have knowledge and can perceive behavior change to reduce risky sex behaviors, their risk perception decreases.

**HIV Health Promotion Campaigns Following WHO Guidelines**

The president of Uganda aided in the promotion of one campaign that had a significant effect on reducing HIV prevalence for pregnant women. The rate decreased from 12% to 8% in just five years (Carlisle, D. (1997). The “Unite and Fight” campaign targeted youth and had the objective to increase safe sex knowledge and change behaviors related to risky sex. Using traditional story telling methods, boy and girl scouts would perform plays, sing songs and read poetry on safe sex practices. Due to the spoken nature of the Luganda language, using these types of routes for health promotion messaging have been successful in this country. In Cameroon there was a campaign to increase the use of condoms among youth aged 15-24 (Meekers, D. et. al. (2005). This campaign focused on social marketing and interpersonal communication. Results revealed positive impact for increased condom use for females (from
32% to 45%) and males (44% to 61%), participants also reported an increase in self-efficacy around condom use and perceived social support.

**HIV Health Campaigns that Were Unsuccessful**

Not all mass media messages are effective when attempting to change behavior around HIV. In the beginning of the HIV epidemic in Africa, the most commonly adopted strategy was “ABC” (Abstain from sex, Be faithful, and Consistently and correctly use condoms). Ntshebe, O. and colleagues (2006) reported that the “ABC” campaign was one of the least effective health promotion campaigns, due to the negativity and fear entrenched in this campaign. Baumgartner, J.N. et. al. (2010) looked at the “B” (Be faithful) part of the “ABC” campaign. In this study 158 youth, aged 14-20 participated in focus groups and discussed their perceptions on faithfulness in a relationship. The youth explained that they agreed with being faithful to one person, but if there is not equality in the partnership, there will not be faithfulness. The use of condoms was also seen by the youth as a way of not being faithful, so “B” and “C” together created more friction in a partnership. An evaluation of a mass media poster campaign to encourage youth to abstain from early sexual debut failed to produce a clear message to the target audience. (Muraya, J.G. et al. 2011) The take away message from the focus groups was that the posters were confusing, as they were designed by Westerners, and did not pilot test with an African audience. Murtri N. and colleagues (2005), also found similar information for a mass media campaign targeted at rural Kenyans. Data collected in the focus groups revealed that although awareness of HIV/AIDS is high in Kenya, those in rural areas lack understanding of the communicated messages. There is also a lack of knowledge around other ways to contact the HIV virus such as needle injections or mother to child transmission. LoveLife was a multi-faced campaign launched in South Africa and intended to increase condom use and encourage HIV testing proved to be unsuccessful in
males adopting the behavior of getting tested (Taylor, M. et al. 2010). Peltzer, K. and Matseke, G. (2013) explained that youth who were exposed to the LoveLife campaign and reported that being female, older, and having talked with a mother or female elder about HIV or pregnancy were all positive variables for decision to get tested.

II B. Modes of Delivering Health Promotion Messages

Social Media

While there is solid evidence to suggest that the best way to deliver health promotion messages in Sub-Saharan Africa is through radio, technology is changing and the use of social media, such as Facebook, is becoming a popular mode for youth to connect. Lukhele, B. et. al. (2016) reported that 44.9% of men and 30.7% of women who are active Facebook users in Swaziland and have had sex with someone whom they met on Facebook. In Dar es Salaam and Mtwara, Tanzania, youth aged 15-19 report using Facebook on their phones and pay special interest to sexual and reproductive messages they see, specifically if these messages are thought of a humorous. Young people seem to agree that they would enjoy receiving health promotion materials in an online forum. In a study looking at high school students in Cape Town, South Africa, 85% of students reported being somewhat, or extremely likely to connect with HIV prevention messages found on social media (Ybarra, M.L. et. al. 2014). In this same study there was about a 60% interest in SMS text messaging for health promotion messages.

