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Magnitude and Associated Factors of Transactional Sex among High School Students in Debre Markos Town, Northwest Ethiopia

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Abstract

Introduction: Sex driven by material benefits is a challenging public health concern, particularly in Sub-Saharan Africa. Assessing youth's transactional relationships remains the integral part of HIV prevention programs. This study aimed to determine the magnitude and associated factors of self-reported transactional sex engagement among high school students in Debre Markos town, Northwest Ethiopia.

Method: A cross-sectional study was conducted between 07 February and 13 May, 2015 on 726 girls identified from randomly selected secondary schools. Data were analyzed using bivariate and multivariate logistic regression to identify the predictors of transactional sex.

Result: Two hundred sixty-two (37.3%) of the respondents reported having had ever sex at the time of the survey. Out of those sexually active students, 17.6% reported engaging in transactional sex in the previous one year prior to the survey. After controlling for other covariates, while chewing khat and lack of communication about sexual and reproductive health issues were predictors of increased risk for engagement in transactional sex, higher class level, delayed age at first sex, never watching pornographic material, having regular pocket money and parental supervision were found to be protective factors.

Conclusion: This study has shown that considerable proportion of students engage in transactional sex and they are influenced by multiple socio-demographic/socio-economic and individual behavior characteristics. Programs and services designed to control HIV/AIDS transmission should aim to focus on addressing the context specific female students' HIV risk, and sexual entitlement and promoting gender inequity.

Keywords: Students; Adolescents; Female students; High school; Risky sexual behavior; Transactional sex; Predictors; and STIs/ HIV/ AIDS; Ethiopia

Introduction

More than one billion people in the world are between the ages of 15 and 24 and most of them live in developing countries. These age group are mostly affected segment of the population by the consequence of risky sexual behaviors [1,2]. Every day, about 500,000 young people, mostly women, are infected with STIs and approximately 80 million women have unintended pregnancies every year worldwide [3,4]. Although in past decades, HIV-prevention programmes focused on risky sexual behavior amongst young people, the continued increase in new cases could be an indication that risk sexual behaviors are still occurring in many communities [5,6]. A variety of individual behaviors can be identified as placing persons at risk of contracting sexually transmitted diseases (STD) and unwanted pregnancy. One of such behaviors is sex in exchange for money, gifts, favours or other material benefits [6].

Sex driven by material benefit or status is a public health concern particularly, as a driver of the Sub-Saharan African HIV infection [7,8]. In sub-Saharan Africa, an estimated 7,000 new infections per day among those 15- to 24-years-old and infected young women outnumber infected young men 3.6 to one [9]. In Africa, where the majority of new HIV infections are among the young, the risk for girls (aged 15 to 24) compared with boys is two to one. Besides to the increased biological vulnerability, multiple interrelated risk factors comprise of age-disparate relationships, violence within partnerships, inconsistent condom use, number of partners and age at sexual debut have been found to be associated with young women's risk of HIV infection [10-13].

As of other risky sexual behaviors, engagement in transactional sex has also been shown to contribute to the increased rates of unintended pregnancy or contracting STIs including HIV/AIDS, as well as acts of violence from clients /partnerships [10,14,15]. While there is a debate in the body of literatures as to the definition of transactional sex, in this study refers to a sexual relationship or act(s), outside of marriage or sex work, structured by the implicit assumption that sex will be exchanged for a wide range of instrumental support such as school fees, transportation or a place to sleep, clothing, material goods or money. There is no up-front negotiation or pre-determined payment in transactional sexual encounters as sex workers. While driven primarily by instrumental intentions, transactional relationships may also include emotional intimacy. It is suggesting socio-economic roles in structuring exchange-based relationships within many increased HIV rates countries, and predominantly men who provide and women who receive these material benefits [7,8,14].

Transactional sex can significantly impact the lives of youth and those around them, it is essential that parents, educators and other concerned adults become aware of the prevalence of this behavior, the

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factors that increase their likelihood, and what can be done to abate or prevent those risks.

