

(RESEARCH ARTICLE)



Transactional sex and associated factors among female students of Adama science and technology university, Oromia, Ethiopia

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Abstract

Introduction: Transactional sex is an exchange of money, favors or gifts in exchange for sexual relations, commonly the relation between girls and older men.

Objectives: the aim of this study was to assess the magnitude of transactional sex and factors associated among Female students of Adama Science and Technology University, Ethiopia.

Methods: A cross-sectional study design was used on 668 randomly selected samples. Descriptive data analysis was used to reveal the magnitude of transactional sex and explore the characteristics of study participants. Multivariable logistic regression analysis was applied to assess the relationship of variables. P-value < 0.25 set as cutoff point for multivariable logistic regression and p-value < 0.05 and odds ratio at 95% CI was used to show significant association of variables.

Results: Of the total participants about 100 (15.7%) were engaged in to transactional sex for the purpose of economic gain 73 (73%) and 92 (92%) girls had sexual partners other than older men. Variables like age (AOR, 24.8; 95% CI: 1.81, 339.5), History of alcohol drinking(AOR, 5.03; 95% CI: 1.12, 22.7), Kchat chewer (AOR, 4.24; 95% CI: 1.82, 9.911), peer influence (AOR, 2.98; 95% CI: 1.37, 6.50), knowledge on HIV (AOR, 2.75; 95% CI: 1.25, 6.06) were significantly associated with transactional sex.

Conclusion and Recommendation: Magnitude of transactional sex among Adama Science and Technology University female student is high. Ministry of Health, Education and Adama Science and Technology university should work together to prevent HIV transmission among university students which may be triggered by transactional sex. Strict measures on kchat sales around university should be taken by concerned body.

Keywords: Transactional sex; University female students; Ethiopia; University

1. Introduction

Transactional sex is an exchange of money, favors or gifts in exchange for sexual relations. Transactional sex, or the exchange of sex for money or other material goods; commonly described as a partnership between a younger woman and an older man or 'sugar daddy', is one of the drivers behind the high risk of sexually transmitted infections (STIs) and unintended pregnancies among young women[1-4].

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Adolescent girls and young women aged 15–24 years are particularly at high risk of HIV infection, accounting for 20% of new HIV infections among adults globally in 2015. In sub-Saharan Africa, adolescent girls and young women accounted for 25% of new HIV infections among adults, and women accounted for 56% of new HIV infections among adults. Transactional sex can take a range from gift giving in long-term relationships as a way of expressing affection, to survival sex where women regularly engage in transactional sex to ensure they are able to meet their daily needs or those of their family [2, 5].

Transactional sex, especially among young women, has been linked to poor sexual and reproductive health outcomes as unintended pregnancies, unsafe abortions and sexually transmitted infections (including HIV). Transactional sex and age-disparate sexual relationships seem to be additional drivers of HIV in the sub-Saharan region of Africa [1, 5].

Study in northern Tanzania and Ghana University shows that, material exchange for sex probably increased the risk of transmission of HIV and other STIs. The unequal nature of the relationships “father-daughter” in a society, in which parents, older people and men are given unquestioning respect, reduced their abilities to negotiate safe sex practices. In so far as they practiced safer sex it was to avoid pregnancy rather than disease. Another study conducted in Ghana shows that, transactional sex often takes the form of sugar daddy relationships in which the male is older and in turn more economically stable and may be more likely to have HIV and among university students may compound existing risk factors for HIV transmission related to the typical sexual behavior of students [6-8].

In Ethiopia, about 16% of unmarried female youth reported sexual debut. Of which 24.6% had two or more sexual partners but only 10% of them used condom during sexual intercourse. It is not uncommon for female students to establish sexual networks with local businessmen and uniformed men in return for money and gifts. HIV is transmitted heterosexually due to risky sexual behaviors such as premarital sex, having concurrent multiple sexual partners, unsafe sex and transactional sex. These behaviors are also prevalent amongst university and college students and also reported that 25% of Ethiopian students are exposed to at least one sexual risk behaviors. The high rate of premarital sex and having multiple sexual partners among college students are usually associated with non-condom use [9-11].

A study in four sub-Saharan African countries reported transactional sex to be a common practice among more than two-thirds of young women in Ghana, Malawi, and Uganda. Study conducted in South Africa shows that, 14% of sexually active young women had engaging in transactional sex. A cross sectional study of transactional sex among Ugandan University shows that, about 25% of the study participants reported having taken part in transactional sex, with more women reporting having accepted money, gifts or some compensation for sex. Among young Ugandan women who had been sexually active in the 12 months prior to the survey, 3.7% of young women reported receiving gifts, favors, or money for sex [2] [3, 12, 13].

The study conducted in Hawasa high school (Southern Ethiopia) shows that 11.5% have been involved in sexual relation with “sugar daddies”. Study conducted in Bahir Dar high school (Northern Ethiopia) shows that 27.8% of female students have exchanged sex for money (gift) with older men [9, 14, 15]. Study conducted in Hawasa preparatory schools (Southern Ethiopia) shows that, those age group 20-24 years old were about seven times more likely to be involved in transactional sex with “sugar daddies” than their 15-19 years counterparts. Again in another study conducted in Southwestern Ethiopia, Age of study participant do not show significant association risky sexual behavior [9, 15, 16]. In addition to economic and socio cultural drivers different studies shows that, young female in higher educational institutions were participated in transactional sex with older men due to peer influences. Among unmarried high school female students in Bahir Dar, youths who had peer pressure were three times more likely to initiate premarital sexual debut than their counterparts [9, 15, 17].