Mobile Phone and SMS Text

Research on using mobile phones and SMS text messaging to disseminate health promotion messaging to people who live in Sub-Saharan Africa is encouraging. In a study conducted in a hospital setting in Ethiopia, there was a positive association for young people to agree to use their mobile phones (e.g. texts, or setting alarms) as a method to remind them to take...
their anti-retro viral medications (Kajula, L.J. et. al. 2015). In Kenya, similar results were reported in a randomized control trial testing for HIV among youth aged 18-29. Mugo, P.M. and colleagues (2016) found that patients who received SMS text messages reminding them to get tested for HIV where 1.4 times more likely to follow through than their counterparts who did not receive the text message. Rana, Y. et. al. (2015) conducted a qualitative study looking at the barriers to SMS text messaging among youth who live in Kampala, Uganda. While 90% of the participants reported having and using SMS text messaging, many expressed that interventions using SMS text should have a foundation in the confidentiality of HIV status when using this approach. Rana Y. et. al. explained that these youth share phones and thus would be more likely to participate in a program that emphasized the importance of confidently. Mitchell, K.J. (2011) reported that 27% of the youth who live in Mbarara, Uganda reported having a cell phone and 61% believed that they would access HIV interventions such as SMS text messages from their phones. The results of an SMS HIV intervention in Northwest Uganda revealed that only one fifth of the 10,000 participants engaged in the program. (Chib, A. et. al. 2012) In this study participants were asked to text back on questions developed using HIV knowledge. The results from this study suggest that SMS texting may not be as effective for a more rural setting. Swahn, and colleagues (2014) reported on the characteristics youth who live in the slums of Kampala, Uganda. In 2011, almost 50% of youth reported owning a cell phone and owning a phone was highly correlated with taking care of themselves, being older, using drugs and having transactional sex.

**IIC. Overarching HIV Health Promotion Considerations**

Based on the five steps of health promotion, the following studies have provided excellent examples of how best to build healthy public policy, create supportive environments,
strengthen community action, develop personal skills and reorient health services (Jakarta Declaration on Leading Health Promotion into the 21st century). Previous studies have explained that there is a direct correlation in the discussing safe sex practices, pregnancy, and HIV transmission with a parent or guardian and the uptake of knowledge and beliefs in self-efficacy. A study conducted in Zimbabwe looked at this topic in depth. Haney & Singh (2012) reported that there was an age difference in female orphans on who had more interest in learning about HIV transmission. The younger orphans were more willing to engage in HIV prevention messaging than their older counterparts. However, most of the prevention messages were delivered at school and about 13% of orphans in the younger age range did not attend school. Additionally, communicating about sex was reported as more uncomfortable for caregivers of orphaned children than their own children. The president of Uganda aided in the promotion of one campaign that had a significant effect on reducing HIV prevalence for pregnant women from 12% to 8% in just five years (Carlisle, D. (1997). The “Unite and Fight” campaign targeted youth and had the objective to increase safe sex knowledge and change behaviors related to risky sex. Using traditional story telling methods, boy and girl scouts would perform plays, sing songs and read poetry on safe sex practices. Due to the spoken nature of the Luganda language, using these types of routes for health promotion messaging have been successful in this country. Bastien, S. (2009) explained that popular songs are influencing youth on narratives such as the stigma of HIV and including HIV prevention messages in the lyrics of popular songs. Youth who live in Kilimanjaro, Tanzania were able to recall 18 popular songs that are about HIV, but written as metaphors. The youth resonated with this type of health promotion messaging. Hanass-Hancock, J. (2014) reported on a community developed intervention in rural South Africa which focused on a youth literacy program and included some HIV prevention messages.
These messages included HIV knowledge, attitudes and behavior modification. Out of the 100 youth surveyed, there was little effect for HIV knowledge, however there was a positive influence on condom use and delay of sexual debut. Hanass-Hancock explained that this could be due to the accepting nature of the community on these variables.

**IID. The Role of Health Literacy in Health Promotion messages**

Even the most well thought out health promotion campaigns are at risk of failure if the intended audience is not health literate. Bekalu M.A. and Eggermont S. (2014) conducted a study looking at the role of health literacy based on socioecological and socioeconomic disparities. In a sample of 986 people taken from both rural and urban settings, it was revealed that a lack of education and lower economic and ecological status was correlated with a deficit in the uptake of health promotion understanding on how to decrease HIV transmission. Due to the popularity of radio HIV prevention campaigns, Bogale, G.W., Boer, H., & Seydel, E. R. (2010) conducted focus groups on how literate women in Amhara Highland, Ethiopia reported liking HIV prevention messages that were radio based and included information presented by male and female doctors, and role play scenarios. The women explained that they enjoyed the role-playing scenarios, however, they reported not liking the scenarios involving the male doctor. This suggest that literate women may trust HIV prevention messages from other women.

