

## ORIGINAL RESEARCH ARTICLE

# Pre marriage sexual practices and associated factors among students at Woldia University, north eastern Ethiopia

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Silamlak Birhanu Abegaz

Woldia University, Faculty of Natural and Computational Sciences, Department of Biology

\*For Correspondence: Email: [silamlakb@wldu.edu.et](mailto:silamlakb@wldu.edu.et); Phone: +251920188696

### Abstract

Students are vulnerable to various cultural, social, economic and peer burdens that pushes them into pre marriage sexual practices. Thus, the present study aimed to assess pre marriage sexual practices and associated factors among students at Woldia University, North East Ethiopia. Institutional based cross-sectional survey was conducted from March 2021 to May 2021. The samples of 324 students was included in the study and selected through multistage sampling technique. A binary logistic regression analysis was used to check the relationship among the dependent and independent variables. Several factors such as being male [(AOR=2.593, 95%CI = (1.262-5.328)], not attending religious education [(AOR = 1.229, 95%CI = (3.581 – 9.528)], living together with parents [(AOR= 0.010, 95%CI = (0.003 - 0.040)] and friends or relatives [(AOR= 0.024, 95%CI = (0.006-0.094)] and inadequate pocket money [AOR = 11.321, 95%CI = (3.672-21.340)], low academic performance [AOR = 5.112, 95%CI = (10.130-24.469)], and no discussion about sex related issues with parents [AOR = 1.310,95%CI = (1.980-14.629)] showed significant associations with pre marriage sexual practices. Pre marriage sexual practice among students' was higher. Therefore, efforts have to be made on the family and students' behavioral change; Sex education sessions towards risky sexual behavior and reproductive health matters are imperative to students and the community at large. Further study should also be done to identify the prevalence and risk of pre marriage sexual intercourse among adolescents out of the school or in a larger community. (*Afr J Reprod Health 2022; 26[11]: 129-140*).

**Keywords:** Pre marriage sexual practice, STIs, HIV/AIDS, Ethiopia, Woldia university

### Résumé

Les étudiants sont vulnérables à divers fardeaux culturels, sociaux, économiques et liés aux pairs qui les poussent à adopter des pratiques sexuelles avant le mariage. Ainsi, la présente étude visait à évaluer les pratiques sexuelles avant le mariage et les facteurs associés chez les étudiants de l'Université de Woldia, dans le nord-est de l'Éthiopie. Une enquête transversale en établissement a été menée de mars 2021 à mai 2021. Les échantillons de 324 étudiants ont été inclus dans l'étude et sélectionnés selon une technique d'échantillonnage à plusieurs degrés. Une analyse de régression logistique binaire a été utilisée pour vérifier la relation entre les variables dépendantes et indépendantes. Plusieurs facteurs tels que le fait d'être un homme [(AOR = 2,593, 95 % IC = (1,262-5,328)], de ne pas suivre d'enseignement religieux [(AOR = 1,229, 95 % IC = (3,581 - 9,528)], de vivre avec ses parents [(AOR = 0,010, IC 95 % = (0,003 - 0,040)] et amis ou parents [(AOR = 0,024, IC 95 % = (0,006-0,094)] et argent de poche insuffisant [AOR = 11,321, IC 95 % = (3,672- 21.340)], de faibles performances scolaires [AOR = 5.112, IC à 95 % = (10.130-24.469)] et aucune discussion sur les problèmes liés au sexe avec les parents [AOR = 1.310, IC à 95 % = (1.980-14.629)] ont montré des associations significatives avec les pratiques sexuelles avant le mariage. La pratique sexuelle avant le mariage chez les étudiants était plus élevée. Par conséquent, des efforts doivent être faits sur le changement de comportement de la famille et des élèves ; Des séances d'éducation sexuelle sur les comportements sexuels à risque et les questions de santé reproductive sont impératives pour les étudiants et la communauté dans son ensemble. Une étude plus approfondie devrait également être menée pour identifier la prévalence et le risque de rapports sexuels avant le mariage chez les adolescents non scolarisés ou dans une communauté plus large. (*Afr J Reprod Health 2022; 26[11]: 129-140*).