Study conducted in Bahir Dar town and Dilla University shows that, sex without condom or unprotected sex were common. From study in Bahir Dar respondents reported unprotected sex was about 2 times more likely to exchange sex compared to those never did unprotected sex. In Dilla University risky sexual behavior included 27% proved the presence of open sex (unsafe sex) [14, 18]. Study conducted in Bahir Dar town shows that, the odds of exchanged sex were higher for the students who chewed kchat and take or smoke shisha compared to those never took these substances respectively. Moreover, the students who visited night clubs more than two times a week were more than threefold risk of exchanging sex compared to those students never visited night clubs [9, 14, 15, 18].

National representative survey conducted in South Africa indicated that, from 6.3% of sexually active women engaged in transactional sex 30.6% had ever drunk alcohol. Alcohol dependent women were twice more likely to engage into transactional sex than those not alcohol dependent [13]. Different studies done in different places in Africa (Madagascar, Malawi, Southern Malawi, Uganda, Tanzania and Ghana University) indicted that, modernity like need to have modern materials, modern cloths, luxury goods and to get material benefit and support were also motivator of transactional sex.

Study done in Madagascar shows that, there are some association between young people’s interests in the consumption of modern goods and their sexual behavior [4-6, 8, 19, 20].

Study conducted in Southern Malawi shows that fish trader women engaged into transactional sex for exchanging sex for capital accumulation, in Tanzania in some cases transactional sex was initiated to buy essential cloths, cosmetic or hygiene requirements or school necessities and other study done among Malawi’s young people’s suggested that, acute economic pressure is the motivator for engagement into transactional sex[4-6].

Universities are institutions with high number of young female students. These young girls are away from their family and are under varies pressure. Assessing the situation in universities is very important in informing the decision makers. Yet evidences from similar settings are scarce and the current study investigated transactional sex and associated factors among female students of Adama Science and Technology University. The result of this study can contribute knowledge on magnitude and risk behavior related to transactional sex among university students to the existing knowledge with respect to risky sexual behavior, abortion, stress, predisposing factors such as kchat chewing and alcohol drinking which may increase vulnerability of students to HIV risk behaviors and it has a vital contribution to other researchers for further investigations.

1.1 Conceptual Frame Work

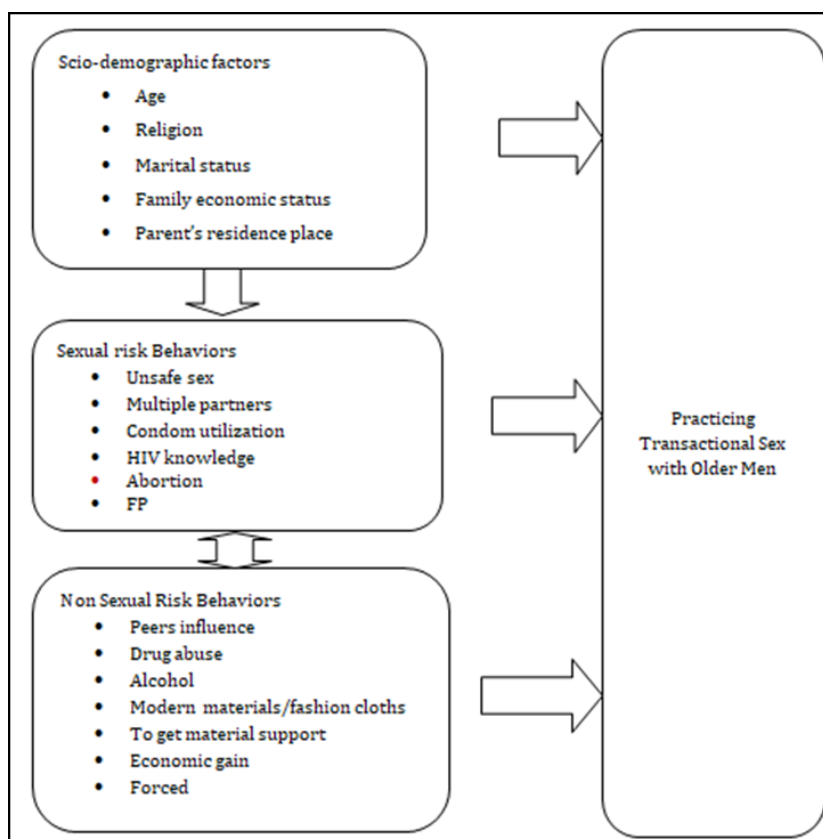


Figure 1 Conceptual frame work used to identify magnitude and factors associated with transactional sex, ASTU, Oromia, Ethiopia, 2021 developed after reviewing different literatures

2. Material and methods

2.1 Study area/setting

The study was conducted at Adama Science and Technology University. It is found in Adama City Administration, Oromia Regional State, which is located 100 km away from Addis Ababa to the East. Adama has one Governmental Science and Technology University and two private University colleges. Adama Science Technology University was established in 1993 as Nazareth Technical College, and was later renamed as Nazareth College of Technical Teacher Education, specializing in training technical teachers until 2003. The same college became a University, namely Adama

University, in 2006. Five years later, the university once again changed its name to Adama Science and Technology University (ASTU). According to the statistics obtained from the office of registrars of ASTU; there are a total of about 9,885 students enrolled in all programs, with about 7,792 Male and 2,093 Female students[21].

2.2 Study design and period

Cross-sectional study design was employed using quantitative method of data collection from October to December 2021.