**IIE. Religion in HIV health promotion messages**

The literature on HIV health promotion messages in religion explores the various ways in which youth receive health promotion messages. For the purpose of this next section, we will explore the role of churches in delivering health promotion messages. In South Africa, a study was conducted to assess HIV prevention strategies among youth who were affiliated with the Catholic, Lutheran and Assemblies of God churches. Eriksson, E. et. al. (2014) explained that
youth aged 15-24 who were Catholic (OR=1.78) and Lutheran (OR=5.99) were more educated on sex and HIV compared to the Assembly of God counterparts. Additionally, these participants reported higher rates of premarital abstinence (88%). Kagimu M. et. al. (1995) reported that the Islamic Medical Association evaluated a campaign on HIV prevention among Muslim communities in two Districts in Uganda, Mpigi and Iganaga and found that there were shockingly low rates of HIV knowledge on HIV transmission other than sexual intercourse. Only 1.2% of the 1096 participants knew that HIV could be transmitted from mother to child and less than 10% of participants knew that condom use could decrease HIV infection.

**Alcohol Prevention Campaigns**

Although, WHO World Health Statistics rank Uganda as the 5th highest for alcohol consumption rates and highest per population in eastern Africa, there are almost no campaigns to intervene on this topic. This is important due to the overwhelming research that reveals the interaction between drinking and HIV transmission. In Kenya, a focus group was conducted with community members on how to best communicate an alcohol intervention to the people aged 18-65 of this community. (Muturi, N. 2016) The participants explained that fear based campaigns with use of local language and visual aids would be more effective in their rural setting than the national campaigns. Kaufman, Z.A. et. al. (2014) conducted a study with youth on how social media plays a role in risky sex behaviors and alcohol use among school aged youth in South Africa. There were 4,485 male and females who participate in this study. Almost 13% of the girls and 24% of the boys were identified as hazardous alcohol consumers and there was a strong association with having a Facebook account and multiple sex partners (AOR = 181, 95% CI 1.19-2.74). More studies and interventions are needed in this area.
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Rana, Y., et al. (2015). "Short message service (SMS)-based intervention to improve treatment


CHAPTER III

Examining gender-differences in the prevalence of HIV and alcohol health risk and promotion knowledge among service-seeking youth who live in the slums of Kampala, Uganda

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Abstract:

Objective: To examine gender-differences in the prevalence of HIV and alcohol health risk and promotion knowledge among service-seeking youth who live in the slums of Kampala, Uganda.

Methodology: Analyses were based on data from the Kampala Youth Survey (N=457) of service-seeking youth ages 14 to 24 years of age, collected in 2011 in Kampala, Uganda. Exposure to health promotion messages, specifically for HIV prevention, reducing risky sex behaviors and alcohol consumption were included in the survey. The data was analyzed in SPSS v. 21.

Results: The population consisted of 31.2% boys and 68.8% girls aged 14-24. Seventy percent of youth reported being sexually active. Overall, 8% of participants reported being HIV positive. Chi-square analysis revealed that gender differences with respect to HIV prevention messaging and knowledge. For example, girls were more knowledgeable than boys, that a healthy-looking person can have HIV. There were also significant gender differences with respect to alcohol harm and prevention knowledge where girls were more likely than boys to know about “the bad things that can happen when you drink” and also know how to get help to stop drinking.

Conclusions: Our findings show substantial differences between boys and girls with respect to their knowledge about HIV and alcohol prevention and harm. Clearly, additional efforts are needed to increase health promotion messaging overall, but also to specifically target boys and increase their knowledge of alcohol and harm. Gender-specific approaches seems warranted that are also tailored for the experiences of youth living in urban poverty.
Introduction:

WHO defines health promotion as “the process of enabling people to increase control over, and to improve their health” (WHO Health topics Health promotion). There are five strategies WHO has identified as essential for achieving greater health equity through health promotion: build healthy public policy, create supportive environments, strengthen community action, develop personal skills and reorient health services (WHO|Jakarta Declaration on Leading Health Promotion into the 21st century).