**Mots-clés:** Pratique sexuelle avant le mariage, IST, VIH/SIDA, Ethiopie, Université Woldia

### Introduction

Sex is the most striking gift of nature to human being. Though, concerning pre marriage sex, both the teens and affianced twosomes possibly have

mutual inquiries “is it good to have pre marriage sex?” The credence of pre marriage sex was unlike from each other. Some of them reflect that it is ok and an ordinary process to have and others reflect that it is however, a deviant act<sup>1-2</sup>. A deviant act is

used here to refer to violation from societal norms and condemnations. Sex before marriage can also be defined as intended or unintended sexual contact between unmarried individuals<sup>3</sup>. However, according to the study of Umar<sup>2</sup> pre marriage sexual practice results in long-term social, biological and psychological consequences. Youngsters in the United Kingdom, Australia and the United States, have had sexual practices at about twenty five percent by the age of fifteen and fifty percent by the age of seventeen<sup>4</sup>. Data from the 2002 survey reported that 77% of Americans had practiced sex by the age of twenty, and of that percent, 75% had pre marriage sex<sup>5</sup>. The 2010/11 survey in Nepal reported that, 17% of Adolescents ever fall in love and this percent is greater amongst males<sup>1</sup>. The existence of pre marriage sex among youths in the university environment can be attributed to different factors. These factors include economic factors, social issues, peer pressure, the mass media influence, and search for academic advantage<sup>2</sup>. Teenage stage of human development is a significant phase of sexual maturity. During this time, teenagers often become active emotionally and sexually. That is due to biological changes, peer pressure and their tendency of refusing behavioral changes through various forms of rejections and intellectualism<sup>6</sup>. These massive and reproductive age groups of the population in Ethiopia are often susceptible to non-marital sexual behaviors and different forms of health problems such as, emotional disturbances, teenage pregnancy and motherhood, unsafe abortions, baby discarding and maternal death, a shorter interval between pregnancies, contact of HIV/AIDS and sexually transmitted infections (STIs)<sup>7-8</sup>. However, sexually transmitted infections and unwanted pregnancies are the most prominent effects of premarital sex<sup>8</sup>.

According to the study of Garcia-Moreno & Amin<sup>9</sup>, 16 million girls aged 15 to 19 get pregnant each year worldwide and 3 million of these gravities end up with unsafe abortions. In addition, several studies in Sub-Saharan African countries confirmed that there was greater and up surging level of pre marriage sexual activities among youngsters<sup>10</sup>. When students of diverse religious backgrounds and ethnicity, ages, nationalities, and academic status are brought together in a higher institutions environment;

occasions are present for sexual affiliations<sup>11-12</sup>. Pre marriage sex is risky because, most teens have no satisfactory consciousness regarding the risks of reproductive health, HIV/AIDS and sexually transmitted infection (STI), and psychosocial impacts<sup>13-14</sup>. A numbers of studies in Ethiopia also showed that 45% of the total birth happens among teenagers aged 15–19 years of which 24.4% of them had an unsolicited gravidity and 89% with antiquity of abortion<sup>14</sup>. Several reports showed that sexual fierceness is recurrently happening among adolescents in developing countries<sup>15</sup>. Another study conducted in Kenya showed that 40% sexually active young girls and 65% of boys were having more than one sexual partner and only a few of them were using condoms<sup>16</sup>. The factors such as age of students, gender, place of residence, educational level, peer pressure, having pocket money, substance use, drinking alcohol, watching pornographic movies, living arrangement, discussion with parents about sexual issues, having peers who had experienced sexual practice and fall in love were positively or negatively connected with youthful sexes<sup>17-19</sup>. Although, pre marriage sex is communally disagreeable in Ethiopia<sup>10</sup>, the meta-analysis conducted by Getaneh *et al*<sup>20</sup> has shown that the proportion of individuals having sexual intercourse before marriage is considerably high. This review revealed that nearly one third of youths practiced premarital sex in Ethiopia. Studies also showed that the proportion of students involved in pre-marriage sexual practices comprehended to be 60.9 % in Addis Ababa<sup>21</sup>. Other studies also have reported that 42.7% and 28.3 % incidence of earlier sexual performance in higher institutions of Ethiopia<sup>22, 12</sup>. The regulation of social values is the responsibility of the family first, then the extended social networks like educational institutions. Thus, this article was intended to assess the level of pre marriage sexual practice and associated factors among students at Woldia University, north eastern Ethiopia.