2.3 Source population

All Female students of ASTU

2.4 Study population

All ASTU Female students during the year 2020/21 academic year

2.5 Exclusion criteria

Non regular program (night, weekend and summer) female students were excluded.

2.6 Sample size and sampling procedures

2.6.1 Sample size determination

Sample size determination was done by the following assumptions; Single population proportion, Sample size estimation (n), Proportion (P) = 27.8% study done in Bahir Dar town on private college female students (13), Margin of error (d) = 3% due to low proportion and add 10% to replace the non respondent rate. As study population is less than 10,000 sample size corrected using finite Population Correction formula and finally 668 sample size was obtained.

2.6.2 Sampling procedure

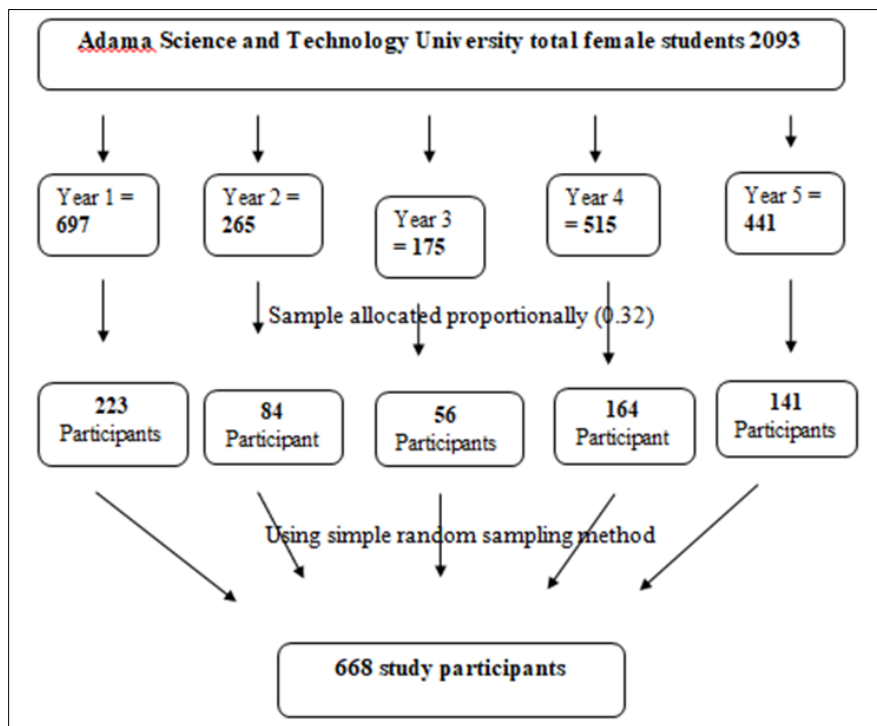


Figure 2 Diagrammatic Presentation of Sampling Procedures of female students of Adama Science and Technology University, 2021

Study samples were taken from list of students identified from ASTU year one to five. Students are stratified based on entry and academic years. The 668 samples are distributed proportionally to their number of female students in each

year. After proportionally allocating the required sample size to each year, list of the students was prepared according to alphabetical order; first the year and then the name of the students. Following this a random of 668 female students were selected from the sampling frame randomly.

2.7 Data collection tools and procedures

Data was collected using a semi-structured English questionnaire. Questionnaires were adopted from different other related behavioral studies and developed according to the objective of this study. Questionnaire was pre-tested prior to the actual data collection on 5% of the total sample size respondents from Rift Valley University in Adama town. Five health science degree graduate data collectors and one supervisors with second degree in health science were recruited from East Shoa and ASTU. Female data collectors were recruited to make study subjects relatively comfortable while asking questions which were sensitive for sexual behavior questions. Two day training was given for data collectors and supervisors on how to collect the data and other related procedures by investigators. The data was collected using self administered semi structured questionnaire. Continuous follow up and supervision is made by supervisors throughout the data collection period. The actual data collection in each batch was performed in one day to minimize information contamination.

2.8 Data quality assurance

To maintain the quality of the data semi-structured and pre-tested questionnaires and check lists was used to collect information. Two days training including pretest data collection was given to all data collectors and supervisors. The collected information was frequently checked by the supervisors. The questionnaires were checked for completeness accordingly. Data cleaning, recoding and categorization were done to maintain its quality.

2.9 Data processing and analysis

Data was coded entered into computer using Epi-Info Version 7.1.5 and exported to SPSS version 21 statistical software for analysis. Descriptive analysis was used to reveal the magnitude of transactional sex and explore the characteristics of women participated in the study. Assumptions for logistic regression were checked. Bivariate logistic regression analysis was applied to assess the crude relationship between independent variables and outcome variable. At this level the candidate variables for multivariate analysis was selected at P-value < 0.25 significance level. Multi variable logistic regression was applied to estimate the adjusted effects of independent variables on outcome variable. Odds ratio was used to estimate the magnitude of association between independent variables and outcome variable. And 95% CI was used to assess the statistical significance of association between independent variables and outcome variable. Back ward logistic regression model data entry was used. The final fitted model was assessed for multi-colliniarity using Variance Inflation Factor (VIF) and goodness of fit using Hosmer and Lemishow test.

2.10 Ethical considerations

Ethical clearance was secured from Institutional Review Board (IRB) of the Adama Hospital Medical College. Informed consent was obtained from all female students to proceeding data collection from them. It was done with a clear description of the objectives of the study and of its procedures and after ascertaining that this information had been adequately understood. Confidentiality of the information obtained from each participant was maintained.