Youth (aged 15 and younger) make up 48% of the population in Uganda (WHO fact sheet 2013). Because almost half of the population is so young, it is important to target this population for health promotion messaging. Youth in Africa are at risk of HIV/AIDS and alcohol abuse (Swahn et al. 2013 & Swahn et. al. 2016). Swahn and colleagues explain that alcohol exposure is pervasive among street youth (2013). There is a clear correlation between the spread of HIV and the use of alcohol.

Alcohol use is prevalent among street/slum youth across Sub Saharan Africa. In Ghana 81.1% of street youth aged 11-13 reported using alcohol in the last month (Asante, Meyer-Weitz, & Petersen 2014). Page and Hall analyzed data from the Global Student Health Survey from 2003 and 2004; they found that youth in Sub Saharan Africa, specifically Uganda, Kenyan, Botswana, and Zambia, were at a higher risk of having sex if they had reported drinking additionally the number of days youth consumed alcohol within a 30 day period was associated with a greater likelihood of ever having sex (2009).

Assessment of the knowledge youth who live in Sub-Saharan Africa have about risk factors of HIV/AIDS, reveal that they are not ignorant to safe sexual practices but, still, do not
practice proper safe sex. The study conducted by Lema and colleagues explains that 98.4% of youth had the knowledge on how to reduce the risk of contracting HIV/AIDS through condom use, but only 36% acknowledged the use of condom (2008). Even among homeless children and street children, the knowledge around HIV/AIDS was found to be moderate - high, but again, the condom use rate was low (Mudingayi, Lutala, & Mupenda, 2011), (Mthembu & Ndateba, 2012). Current research does not indicate any specific reasons why youth fail to adopt risk reduction behaviors, despite being educated of the risks. There is a theory that if a partner believes that a sex partner hates condoms, the other partner will have a positive association with inconsistent condom use (Maswanya et al., 1999).

The current research reveals that students have variety of sources for AIDS information, such as radio, newspaper and television, also religious leaders, health personnel, teachers, friends and parents (Maswanya et al., 1999). The findings of Maswanya et al. show that 69% of youth in their study thought that the information provided to them was adequate (1999). But, girls had less knowledge of safe sexual practices as compared to boys, and the teenagers had less knowledge as compared to older youth (Maswanya et al., 1999).

The study conducted by Buga and colleagues to assess sexual behavior, knowledge and attitudes to sexuality among adolescent school girls reveals that the knowledge of reproductive biology among them was poor (1996). The majority of girls did not approve premarital sex, and adolescent pregnancy. They also did not approve the idea of introducing sex education in schools, or the provision of contraceptives by schools (Buga, Amoko, & Ncayiyana, 1996).

HIV infected individuals are in the most need of adopting safe sex practices. The study conducted among Uganda youth, revealed only 18% of the HIV positive youth use contraception.
(Beyeza-Kashesya et al., 2011). The HIV infected individuals not adopting safe sex are the greatest threat to the society in transmitting HIV. Thus, it is required that proper sex education is provided to the adolescents in schools, which may be helpful in avoidance of risky sexual behavior and thus in controlling HIV/AIDS and also teen pregnancy. Beyeza-Kashesya et al. suggested that testing also needs to be encouraged so that people know their status (2011).

The role of safer sex education in the family is correlated with the adoption of safer sex behaviors. There are parents who do not support sex education and teaching how to effectively use condoms in schools (Iyaniwura, 2006). In this study, many parents reported supporting sexual abstinence, but not the use of contraception (Iyaniwura, 2006). These parents believe, contraceptive use by adolescent may promote promiscuity and infertility in future (Iyaniwura, 2006). The findings of Asekun-Olarinmoye et al., show that poor attitude to parental communication on sex was associated with a higher likelihood of pre-marital sex and unsafe sex (2011). This emphasizes the importance of early sex education within the family setting.