Reminiscent of Sub-Saharan Africa, cultural and social norms, gender inequality and harmful traditional practices coupled with lack of access to reproductive health information and services have contribute to the similar sets of vulnerabilities among adolescents and young adults in Ethiopia. Furthermore, the continuous high unemployment rate is exposing young people to diverse social problems, of which exchange sex for food, a place to sleep or school fee due to severe economic constraints. Young females from poorer households are more vulnerable to, with their economic status motivating them to partake in transactional sex and limiting their negotiating power. Thus, increasingly, they are confronted with unwanted pregnancy, sexually transmitted infections including HIV/AIDS and social trauma attached to these problems. Unintended pregnancies still affect the lives of many young girls, forcing them to drop out of school, turn to illegal abortions, and thereby endangering their lives. This is reflected by the highest HIV prevalence in the group 15-24 years 12.1%, (6% -9 % among young men aged 15–24, and 10%-13% among young women in the same age group, as well as the unintended pregnancy rate 101 per 1,000 women [16-21].

In Ethiopia, both men and women living in urban areas are more exposed to HIV/AIDS than those living in rural areas. Similarly, for both sexes it was observed that the prevalence is highest in those with secondary and higher education (11.4 percent for females and 3.8 percent for men) [22-28].

Promoting safer sex among youth can lead to decreases in morbidity and mortality due to unsafe abortion, and sexually transmitted diseases (STDs), including HIV/AIDS, and can slow population growth. Investigation to improve school quality and barriers to school completion can have a big impact on the HIV epidemic [29]. Despite literatures highlighted the public health importance of sex driven by economic exchange as an important contributing factor to the increased rate of HIV infection among youths, transactional relationships (or sex) is an area that has been inadequately studied. To design effective prevention program, it is important to understand the determinants of transactional sex within the psychosocial contexts where these sexual encounters occur. The current study aims to assess grade 9^{th}-12^{th} school girls' self-reported engagement in transactional sexual relationships across social and demographic characteristics in Debre Markos Town, Ethiopia. Therefore, the result will enable policy makers, program managers and other concerned bodies to design appropriate strategy that will challenge the sex motivated by economic exchange behaviors of this vulnerable group.

Subjects and Methods

Study setting, population and design

A cross-sectional study was conducted within a period February 7 to May 13, 2015, in Debre Markos town, Northwest Ethiopia among grade 9^{th}-12^{th} female students. Debre Markos town is found 300 kilometers Northwest of Addis Ababa (the capital city of Ethiopia). The town is situated at 2420 meters above sea level. The population of Debre Markos is 62,469 (29,901 were males and 32,568 females) with the sex ratio in percentage of 47.8 % and 52.2% respectively [30].

Regarding to the education, there are fifteen elementary schools and private, two secondary schools, one preparatory school, eight kindergartens, one technical and vocational training college, one Teacher Education college, and one public university. This study will be conducted by involving all high school (Grade 9^{th} & 10^{th}) and preparatory school (Grade 11^{th} & 12^{th}) girls in the town. The total number of the source population (N) was 6164 students; high school (NH =4164 students) and preparatory school (NP=2000 students) students. Those students who married and pregnant were excluded.

Sample size determination and sampling procedures

Sample size was calculated using single population proportion by considering the following assumptions: 95% confidence interval, 5% margin of error, and 10% non-response rate, and the proportion of 34.5% of high school students that had multiple sexual partners from previous study [31]. Thus, a total sample size of 726 was estimated. Two stage sampling technique was employed in order to select the required number of subjects. Number of subjects from each school was determined using the proportional allocation formula: number of subjects from high school, = 4164*726/6164 = 490 students and from preparatory school=2000*726/616=236 students.

From 76 sections of high school (i.e. number of Grade 9^{th} section are 38 and grade 10^{th} are 38 sections) 16 sections was selected (8 sections from each grade) by lottery method. Again by applying simple random sampling (SRS) method 490 students were selected from the selected 16 sections. Average number of student in each section was 55. And also from 36 sections of preparatory school (i.e. number of Grade 11^{th} sections are 17 and grade 12^{th} are 19 sections) 8 sections was selected (4 sections from each grade) by lottery method. Here also by applying SRS method 236 students were selected from the selected 8 sections. Average number of student in each section was 56. Sampling Frame was list of students based on their assigned code number in their respective schools.

Data collection technique

Data was collected using pre tested structured self-administered questionnaire prepared in English-language and translated to the local language. Questionnaire was pre tested among high school and preparatory school students in Debre Work town which is one of the nearby towns to Debre Markos by taking 10% of the sample size, and the result of pre-test was analyzed and necessary modification was made prior to the start of the actual study. Those respondents used for the pre testing were not considered for the main study. The self-administered questionnaires were distributed to female respondents and completed in the private setting in their respective schools. Data was collected by college completed six female data collectors. The data collectors were thoroughly trained on the data collection procedure, and how to correctly deal with the respondents and thoroughly trained supervisors and the principal investigator supervised the data collection process.