3. Results

3.1 Socio-Demographic Characteristics

A total of 636 study subjects were enrolled and making a response rate of 95.2%. Among study participants 431(67.8%) were in the age group of 20-24 years with a mean age of 21.15 (SD± 2.037) years, 281(60.1%) were Orthodox religion followers and 583 (91.7%) were never-married. About 554 (87.1%) of the respondents' parent were living together and 454(71.4%) of the respondents' family were residents of town. The average income per month receiving from their family was 601-1000 Eth. Birr.

From total respondents 525 (82.5%) had answered correctly that unprotected sex can transmit HIV, 447 (70.3%) on abstains and followed by 338 (59.7%) on sharing sharp materials can transmit HIV. Among respondents 569 (89.5%) have had an information about abortion and family planning methods and 451 (70.9%) were know abortion is not allowed legally without some criteria in Ethiopia. Study indicated that, 375 (59%) had a poor knowledge on HIV and even 107 (16.7%) were responded there is a cure for HIV (Table2).

Table 1 Distribution of socio-demographic characteristics of respondents, ASTU, 2021

Variables (n=636)	Frequency	Percent
Age (years)		
15-19	165	25.9
20-24	431	67.8
25-29	40	6.3
Religion		
Orthodox	382	60.1
Protestant	126	19.8
Muslim	89	14
Other*	39	6.1
Student's marital status		
Never Married	583	91.7
Ever married	53	8.3
Parent's marital status		
Living together	554	87.1
Not living together	82	12.9
Parent's residence		
Urban	454	71.4
Rural	182	28.6
Income per month (birr)		
<=300	161	25.3
301-600	180	28.3
601-1000	215	33.8
1001-1500	39	6.1
>1500	41	6.4

3.2 Knowledge about HIV, Abortion and Family Planning

Table 2 Distribution of Knowledge on HIV, abortion and FP, ASTU female students, 2021

Variables	Response category	Frequency	Percent
Transfusion of infected blood can transmit HIV	Yes	332	52.2
	No	304	47.8
Unprotected sex is way of HIV transmission	Yes	525	82.5
	No	111	17.5
Sharing sharp materials transmit HIV	Yes	380	59.7
	No	256	40.3
HIV can be transmitted from Mother to child	Yes	355	55.8
	No	281	44.2
Abstains prevents HIV transmission	Yes	447	70.3
	No	189	29.7
HIV transmission can be prevented by Faith full uninfected partner	Yes	248	39.0

	No	388	61.0
consistent condom use helps prevents HIV transmission	Yes	326	51.3
	No	310	48.7
HIV transmission can be prevented by avoiding contact with contaminated blood	Yes	281	44.2
	No	355	55.8
Is there a cure for HIV	Yes	107	16.8
	No	457	71.9
	I don't know	72	11.3
Information about abortion	No	67	10.5
	Yes	569	89.5
Legal allowance of Abortion	Yes	185	29.1
	No	451	70.9
Information about FP	No	67	10.5
	Yes	569	89.5
Knowledge on HIV	Good	261	41.0
	Poor	375	59.0

3.3 Substance use and sexual behavior

Substance use and sexual behavior had its own contribution on healthy relationship of sexual partner among female university students. About 233 (37%) respondents were drinking alcohol, 110 (17%) were chewing Kchat, 82 (13%) were smoking shisha and 52 (8%) were smoking cigarette. About 226 (35.5%) study participants ever had a boyfriend and from these, 214 (95%) students currently have a boyfriend and 103 (48%) had two and more sexual partners.

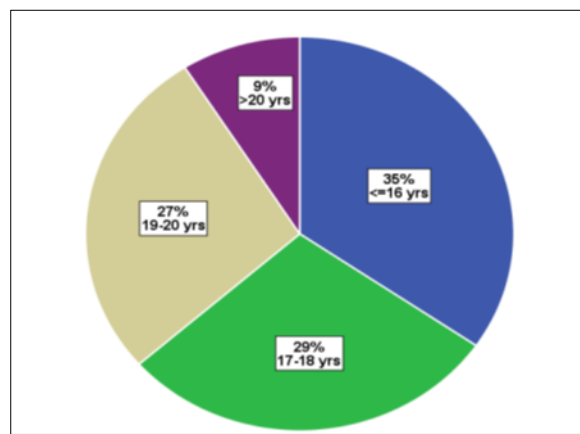


Figure 3 Age of first sexual intercourse of ASTU female students, 2021

From study respondents who had a partner, 122 (59 %) had sex with their regular non- spouse partner followed by 44 (21.4%) casual sexual contact and only 65 (30%) were used condom consistently with their current partners, the major 60 (40%) reason for inconsistent condom use was trusting their partners and 48 (32%) using other contraceptives. Respondents who had sexual relation, 111 (53 %) were received money or gift during their last sexual intercourse with their current partners and 67 (60%) were used money to buy items or cloths followed by 47 (42%) were used it for school materials (Table 3).

Table 3 Distribution of substance use and sexual behavior of ASTU female students, 2021

Variables	Frequency	Percent
Substance use (n=636)		
Drink alcohol	233	37
Chew kchat	110	17
Smoke shisha	82	13
Smoke cigarette	52	8
Other substance	5	1
Students who had a boy friend (n=636)		
No	410	64.5
Yes	226	35.5
Number of sexual partners in life time (n=214)		
One	78	36
Two to five	117	55
Above five	19	9
Current partner(s) they had (n=214)		
One	111	52
Two and more	103	48
Condom utilization (n=216)		
Inconsistent	151	70
Consistent	65	30
Reason for inconsistent use of condom (n=151)		
Trust partner	60	40
Using other contraceptive	48	32
Partner refused	25	17
Condom is not available	21	14
Under influence of drugs	17	11
Respondent refused	14	9
Never infected by HIV	5	3
During last time sex received money (n=208)		
Yes	111	53
No	97	47
Purpose of money or gift received (n=111)		
Used to buy items or cloths	67	60
Used it for school materials	47	42
Used it to support family	32	29
To buy cell phone others	28	25

From total respondents 73 (35%) had first sexual practice at the age of less than or equal to 16 years old and followed by 61 (29%) at the age in between 17 and 18 years old (Figure 3).