The findings from the study of Oladepo and Fayemi reveal that knowledge of HIV transmission and prevention strategies was high among adolescents and most participants favored the promotion of abstinence as an HIV prevention strategy (2011). The authors found sexual abstinence was found to be significantly associated with perceived self-efficacy to refuse sex and negative perception of peers who engage in sexual behaviors. The authors also found the majority of the Focus Group discussants, in this study, suggested the involvement of parents, media, schools, faith-based institutions and non-governmental organizations in promoting the adoption of abstinence (Oladepo & Fayemi, 2011).
The United Nations (UN) report on Global trends in Urban Youth Development reports that nearly half of the global population is under the age of 24 and that over 300 million of these people are youth (aged 15-24) living in the slums of Africa. This number has increased 100 million in just six years. (UN-Habitat population factsheet may 2015). The World health organization reports that as of 2013 48% of people living in Uganda are under the age of 15 (WHO country profile). The number of people who live in the slums of Kampala, Uganda is estimated to be around 3.5 million and is expected to reach eight million by 2020 (UN-habitat). The number of youth who live in the slums is difficult to estimate due to the transient nature, however if the projections from the UN hold true, this number could reach upwards of 5 million by 2020 (Mufune (2000) and Chigunta (2002)). Mufune explains that youth who live in the slum bear more of the burden of disease, instability in families, and poverty (2000). Successful health promotion strategies in places like the slums may seem impossible on the surface, however Lilford et. al. reported that while the concentrated nature of living in the slums does spread disease, the neighborhood effect could be the key to unlocking successful health promotion campaigns in slums areas (2017).

The literature establishes that the street children and the homeless are more at risk of HIV/AIDS and also, alcohol, drug abuse and other harmful behaviors. Swahn et. al. explains that Kampala youth who live in the slums, aged 15-25 who have attempted to commit suicide are more likely to have one or both parents who are dead (12.61%), have experienced parental neglect due to drinking alcohol (7.71%) and have an STI or HIV (9.19%) (2012). Some studies, suggest that the knowledge of HIV/AIDS among the street children is moderate while some find it to be high (Mudingayi et al., 2011), (Mthembu & Ndateba, 2012). There are substantial
misconceptions among street youth regarding HIV/AIDS knowledge and the role alcohol plays in their lives.

Research is limited on how youth who live in the slums are affected by health promotion messaging, specifically when it comes to the risk of contracting HIV or drinking alcohol. Educating youth and providing them with proper and timely sex education and delaying alcohol use is an effective way to curb the HIV/AIDS epidemic. Objectives of this paper are to identify how these youth understand health promotion messages and to see if there are specific gender differences in who receives these messages. Understanding the demographics of youth who are in need of health promotion messaging will allow for better targeted campaigns in the future.

Methods:

The overarching goal of the cross-sectional survey 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 of Kampala, Uganda. This survey was collected from May through June of 2011, participants were 14–24 years of age, and attending Uganda Youth Development Link (UYDEL) (Uganda Youth Development Link). UYDEL serves on average about 650 youth per month through drop-in centers, where youth can attend vocational training classes. Face-to-face surveys, lasting about 30 minutes, were administered by social workers/peer educators employed by UYDEL. The study was implemented across eight 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 provided 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 to participate 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. Please see Table 1 for more demographic information.

**Measures:**

The survey questionnaire was modeled from existing surveys such as the U.S. based Youth Risk Behavior Survey conducted by the Centers for Disease Control and Prevention and the international Global School-based Student Health Survey, supported by the World Health
Organization and which provides data on health behaviors and relevant risk and protective factors among students across all regions served by the United Nations. The study development was also informed by training materials related to working with street children prepared by the World Health Organization. Survey questions addressed demographic characteristics, family context, alcohol and drug use, injuries, violence and suicidal behaviors, sexual behaviors and sexually transmitted diseases, including HIV/AIDS.

The study protocol was approved by the Georgia State University Institutional Review Board and also by the Uganda National Council for Science and Technology. Funding to conduct the study were obtained from the Georgia State University Office of International Initiatives and also from funds leveraged through collaboration with the Emory Center for Injury Control, funded by the Centers for Disease Control and Prevention.

Data analysis:

Descriptive statistics were computed. Chi-square tests were be performed to assess the gender differences on high risk behaviors and the reception of health promotion messages. SPSS v21 was used to analyze the data. (SPSS Inc., Chicago IL).