Data processing and analysis

Following the data collections; data entry, cleaning, and editing processes was carried out. The data was entered in to EPI- INFO version 6 and exported to SPSS version 16 for analysis. Then printed frequencies were used to check for outliers and clean data. Descriptive statistics was used to describe the data. Bivaraite and multivariate analysis was used in order to identify the important explanatory variables. Confidence interval of 95% was used and p-value less than 5% was considered as statistically significant.

Ethical consideration

Primarily, ethical clearance was obtained from institutionalized research review board, School of Public Health, University of Gondar. Accordingly, concerned bodies of the respective schools were communicated and permission was obtained. Written consent from parents and then written assents from adolescents were obtained

after explaining the design, the objective and benefit of the study. Respondents were clearly informed that participation is voluntary. It was further emphasized that their responses are confidential, and had their right to withdraw from the study any time without giving further explanation. Privacy and confidentiality were kept in all data collection procedures.

Results

Socio-demographic characteristics of respondents

Seven hundred three female students were completed the survey questionnaire making a response rate of 96.8%. The majority 618 (87.9%) were aged between 17-19 years with the mean age of 17(SD ± 1.6) years. About two third (66.5%) were attending high school (grade 9th and 10th) while the remaining 33.5% were attending preparatory school (grade 11th and 12th) (Table 1).

Sexual/relationships history of the respondents

Two hundred sixty-two (37.3%) of the respondents reported having had ever sex at the time of the survey. Among the sexually active respondents 191(72.9%) had first sexual intercourse at less than 18 years. The mean age at first sexual intercourse was 16.5 years (16.5 ± 1.1). Of sexually active girls, 17.6% reported they had engage in transactional sex (sex exchange for money, material goods or both) (Table 2).

Variable	Frequency	Percentage
Age in years		
14-16	212	30.2
17-19	425	60.5
20-22	57	8.1
23-25	9	1.3
Class level		
9th	222	31.6
10th	245	34.9
11th	118	16.8
12th	118	16.8
Religion		
Orthodox	672	95.6
Muslim	6	0.9
Protestant	16	2.3
Others	9	1.2
Ethnicity		
Amhara	691	98.3
Oromo	7	1
Tigre	2	0.2
Others	3	0.3
Parental supervision		
Never	75	10.7
Sometimes	114	16.2
Most of time	221	31.4
Always	293	41.7
Family residence		
Urban	359	51.1
Rural	344	48.9
Regular pocket money		
Yes	226	32.1
No	477	67.9
Use of cell phone		

Table 1: Socio-demographic characteristics of respondents in Debre Markos, North-West Ethiopia, 2015 (n=703).

Variables	Frequency	Percentage
Age at first sex		
<18	191	72.9
≥ 18	71	27.1
Currently have a boyfriend/partner		
Yes	98	37.4
No	164	62.6
Relationship with current partner		
Main/primary partner	154	58.8
Casual partner	108	41.2
Lifetime sexual partners		
1	143	54.6
≥ 2	119	45.4
Transactional sex		
Yes	46	17.6
No	216	82.4
Ever had pregnancy		
Yes	21	8
No	241	92
Ever had an abortion		
Yes	19	7.3
No	243	92.7
Use of HCT* service		
Yes	31	11.9
No	231	88.1
Watching pornography		
Yes	120	45.8
No	142	54.2

NB USD 1=Birr 22.45 (based on exchange rate during study period)
*HCT, HIV counseling and testing

Table 2: Description of relationships/sexual activities of female students in Debre Markos, North-West Ethiopia, 2015 (n=262).

Predictors of transactional sex

From the multiple logistic regression analysis age at first sex more than 17 years were found to be about 60% less likely to have transactional sex. Those students who hadn't communicate about sexual and reproductive health issues with their parent were 66% more likely to have transactional sex than ever had discussed. And also those who haven't regular pocket money were 51% more likely to have transactional sex. Chewing khat was 8 times higher to engage in transactional sex than never chewing [COR=5.838(2.839, 12.00), AOR=8 (4.916, 13.31)] (Table 3).

Discussion

This study aimed to determine the magnitude and associated factors of self-reported transactional sex engagement among high school girls. Of sexually active girls, 17.6% reported they were engaged in transactional sex in the past 12 months prior to the survey.