3.4 Magnitude of Transactional sex

Table 4 Distribution of transactional sex among ASTU female students, 2021

Variables	Frequency	Percent
Sexual relation with Older Men (n=636)		
No	536	84.3
Yes	100	15.7
Condom utilization with Older Men (n=100)		
Consistence use	32	32
Inconsistence use	68	68
Reason for not using condom (n=100)		
Condom not accessible	15	15
Trust partner	13	13
Do not like and trust condom	19	19
Partner doesn't trust condom	36	36
When taking drug/alcohol	17	17
Gift received from Older Men in last one year (n=100)		
Money	78	78
Cloths and Shoes	43	43
Cell phone	35	35
Materials needed for school	27	27
Cosmetics	24	24
Jewelries	23	23
University friend had Older Men (n=627)		
No	444	69.8
Yes	183	28.8
Sexual partner other than Older Men (n=92)		
Student	53	57.6
Employed youth	32	34.8
Both	7	7.6
Interest to have Older Men (n=589)		
Yes, have planning	138	21.7
Not at all	451	70.9
Do you negotiate partner to use condom (n=100)		
No	69	69
Yes	31	31
Reasons not negotiate after partner refused (n=69)		
To get more money	35	50.7

Afraid him	22	31.9
May angry	22	31.9
Economic status of Older Men (n=100)		
Rich	65	65
Medium	29	29
Poor	6	6

*Other (Divorced + Widowed)

From the total respondents, 100 (15.7%) have been involved in transactional sex while 138 (21.7%) have a plan to participate in transactional sex. 183 (28.8%) of the respondents had at least one peer friend who had a sexual relationship with older men. Among the respondents who were engaged in transactional sex, 92 (92%) had partner other than of concurrently. More than half 53 (57.6%) of student who are engaged in transactional sex had university student sexual partner. About 27 (29.3%) respondents' partners were aware of their girlfriends' sexual experience on transactional sex.

Among study respondents who were participating in transactional sex; only 32 (32%) use condom consistently and 12 (12%) never used at all and 38 (38%) of respondents do not like to use condom. Out of the 100 students who reported to have transactional sex, 69 (69%) did not negotiate when partner was not willing to use condom and the main reasons reported were to get more money, 30 (50.7%) and 19 (31.9%) had fear of partner may angry on her and afraid of partner respectively. About 65 (65%) of Older men that had a relation with ASTU female students were rich in economic status.

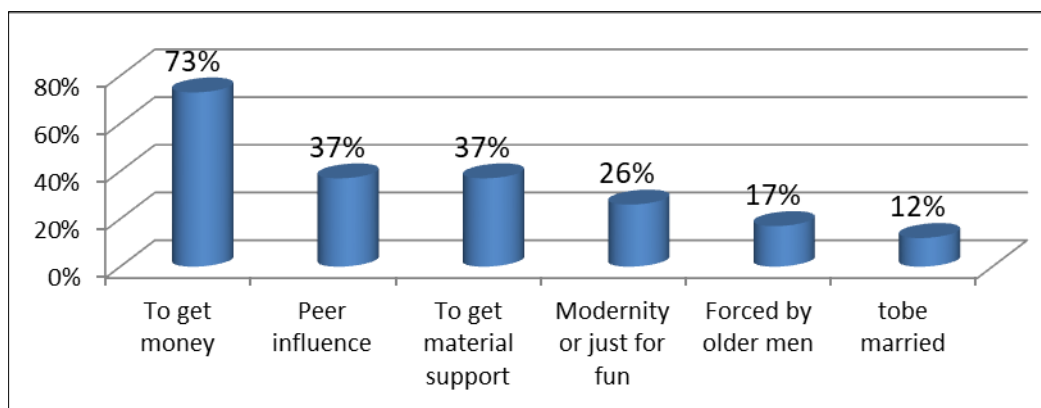


Figure 4 Reasons for participating in transactional sex of ASTU female students, 2021

3.5 Factors associated with Transactional Sex

The study showed that, the students in age group 25 to 29 were 24.8 (AOR, 24.8; 95% CI: 1.81, 339.5) times more likely to be engaged into transactional sex compared to counterparts group. The odds of having transactional sex experience among kcaht chewer is 4.24 (AOR, 4.24; 95% CI: 1.82, 9.91) times higher compared to non chewer. Having history of drinking alcohol with transactional sex practice is 5.03 (AOR, 5.03; 95% CI: 1.12, 22.7) times higher odds compared to never drink alcohol. The odds of having transactional sex experience among students who started first sexual intercourse at age 17-18 years is 75% (AOR, 0.25; 95% CI: 0.10, 0.65) lower compared to whom start first sex at early age of 16 years old. The odds of having transactional sex practice among who were used condom consistently with their current partner is 2.5 (AOR, 2.50; 95% CI: 1.13, 5.50) times higher compared to used condom inconsistently with their current partner. Peer influence on transactional sex practice had 2.98 (AOR, 2.98; 95% CI: 1.37, 6.50) times higher odds than compared to not having peer influence. The study participants who had poor knowledge on HIV 2.75 (AOR, 2.75; 95% CI: 1.25, 6.06) times more like to practice transactional sex compared to had good knowledge (Table 5).