Results:

There were a total of 457 participants in this study. Thirty one percent were boys and 69% were girls. Demographic information is presented in Table 1. Their ages ranged from 14-24. Among this sample, 69.8% reported having had sexual intercourse, while 30.2% did not. Seventy one percent reported their age when they first had sexual intercourse between 13 and 17 years old. Over 85% of the participants reported having sexual intercourse within the last year, however almost 60% reported inconsistent condom use. Thirty-four percent of the participants
have been told that they have a STI and 8% have been told that they are HIV positive. However, almost 30% have not been tested for HIV. All sexual behavior variables are presented in Table 2.

*Alcohol Use*

Almost 30% of participants reported drinking alcohol before having sex and 32.4% report that their partners drink before having sex. Twenty-eight percent of the youth reported that drinking had interfered with their daily lives, See Table 2 for youth behaviors. Seventy-one percent of participants reported seeing people around Kampala drinking alcohol. Roughly 30% of the participants do not know how to stop drinking and do not know how to tell someone that they do not want to drink. A Chi-square test for independence indicated a significant association between gender and the following alcohol use behaviors: parents using alcohol ($x^2 = 6.07, (df=1), p=0.014$), being in a physical fight because of drinking ($x^2 = 19.64, (df=3), p<0.001$), and drinking alcohol when a serious injury occurred ($x^2 = 11.72, (df=2), p=0.003$). Male participants were less knowledgeable about health seeking behaviors. For example, how to abstain from drinking alcohol by telling someone you did not want to drink, was more difficult for males than their female counterparts ($x^2 = 7.74, (df=1), p=0.005$). Additionally, health promotion knowledge such as, where to get help to stop drinking ($x^2 = 8.22, (df=1), p=0.004$), and what bad things can happen to a person who drinks alcohol ($x^2 = 4.93, (df=1), p=0.026$) revealed significant gender differences. See Table 4 for significant Chi-square health promotion messages.

*HIV and Sexual intercourse*

As stated above, almost 70% of youth were sexually active in this study. Among those who are sexually active, 81% did have knowledge on how to tell their partner that they did not want to have sex; a Chi-square test for independence revealed that there is an association
between gender and refusing sex \( (x^2=16.05, (df=2), p<0.001) \). Thirty six percent of youth reported being forced to have sexual intercourse by another person; males were more likely to report being forced into sexual intercourse than women \( (x^2=144.60, (df=2), p<0.001) \). Those sexually active also reported higher rates of positive HIV at 10% and other STI infections at 47.1%. Gender differences were also significantly associated when asked about testing for HIV; boys were less likely than girls to be tested for the HIV than their female counterparts \( (x^2=33.50, (df=2), p<0.001) \). See Table 4 for additional significant health promotion information. Sixty one percent of girls reported being shown or told on how to use a condom, while only 26% of males had this information. Males reported less knowledge on HIV than females, please see Table 3 for significant results. Although it was not significant, there was a slight gender difference in where condoms would be acquired.

**Discussion**

Youth in Sub Saharan Africa are in need of effective health promotion messages and more intriguing interventions need to be developed to change behaviors around drinking alcohol and having sex. Many of these youth are not currently in school, (85.1%) which is where many young people receive their education on health. Furthermore, nearly 42% of the participants report taking care of themselves at night and many have parents who are dead. Understanding the vulnerable situation these youth live in is the foundation of why proper health promotion is crucial for this population.

Nearly 70% of youth who live in the slums are sexually active. The youth report alcohol consumption before drinking (30%) and inconsistent condom use (60%). It is important to note that boys are in the most need of health promotion messaging. They report refusing alcohol is
7.74 times more difficult than their female counterparts, less overall knowledge about HIV, and less likely to get tested for HIV than their female peers. Evidence supports that the most successful methods of health promotion messaging are radio advertisements, and peer centered intervention, and may be a better way to promote a healthier life style. Health promotion messaging should focus on dispelling myths about HIV. In this study, 12% of boys agree that a healthy-looking person cannot have HIV, and nearly 17% of boys do not know where to get tested for HIV. Many of the participants knew health promotion messages, such as how HIV passes from one person to another (93% boys, 98% girls), and over 90% of both genders report having been told about HIV before and ways that HIV is transmitted, however there was still a disconnect in consistent condom use.