This finding is relatively low compared with other prior findings of the country. In North-West Ethiopia, 20% of sexually active rural high school students have engaged in transactional sex [32]. The national finding of the prevalence of transactional sex among in-school adolescents for Amhara region was 1.5% which is lower than the current finding [33,34]. The finding is high when also compared to another similar study done in Nekemte high school

Variables	Transactional sex			
	Yes	No	Crude OR 95%CI	Adjusted OR 95%CI
Age at first sex				
<18	34 (16.6)	171 (83.4)	1	1
≥ 18	5 (8.8)	52 (91.2)	0.25 (0.15,0.42)	0.40 (0.218,0.739)*
Parental sexual and reproductive health communication				
Yes	15 (10)	135 (90)	1	1
No	24 (21.4)	88 (78.6)	1.83 (1.251,2.672)	1.66 (1.072,2.598)*
Regular pocket money				
No	20 (22.9)	67 (77.1)	1	1
Yes	19 (10.9)	156 (89.1)	0.55 (0.373,0.808)	0.51 (0.325,0.800)*
Type of school				
High school	34 (16.4)	173 (83.6)	1	1
Preparatory school	5 (9.1)	50 (90.9)	0.37 (0.229,0.590)	0.47 (0.278,0.80)*
Watching pornography				
Yes	26 (18.8)	112 (81.2)	1	1
No	13 (10.5)	117 (89.5)	0.46 (0.315,0.68)	0.47 (0.303,0.73)*
Parental supervision				
Never	14 (21.2)	52 (78.8)	1	1
Sometimes	8 (17.8)	37 (82.2)	0.87 (0.545,1.395)	0.83 (0.469,1.45)
Mostly	9 (19.6)	37 (80.4)	1.16 (0.668,2.020))	0.77 (0.389,1.52)
Always	8 (7.6)	97 (89.5)	0.44 (0.25,0.781)	0.34 (0.172,0.65)*
Have sexually active friends				
No	15 (11.9)	111 (88.1)	1	1
Yes	24 (17.6)	112 (82.4)	1.71 (1.17, 5.504)	1.25 (0.019,9.64)
Chewing Khat**				
No	34 (19.2)	143 (80.8)	1	1
Yes	5 (5.9)	80 (94.1)	5.84 (2.839,12.00)	8.00 (4.916,13.31)*
Alcohol drinking				
No	23 (20.2)	91 (79.8)	1	1
Yes	16 (10.8)	132 (89.2)	3.14 (1.941,5.062)	1.21 (0.649,2.25)
Use of cell phone				
Yes	28 (16.8)	139 (83.2)	1	1
No	11 (11.6)	84 (88.4)	0.62 (0.420,0.916)	0.66 (0.39,1.099)
School performance				
Average and above	6 (22.2)	21 (77.8)	1	1
Below average	33 (14.1)	202 (85.9)	5.75 (2.426,13.627)	2.46 (0.93,6.423)
Parental polygamy marriage				
Yes	41 (28.7)	102 (71.3)	1	1
No	37 (31.1)	82 (68.9)	0.60 (0.372,0.951)	0.87 (0.474,1.6)
Attending religious Service				
Daily	28 (15.5)	153 (84.5)	1	1
Occasionally	9 (14.8)	52 (85.2)	1.44 (0.911,2.286)	1.60 (0.892,2.872)
Never	2 (10)	18 (19)	2.11 (1.002,4.438)	1.66 (0.589,4.65)

*Significant at p-value <0.05

**Khat(catha edulis): an amphetamine like stimulating substance with alkaloid active ingredient, cathinone, cultivating in Ethiopia considered as the illicit drug

Table 3: Predictors of engagement in transactional sex among school girls in Debre Markos, North-West Ethiopia, 2015.

that 7.6% of sexually active students have reported as though they had engaged in exchange-based sex (transactional sex) [31]. In Dessie rural and urban community based study among youths 15-24 years, the proportion of transactional sex in their life time was 29% which is as approximately twice as the current finding [35]. However, as compared with similar studies in African countries, the current finding was found to be lower. In Nigerian, the prevalence of transactional sex among sexually active female public high school students was 38.8% [36]. These differences could be explained by geographical, subjects enrolled, the definition of transactional sex used and other differences between the population involved in our study and the previous studies.

As the finding of this study, chewing khat found to be positively and significantly associated with transactional sex. This study is in consistent with other studies done in Ethiopia and elsewhere among in- school and out- school youths that substance use increases in risky sexual practices [24,37]. Age at first sex was significantly associated with transactional sex. Those students who had age at first sex more than 17 years were 60% less likely to engage in transactional sex than those students who had first sex at or less than 17 years in the past 12 months prior to the survey. This is supported with similar studies elsewhere in Ethiopia showed that reported youths who start sexual activities at an early age have a higher number of sexual partners; and are more likely to engage in sex driven by material benefits or money [25,35,38].