Table 5 Factors associated with transactional sex among ASTU female students, April 2021

Variables	Transactional Sex		Crude OR (95% CI)	Adjusted OR (95% CI)
	Yes (%)	No (%)		
Age of the students				
15-19	14 (9%)	151 (92%)	1:00 (Reference)	1:00 (Reference)
20-24	69 (16%)	362 (84%)	2.06 (1.12;3.77)	1.0 (0.37;2.76)
25-29	17 (42%)	23 (58%)	7.97 (3.47;18.33)	24.8 (1.81;399.5)*
Parents Residence				
Urban	65 (14%)	389 (86%)	1:00 (Reference)	1:00 (Reference)
Rural	35 (19%)	147 (81%)	1.43 (0.91;2.24)	1.3 (0.53;3.15)
Monthly income of students				
<=300	38 (24%)	123 (76%)	1:00 (Reference)	1:00 (Reference)
301-600	23 (13%)	157 (87%)	0.47 (0.27;0.84)	0.35 (0.12; 1.02)
601-1000	24 (11%)	191 (89%)	0.41 (0.23;0.71)	0.29 (0.09;1.83)
1001-1500	6 (15%)	33 (85%)	0.59 (0.23;1.51)	0.39 (0.08;2.00)
>1500	9 (22%)	32 (78%)	0.91 (0.40;2.08)	0.64 (0.15;2.83)
Chew Kchat				
No	46 (9%)	480 (91%)	1:00 (Reference)	1:00 (Reference)
Yes	54 (49%)	56 (51%)	10.06 (6.22;16.28)	4.24 (1.81;9.91)**
Smoke Cigarette				
No	78 (13%)	506 (87%)	1:00 (Reference)	1:00 (Reference)
Yes	22 (42%)	30 (56%)	4.76 (2.61;8.66)	0.85 (0.17;4.12)
Drink Alcohol Currently				
No	32 (8%)	371 (92%)	1:00 (Reference)	1:00 (Reference)
Yes	68 (29%)	165 (71%)	4.78 (3.02;7.56)	0.25 (0.04;1.67)
Smoke Shisha				
No	65 (12%)	489 (88%)	1:00 (Reference)	1:00 (Reference)
Yes	35 (43%)	47 (57%)	5.60 (3.37;9.31)	1.2 (0.23;6.13)
History of drinking alcohol				
Never	26 (7%)	359 (93%)	1:00 (Reference)	1:00 (Reference)
Yes, sometimes	55 (23%)	149 (73%)	5.10 (3.08;8.44)	1.90 (0.84;4.27)
Yes, always	19 (41%)	27 (59%)	9.72 (4.78;19.75)	5.03 (1.12;22.70)*
Age of the student at first Sex				
<=16	50 (68%)	23 (32%)	1:00 (Reference)	1:00 (Reference)
17-18	25 (41%)	36 (59%)	0.32 (0.18; 0.65)	0.25 (0.10;0.65)**
19-20	20 (34%)	38 (66%)	0.24 (0.12;0.50)	0.14 (0.05;0.37)***
>20	3 (46%)	16 (54%)	0.09 (0.02;0.33)	0.04 (0.01;0.27)**

Condom Utilization				
Inconsistence use	63 (42%)	88 (58%)	1:00 (Reference)	1:00 (Reference)
Consistence use	35 (54%)	30 (46%)	1.63 (0.91;2.93)	2.50 (1.13;5.50)*
Gift received during last sex				
No	32 (33%)	65 (67%)	1:00 (Reference)	1:00 (Reference)
Yes	66 (59%)	45 (41%)	2.98 (1.69;5.26)	1.68 (0.77;3.70)
Peer influence				
No	26 (6%)	418 (94%)	1:00 (Reference)	1:00 (Reference)
Yes	74 (40%)	109 (60%)	10.92 (6.66;17.89)	2.98 (1.37;6.50)**
Knowledge on HIV				
Good	33 (13%)	228 (87%)	1:00 (Reference)	1:00 (Reference)
Poor	67 (18%)	308 (82%)	1.50 (0.96;2.36)	2.75 (1.25;6.06)*

P value < 0.05 (*) P value < 0.01 (**) P value < 0.001 (***)

4. Discussion

The result of this study shows that the magnitude of transactional sex is 15.7% among university student. The finding is more or less similar with study done in South Africa (14%) and lower prevalence than the study done in Ugandan University (25%). It is a little bit higher than study done in Hawasa preparatory school (11.5%). These differences and similarities may be due to culture, norm and value of different countries on frankly answering these taboo kinds of questions and probably due to the age difference of preparatory school and University [2, 13, 15].

Age of the students showed statistically significant association. This study is similar with the study done in Hawasa preparatory schools and Bahir Dar high school. This is may be due to the adaptation to the environment and surrounding town and may be due to physiological need of sexual intercourse as the age advanced and need to have more money [9, 15].

Chewing kchat showed significant associations with transactional sex. The result of this study is similar with the study done in Hawasa preparatory school, Bahir Dar high school, Bahir Dar private college and Dilla University. This similarity is probably due to the need of finance to fulfill their addiction of this substance like kchat [9, 14, 15, 18].

History of drinking alcohol also showed a significant association with transactional sex. This study is similar with national representative survey done in South Africa and study done in Hawasa preparatory school. This is may be due to alcohol consumer's needs money or invitation to have alcohol and may not able to control their desire; as a result they entered in to transactional sex to achieve their need of this bad habit or addiction [13, 18].