## Methods

### *Description of the study area*

Woldia University is one of the higher academic institutions in Ethiopia and found in north Wollo

Zone, Woldia town, which is placed 521 km north east of Addis Ababa. The university incorporates one institution, two colleges, and four faculties and one school. The total number of Woldia University regular students was 8,623, out of this 60% are males and the rest are females.

### **Study design, setting and population**

An institutional based cross-sectional survey was conducted from March 2021 to May 2021 at Woldia University, Ethiopia. All the students who are attending their education considered as the source population while randomly selected participants are the study populations. Furthermore, only those who were registered as a regular day-time and non-married students are included in the study whereas postgraduate, extension and married students were excluded.

### **Sample size determination**

To determine the sample size a single population proportion formula,  $n = \frac{Z^2 P(1-P)}{d^2}$  was used. P = 0.16 (16%) was used for participants expected to act properly towards premarital sexual practice by considering 95% confidence interval, marginal error (d) of 5% and 5% non-response rate.

Then, the calculated sample size would be:

$$n = \frac{Z^2 P(1-p)}{d^2} \text{ thus, } n = \frac{(1.96)^2 \times 0.16 \times 1-0.16}{0.05^2} =$$

206 + 5% Non-response rate and multiplying by 1.5 design effect<sup>23</sup> = 324, where

n = Number of sample size

Z = 95% confidence interval equals 1.96

P = 0.16 (16%), proportion of respondents expected to act properly towards pre marriage sexual practice.

d = 0.05 (5%), marginal error

### **Sampling procedure**

Multi stage sampling technique was employed to select study participants. There are two colleges, one institution, three faculties and one school in the university. Primarily, the number of students proportionally allocated to each of the selected institution, college, faculties, and school was identified. Then, the calculated sample size (n= 324) was selected from each selected college, institution, faculties and school through simple

random sampling system (lottery method). Finally, representative participants were sum up and used as samples. Students' registration number was taken as a sampling frame (Figure 1).

### **Data collection instruments**

Structured and standardized questionnaires were adapted from Arega *et al*<sup>17</sup> (2019) and used for data collection. The questionnaires included socio-demographic characters and other questions related to safe/unsafe pre marriage sexual practices (supplemental material 1).

Focus group discussion was carried out with a total of fifty students grouped in to four focus group discussions each containing 8-13 individuals. Discussants were from different religions, age, gender, classes and educational levels in social composition. Warm Issues such as risky sexual behavior and peer pressure impacts were discussed in each focus group session. The FGD was led by moderators who chair the discussion with the help of a check list prepared by the investigator for this particular study. In addition, interview processes were employed with department heads and college/faculty deans so as to complement the information raised during the discussion. Interview guides were used to grasp insights about pre marriage sexual practices.

### **Study variables**

Pre marriage sexual practices (Yes or No) was the dependent variable while socio-demographic characteristics of students are the independent variables.

### **Data analysis**

The quantitative data were analyzed by means of descriptive statistics. Data were first checked for completeness and then coded, entered and analyzed using Statistical Package for the Social Sciences (SPSS) version 20 software. Finally, a binary logistic regression analysis was used to check the relationship between dependent and independent variables. Independent variables in the bivariable logistic regression with a p-value < 0.25 were included in the multivariable logistic regression model. The qualitative data were recorded using tape recorder and the data were

translated to English and narrated by language experts and the analysis was carried out using NVivo 7 and the generated result were triangulated with the quantitative results.

### ***Operational definitions***

**Pre marriage sexual practice** - A penetrative penile or vaginal sexual intercourse performed before formal marriage life.

**Khat chewer:** Khat creates "dependence" in people, meaning it produces a continuing desire to keep using it. A student was considered a chewer if he/she chewed Khat prior to the current study.

**Pornographic films:** Sexual videos, which promote precarious sexual behaviors. A student was considered a pornographic film viewer if he/she answered yes to the question "have you ever watched pornographic films before".

**Safe/protected sex:** is sexual activity using devices such as condoms or any other to reduce the risk of transmitting or acquiring sexually transmitted infections (STIs), especially HIV.

**Unsafe/unprotected sex:** is sexual activity in which safety measures are not taken to reduce the risk of spreading sexually transmitted diseases, especially AIDS.