The health promotion messaging around alcohol use is reported to be less prevalent than HIV messaging, and the gender gap of who receive messaging is substantial. Only 23.2% of boys know what bad things can happen when using alcohol, versus 63% of girls. When asked about getting help to stop drinking, only 20% of boys knew where to get help, versus the 54% of girls. Boys are lacking the self-efficacy in their ability to tell someone they do not want to drink (18.5%), while girls are more confident at 54%. However, girls report higher rates of drinking before sex (17.4% versus the boys who report (10.4%). Males report being 8 times less likely to know how to stop drinking than the girls. Boys were 20 times more likely than girls to have been in a physical fight when they have been drinking. Research suggests that youth who drink are more likely to have risker sex; this is why more health promotion messages need to focus on males and ways to decrease alcohol use among young males.

The gender difference is in health promotion messaging, especially with youth who live in the slums is significant. There needs to be targeted messaging, specifically on the dangers of
drinking for males. There is a disconnect that emerges with males and receiving health promotion messages. This could be due to cultural belief that drinking is tied to being more masculine, or that these youth are simply not receiving the same messages that youth with parents, or who are enrolled in school receive. There are also gender differences in sexual health and HIV promotion messages. Of the seven common HIV health promotion questions examined, only two where not significant for gender differences. Both boys and girls report being shown or told how to use a condom, and they know where to get treatment for HIV. These youth are in serious need of more health promotion messaging, interventions and campaigns. There needs to be more research within this population to better understand how to effectively reach the population and how to better target males on alcohol health messages.

While this research contributes knowledge on health promotion messaging in Sub Saharan Africa and those who are most need of interventions, this study has several limitations. Sampling from only youth who attend UYDEL drop in centers allows for self-selection biased towards youth who want to better their lives by seeking out apprenticeship opportunities. Additionally, this sample included more female participants, which could misrepresent the male population of these slum youth. How youth receive health promotion messages was not assessed in this study. Research on youth who live in the slums is scarce, making it difficult to understand best practices of delivering health promotion to these youth.

Future research needs to focus on how to get health promotion messages to youth who live in the slums of Sub Saharan Africa, and better understand if these messages are changing behavior. Due to the lack of research on males and risky alcohol consumption, it is important that this topic is researched more in the future. Understanding why males do not have the same self-efficacy to refuse alcohol as girls is important to explore. The gender differences of alcohol use
in this population needs to be better understood. Girls report higher rates of drinking before sex than males, but report being able to refuse a drink when offered. This disconnect needs to be explored to understand how drinking plays a role in having sex among girls who live in the slums. HIV specific campaigns need to incorporate the use of songs, poetry, and live role play as these are the preferred methods of receiving and understating HIV prevention messages. HIV knowledge and prevention messaging needs to target adolescent male youth to encourage safer sex practices and decrease alcohol use.
References:


Table 1: Demographic characteristics of survey respondents in the Kampala Youth Survey (N=457).

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes (%)</th>
<th>No (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do you go to school?</td>
<td>14.5</td>
<td>85.1</td>
</tr>
<tr>
<td>Is your mom living</td>
<td>67.1</td>
<td>32.9</td>
</tr>
<tr>
<td>Is your dad living</td>
<td>47.6</td>
<td>51.6</td>
</tr>
<tr>
<td>Do you have a mobile phone</td>
<td>46.6</td>
<td>52.7</td>
</tr>
<tr>
<td>Do you use Facebook</td>
<td>4.8</td>
<td>93.9</td>
</tr>
</tbody>
</table>

Table 2: Health behaviors of youth stratified by gender among Kampala Youth Survey respondents (N=457).

<table>
<thead>
<tr>
<th>Behavior</th>
<th>N</th>
<th>Boy (%)</th>
<th>Girl (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Have you ever had sexual intercourse?</td>
<td>455</td>
<td>20.4</td>
<td>10.8</td>
</tr>
<tr>
<td>In the past year, have you had sexual</td>
<td>314</td>
<td>25.5</td>
<td>3.8</td>
</tr>
<tr>
<td>intercourse?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do you or your partner usually drink before</td>
<td>317</td>
<td>9.4</td>
<td>19.5</td>
</tr>
<tr>
<td>having sexual intercourse?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do you usually drink alcohol before</td>
<td>317</td>
<td>10.4</td>
<td>18.3</td>
</tr>
<tr>
<td>having sexual intercourse?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Have you been told by a doctor or nurse that</td>
<td>453</td>
<td>8.2</td>
<td>28.6</td>
</tr>
<tr>
<td>you have a sexually transmitted infection,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>such as</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
syphilis, bolabola, or gonorrhea?