Age at first sexual intercourse had a significant association with transactional sex. This study is similar with study conducted in Haramaya University. This may due to the adaptation practicing sexual intercourse from early age develop confidence to have multiple sexual partner including transactional sex with older men [22].

Only 30% sexually active respondents were used condom consistently with current partners and 32% use condom consistently during transactional sex. The study is more or less similar with the study done in Dilla University (27%) and in Bahir Dar College (32.9%), higher than study done in Kenya University (14%), Ethiopian Demographic Health Survey (EDHS) 2016 (19%) and study done in Hawasa preparatory school (22.7%) and lower than study done during Ethiopian country progress report (54%), Jigjiga University (59.6%) and in Haramaya University (60%). Different studies indicate the proportion varies from place to place. Unsafe sex and inconsistent condom utilization among University students are factors with the negative outcome and this may lead to the hopeless of their future carrier [11, 14, 15, 22-26].

The use of condoms when having sex with current partner due to trust their partners and using other contraceptives and during transactional sex as a result of powerlessness to negotiate, sexual partner did not trust condom and under

the influence of drug or alcohol utilization is limited. This is may be due to the difference in the study area population, knowledge difference and taboo to responded exact answer.

Peer influence from girls of university of her best friend who had a sugar daddy partners had significant association with transactional sex. In addition to economic and socio cultural drivers different studies shows that, young female in higher educational institutions were participated in transactional sex with older men due to peer influences. This study is similar with study done in Bahir Dar and this is may be due to that peer influence is powerful that can bring behavioral change which will lead to transactional sex [9, 15, 22].

Knowledge on HIV showed statistically significant association with transactional sex. This study shows that, from total respondents 41% had a good knowledge on HIV which is greater than EDHS of 2016 (24%). On Ethiopian Country progress report on the HIV response shows that, good knowledge remains low on average, particularly among women 18% compared to men 31% and including for the young age groups. This is may be due to that University female students have access to information compared to other women [24, 27].

The main reason mentioned by female University students for engaging in transactional sex were gaining financial benefit, to get material benefit and support, peer pressure and modernity like need to have modern materials, modern cloths and luxury goods or just for fun. This study is similar with the study done in US, Madagascar, Malawi, Southern Malawi, Uganda, Tanzania, Ghana University, Hawasa preparatory school, Bahir Dar private college and Dilla University. These similarities are may be due to the scarcity of money to fulfill the need for modern [17]materials and substances like kchat and alcohol of students who were far apart from their family and the peer pressure had also a power to influence the behavior of students to ward substance use and transactional sex [4-6, 8, 9, 15, 18-20, 22, 28].

Limitation of the study

The following limitations are to be considered; sexual initiation before a marriage and more over transactional sex are a taboo, so that students may under report their sexual partnership with their current partner and older men. Since the study is cross sectional the direction of casual relationship between variables cannot determined.

5. Conclusion

A significant number of Adama Science and Technology University female students are practicing in transactional sex. Young women were actively seeking older partner who can provide them with luxuries goods and materials and financial support. Factors like Age of respondents, kchat chewing, alcohol drinking, age at first sex, condom utilization with current partner, peer influence and knowledge on HIV transmission shows significant association with transactional sex among University female students.

Recommendation

This study indicated that, significant numbers of University female students are practicing in transactional sex because of financial need, peer pressure, to get material support, modernity, partners force and to be married. Therefore, based on the main findings the following recommendations are forwarded:

- Ministry of Science and Technology and Ministry of Health should work together on health issues to make sure that the technology universities are capable of doing on healthy relation of female students.
- ASTU is expected to provide routine health education and youth friendly service for female students on alcoholism, bad fete of transactional sex, delaying age of first sexual practice, discuss problems among the peers and use positive role models to encourage students self confidence. This is very crucial to tackle the influence of peer to ward transactional sexual practice and HIV prevention.
- ASTU should design comprehensive prevention and control programs on HIV by increasing knowledge, promoting safe sex practice and consistent and correct condom utilization and avoiding risky sexual behaviors among female students.
- Adama city administration should take measure on Kchat sales and chewing shops, bed rooms, hotels and pensions found near and around university to reduce the accessibility; which contributes to the occurrences of risky sexual relations and transactional sex among university students.
- The government should create helping and supporting mechanism for those students who are or will engage into transactional sex because of shortage of money needed for life and education support.
- Further research to identify the impact of transactional sex and risk behaviors among female University students.

Compliance with ethical standards

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Disclosure of conflict of interest

The authors declare that they do not have any competing interest.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

Authors` contribution

All authors contributed in to concept preparation and design, acquisition of data, analysis and interpretation of data and writing the final manuscript.