**Status of academic achievement:** Academic performance of students assessed in terms of cumulative grade point average (CGPA).

## **Results**

### ***Socio-demographic characteristics of the participants***

All the selected respondents filled the questionnaire, providing a response rate of 100%. This 100% response rate was achieved since the data collection facilitators were experienced and the concerns of pre marriage sexual practice didn't affect them. As a result, the participants were not failing to comply with the intended study. Furthermore, categorical variables related to socio demographic characteristics of the respondents were clearly indicated in Table 1.

### ***Pre marriage sexual practices of the study participants***

The proportion of pre marriage sexual practice in the study area was 167(51.5%). Most of the respondents, 65 (20.0%) reported that the main reason for first time premarital sexual practice was peer pressure. Besides; reports related to pre marriage practice were shown in Table 2.

### ***Reasons for practicing safe/unsafe sexes***

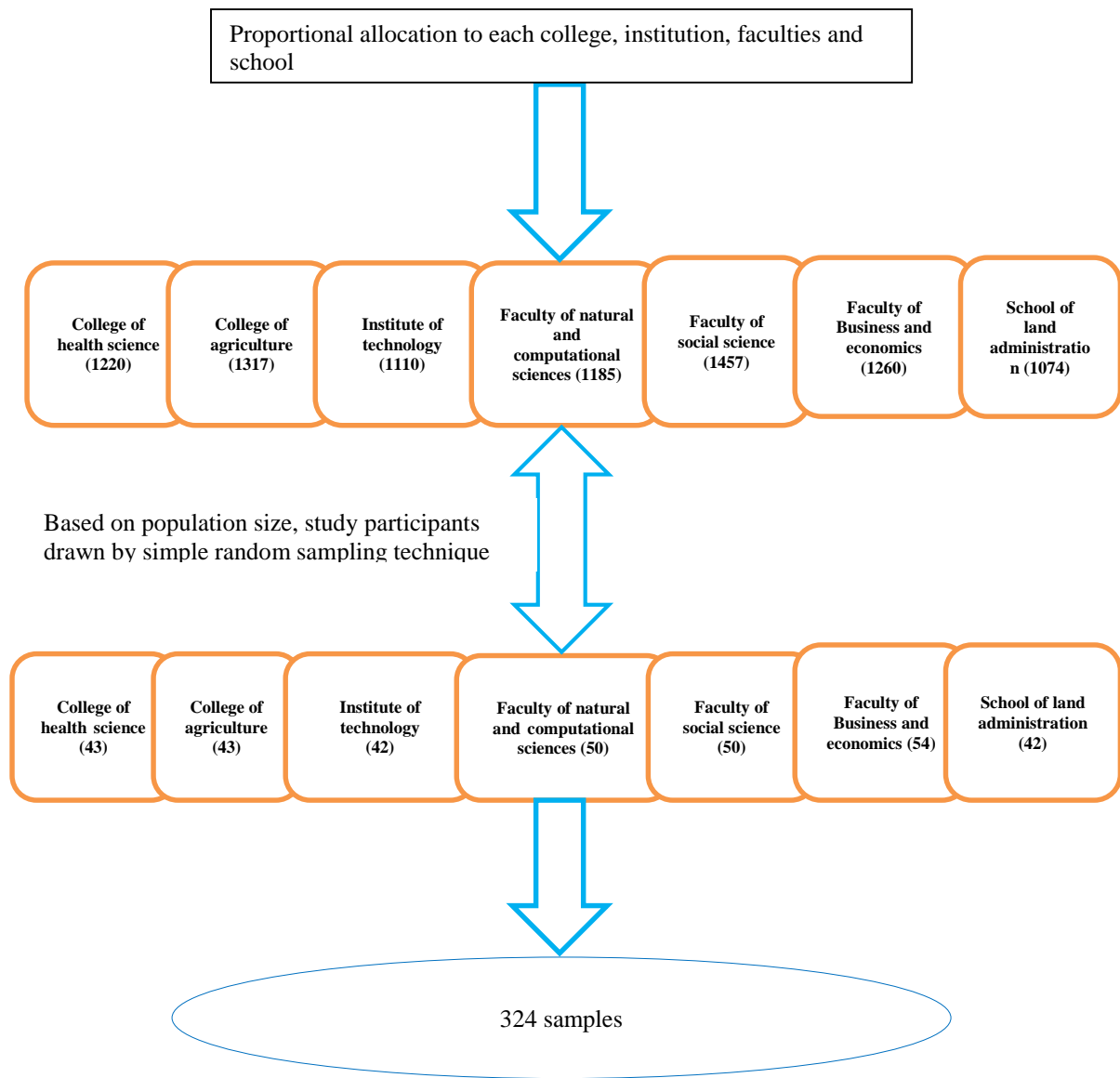
From 167 of the respondents, 67(20.7%) reported that they have had protected sexual practices. However, 100(30.8%) participants had practiced unsafe sex. The highest proportions of participants reported condom usage 20(6.2%), for safe sex and chewing Khat/chat 29(8.9%), for unsafe sex (Figure 2 and 3).