<table>
<thead>
<tr>
<th>Knowledge Question</th>
<th>N</th>
<th>Boy (%)</th>
<th>Girl (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have you been told by a doctor or nurse that you have HIV/AIDS?</td>
<td>455</td>
<td>2.6</td>
<td>5.7</td>
</tr>
<tr>
<td>Have you ever been tested for the virus that causes AIDS?</td>
<td>454</td>
<td>16.5</td>
<td>56.6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Knowledge Question</th>
<th>N</th>
<th>Boy (%)</th>
<th>Girl (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do you know where one can get tested for HIV/AIDS?</td>
<td>452</td>
<td>81.7</td>
<td>95.5</td>
</tr>
<tr>
<td>Has anyone ever told or shown you how to use a condom?</td>
<td>451</td>
<td>25.7</td>
<td>60.8</td>
</tr>
<tr>
<td>Do you know how to tell someone you do not want to have sexual intercourse with them?</td>
<td>436</td>
<td>20.9</td>
<td>61.0</td>
</tr>
<tr>
<td>Do you usually drink alcohol before having sexual intercourse?</td>
<td>317</td>
<td>10.4</td>
<td>17.4</td>
</tr>
<tr>
<td>Do you know where one can get treatment for HIV/AIDS?</td>
<td>453</td>
<td>26.5</td>
<td>61.8</td>
</tr>
</tbody>
</table>
Table 4: Tests of association (chi-square tests) between health promotion knowledge and gender among Kampala Youth Survey respondents (N=457).

<table>
<thead>
<tr>
<th>Question</th>
<th>N</th>
<th>Boy (%)</th>
<th></th>
<th></th>
<th></th>
<th>Chi-</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>Square</td>
<td></td>
</tr>
<tr>
<td>Can a healthy-looking person have HIV?</td>
<td>452</td>
<td>85.2</td>
<td>12.0</td>
<td>93.6</td>
<td>4.2</td>
<td>9.9</td>
<td>0.01</td>
</tr>
<tr>
<td>Has anyone ever told you about HIV?</td>
<td>447</td>
<td>90.8</td>
<td>7.0</td>
<td>96.8</td>
<td>1.6</td>
<td>9.3</td>
<td>0.01</td>
</tr>
<tr>
<td>Has anyone told you how HIV passes from one person to another?</td>
<td>436</td>
<td>93.0</td>
<td>7.0</td>
<td>98.1</td>
<td>1.6</td>
<td>9.5</td>
<td>0.01</td>
</tr>
<tr>
<td>Has anyone ever told you about the bad things that can happen when someone drinks alcohol?</td>
<td>451</td>
<td>26.2</td>
<td>14.9</td>
<td>63.0</td>
<td>6.0</td>
<td>4.9</td>
<td>0.26</td>
</tr>
<tr>
<td>Has anyone ever told you where one can get help to stop drinking?</td>
<td>455</td>
<td>19.8</td>
<td>11.4</td>
<td>52.5</td>
<td>16.3</td>
<td>8.22</td>
<td>0.01</td>
</tr>
<tr>
<td>Has anyone ever told you how to tell someone you did not want to drink alcohol?</td>
<td>453</td>
<td>18.5</td>
<td>10.6</td>
<td>53.9</td>
<td>14.8</td>
<td>7.74</td>
<td>0.01</td>
</tr>
<tr>
<td>Did your parents use alcohol?</td>
<td>434</td>
<td>14.8</td>
<td>15.2</td>
<td>25.8</td>
<td>44.0</td>
<td>6.07</td>
<td>0.01</td>
</tr>
<tr>
<td>In the past year, how many times were you in a physical fight because you had been drinking?</td>
<td>448</td>
<td>47.1</td>
<td>23.0</td>
<td>7.1</td>
<td>6.1</td>
<td>19.6</td>
<td>0.00</td>
</tr>
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</table>