References

- [1] UNAIDS. Review of data from People Living with HIV Stigma Index surveys. 2016.
- [2] Vikas Choudhry, Per-Olof Osterberg, Anne-Emmanuelle Ambresin, Emmanuel Kyagaba, Agardh A. Giving or Receiving Something for Sex: A Cross-Sectional Study of Transactional Sex among Ugandan University Students. PLOS ONE 2014; 9(11): e112431.
- [3] Catherine E, Oldenburg Amaya G, Perez-Brumer Sari L, Reisner Jason Mattie Till Baernighausen, Kenneth H. Mayer, et al. Global Burden of HIV among Men Who Engage in Transactional Sex: A Systematic Review and Meta-Analysis. PLOS ONE July 2014; 9(7): 1-12.
- [4] Mphatso Kamndaya, Kabiru C. What's driving young people to have transactional sex in Malawi's slums, International Aids Conference African Population and Health research center. 2016.
- [5] MacPherson EE, et al. Transactional sex and HIV: understanding the gendered structural drivers of HIV in fishing communities in Southern Malawi. Journal of the International AIDS Society 2012; 15(Suppl 1): 17364.
- [6] Joyce Wamoy, Daniel Wight, Mary Plummer, Gerry Hilary Mshana, Ross D. Transactional sex amongst young people in rural northern Tanzania: an ethnography of young women's motivations and negotiation. Reproductive Health. 2010; 7(2).
- [7] Joshua Amo-Adjei, Kumi-Kyereme A. Transactional sex among female university students in Ghana: Implications for HIV education. Health Education. 2014; 114(6): 473-86.
- [8] Baba-Djara, Monita. Vulnerability to HIV and prevention needs of female post-secondary students engaged in transactional sex in Kumasi, Ghana. Massachusetts, USA. 2013.
- [9] Yeshalem Mulugeta, Yemane Berhane. Factors associated with pre-marital sexual debut among unmarried high school female students in bahir Dar town, Ethiopia: cross-sectional study. Reproductive Health. 2014; 11(40): 1-7.
- [10] Deribew, Amare. Distribution of Most-at-risk Population Groups and Their Perceptions Towards HIV/AIDS: A Baseline Survey in Amhara Region for the Implementation of Mobile HIV Counseling and Testing. Bethesda, MD: Private Sector Program-Ethiopia, Abt Associates Inc. 2009.
- [11] Shiferaw Y, Alemu A, Assefa A, Tesfaye B, Gebremedhin E, MA. Perception of risk of HIV and sexual risk behavior among University students: Implication for planning interventions. BMC Res Notes. 2014; 7(1): 162.
- [12] Vikas Choudhry, Anne-Emmanuelle Ambresin, Viola Nilah Nyakato, Agardh A. Transactional sex and HIV risks evidence from a cross-sectional national survey among young people in Uganda. Global Health Action. 2015; 8:27249.

- [13] Sarah Magni, Nicola Christofides, Saul Johnson, Weiner R. Alcohol Use and Transactional Sex among Women in South Africa: Results from a Nationally Representative Survey. 2015; 10(12): 1-15. e0145326.
- [14] Zelalem Alamrew, Worku Awoke, Getachew Fikadie, Shimekaw B. Prevalence and correlates of exchanging sex for money (gift) among private college students in Bahir Dar city, Northwest Ethiopia. *Clinical Medicine Research*. 2013; 2(6): 126-34.
- [15] Mitiku L. Transactional sex with "Sugar Daddies" among female preparatory students: HIV risk assessment in Hawasa preparatory school, SNNP, Ethiopia [MPH thesis]. In press. 2011.
- [16] Kahsay T, Jejaw A, Mulatu K. Risky Sexual Behaviors and Associated Factors among Mizan, Bonga and Tepi Preparatory School Students, Southwestern, Ethiopia, 2016: A Cross Sectional Study. *J AIDS Clin Res Sex Transm Dis*. 2017; 4: 13.
- [17] Dingeta T, Olijira L, Assefa N. Patterns of Sexual risk behavior among undergraduate University students in Ethiopia. *Pan African Medical Journal*. 2012; 12(1).
- [18] Abayneh Unasho, Tadesse T. Assessment of potential risky sexual behaviors among Dilla University students: A survey study for enhancing self- protection from human immunodeficiency virus (HIV) infection. *Journal of AIDS and HIV Research* July. 2013; 5(7): 235-48.
- [19] Stoebenau et al. Consuming sex: the association between modern goods, lifestyles and sexual behaviour among youth in Madagascar. *Globalization and Health*. 2013; 9(13).
- [20] Bantebya, Grace Ochen, Eric Pereznieto, Paola Walker, David. Cross-generational and transactional sexual relations in Uganda: Income poverty as a risk factor for adolescents: Overseas Development Institute. UNESCO HIV and Health Education Clearinghouse (<https://hivhealthclearinghouse.unesco.org>). 2014.
- [21] ASTU. Annual total number of registered students. Adama: Adama Science and Technology Univeristy. 2018.
- [22] Tariku Dingeta, Lemessa Oljira, Assefa N. Patterns of sexual risk behavior among undergraduate university students in Ethiopia: a cross-sectional study *Pan African Medical Journal* 2012; 12(33).
- [23] Mary B, Adam and Mutungi. Sexual risk behavior among kenyan university students; *Psychology: Analysis and Measurement*. JSTOR. 2007; 39(2): 91-8.
- [24] Central Statistical Agency. Ethiopian Demographic and Health Survey. Addis Ababa, Ethiopia. 2016.
- [25] Azwihangwisi Helen, Mavhandu-Mudzusi, Asgedom Tt. The prevalence of risky sexual behaviours amongst undergraduate students in Jigjiga University, Ethiopia. *he alth s agesondheid*. 2016; 21: 179-86.
- [26] HAPCO. HIV narrative report. Addis Ababa: Federal Democratic Republic of Ethiopia. 2014.
- [27] HAPCO. HIV/AIDS in Ethiopia: An Epidemiologic synthesis, Technical Report. Addis Ababa. 2014.
- [28] Kristin L, Dunkle Gina M, Wingood Christina M, Camp, Ralph J. DiClemente. Economically Motivated Relationships and Transactional Sex Among Unmarried African American and White Women: Results from a U.S. National Telephone Survey. 1518 Clifton Rd. NE, Room 540, Atlanta, GA 30322; tel. 2010; 404-712-4702.