Discussing about sexual and reproductive health issues with parents was positively and significantly associated with transactional sex. Those students who had discussed were 60% less likely to engage in transactional sex than those who hadn't discussed in the previous one year. This is in consistent with previous studies that communication helps to transmit values, beliefs and expectations about sexual and reproductive health matters to their adolescents and consequently, protects the young from engaging in risky sexual practices and associated adverse health consequences [39,40].

In current study type of school found to be significantly associated with transactional sex in the past 12 months prior to the survey. Being preparatory school students was 53% less likely to engage in transactional sex than high school students. There are findings in international and Ethiopian studies that both support and contradict current study that higher grade level is predictors of decreased risk for engagement in the exchange of sex for money, gifts or both [41-45]. This variability of findings may be attributed to various including design, study population involved, and other differences.

And also those students who had always parental monitoring were 66% less likely to engage in transactional sex than school girls with no parental supervision. This finding was in agreement with the study conducted in Shendi [46]. The most likely explanation is that those who lack familial control and connectedness which can give them to have a sense of freedom to involve in risk sexual behaviors. Not having regular pocket money was found to be a significant predictor of girls' engagement in transaction sex. In this study, adolescents who didn't get regular pocket money 51% more likely to engage in transaction sex than those who received pocket money from their parent. The result is consistent with earlier study findings [31,47,48]. This may be due to lack of pocket money required for subsistence makes young females to be at particular risk of sexual risk taking, with their economic status motivating them to partake in transactional sex to satisfy their economic and material needs.

As compared to those students watching pornographic materials or movies those never watch in the past 12 months were 53% less likely to engage in transactional sex. This is supported by a study in Addis Ababa and Bangladesh among high schools participants [35,49,50]. This could be because adolescents who watch pornographic movies may develop unrealistic attitudes about sex, and loosen up their negotiating power which leads them to engage in exchange- based sexual practice.

Unlike some previous studies, no association was seen between transactional sex and students' school performance, having other sexually active friends, and alcohol drinking [51,52]. This could be due to the differences in the predictors of transactional sex among communities with different sociocultural backgrounds.

It is necessary to take precaution when applying the findings of this study. As most of data on exposure variables were obtained by students self-report and this creates a potential for recall and reporting biases. The fact that the study was limited to high school adolescents who were found at school during the time of data collection was another limitation as it may be difficult to generalize the result to out of school and drop-outs that might have different life experiences. Despite the above limitations, this study takes a valuable step toward identifying adolescents who are at risk of exchange-based sex, as well as avenues for intervention.

Conclusion

This study has shown that considerable proportion of students engage in transactional sex. The findings indicated that chewing khat and lack communication about sexual and reproductive health issues were predictors of increased risk for engagement in transactional sex, higher class level, delayed age at first sex, never watching pornographic material, having regular pocket money and parental supervision were found to be protective factors.

Recommendation

Based on the findings of this study, the following important works on contextual psychosocial factors that both encourage and discourage engagement in transactional sex are recommended.

- Emphasis should be given to discouraging alcohol and other drug use amongst the students, especially on chewing khat which was found to be the common and the most contributors for the engagement in transactional sex of the study subject. Legal enforcement on risky places around the schools like control of sexually explicit films showing houses, control of expansion of khat markets and nightclubs.
- Programs designed to control HIV/AIDS transmission should aim to bring about behavioral change and focus on addressing the context specific young women's HIV risk, and sexual entitlement and promoting gender inequity, and accessibility of support programs and services for parents and their children, and age appropriate information, education and communication on HIV transmission and prevention, delaying age of first sexual initiation and contraceptive uses. Increased awareness and expansion of HCT services are required to promote and sustain behavioral change.
- Parents should be involved in HIV/AIDS-related behavioral intervention activities. Behavior change communication campaigns that are sensitive to strong social and cultural norms supporting the relationship between parent and child may make parents more aware of the risks of transactional sex and encourage them to be more involved in their children's decisions.

Authors' Contribution

All authors, Awraris Wolde, Belete research question, monitored and findings, and written the paper.

Yimer, and Muleta Mokonnen conceptualized the managed fieldwork, analyzed and interpreted.

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