### ***Major factors associated with pre marriage sexual practices among students at Woldia university***

The binary logistic regression analyses showed the presence and strength of association of factors towards non marital sex. Moreover, major predictors linked with youthful sex were indicated in Table 3.

### ***Qualitative results***

According to the FGD and interviews with stakeholders the issue of premarital sexual practice among University students is fast growing and continuing social problem. The parents and family members are most powerful sources of social influence. Family as the first agent of socialization helps in shaping the life of an individual. The socialization given to one in the home has a big role to play in one's life in the tertiary institution. Some student involve in premarital sex because of lack of parental control and home training. Students come to University from different backgrounds and areas of the country and behave anyway they like. When the students stayed in campus for three or more years they enjoyed the freedom they never had with their parents. For example, spending time at night clubs, establishing sexual relationships that doesn't even last for long (only for academic purposes), economically less



**Figure 1:** Schematic representation of sampling procedures for regular students at Woldia University, Ethiopia, 2021  
**Source:** Output survey data, 2021

empowered students can sleep with someone who is rich in order to achieve good financial status and satisfy their needs. The discussants also reported that pornographic films are powerful agents for initiation of sex before marriage. Overall, a number of factors were identified as reasons for the existence of pre-marital sex at Woldia University. Moreover, bitter experiences are very common among females than male students because female students in some instances think of

sex as a way to show care, affection and love, with the possibility of marriage in future.

### Discussion

This institutional based cross-sectional study was carried out to assess the pre marriage sexual practices and associated factors among students at Woldia University, north eastern Ethiopia. Even though, there are very few studies about pre

**Table 1:** Socio-demographic characteristics of students at Woldia University, March –May 2021, (n=324)

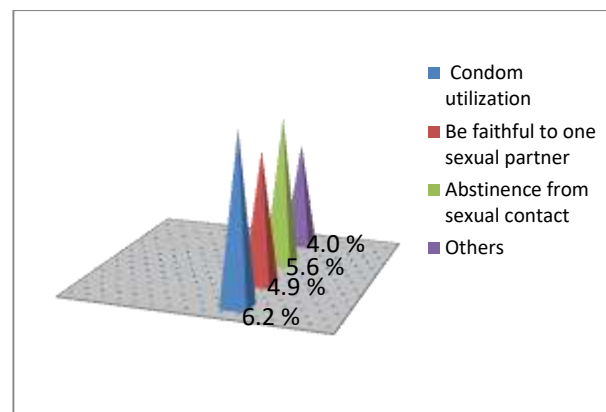
Variable	Category	Frequency	Percent
Gender	Male	177	54.6
	Female	147	45.4
Age	15-19	126	38.9
	20-25	135	41.7
	≥26	63	19.4
Religion	Orthodox	109	33.6
	Christianity		
	Muslim	104	32.1
	Protestant	93	28.7
	Others	18	5.6
Previous place of residence	Rural	170	52.5
	Urban	154	47.5
Year/ Batch of the student	1 <sup>st</sup> year	103	31.8
	2 <sup>nd</sup> year	83	25.6
	3 <sup>rd</sup> year	69	21.3
	≥4 <sup>th</sup> year	69	21.3
What is your status of academic achievement?	High achiever	103	31.8
	Medium achiever	100	30.9
	Low achiever	121	37.3
With whom do you live now?	Alone	102	31.5
	With parents	105	32.4
	With friends/relatives	117	36.1
Attending religious programs	Yes	157	48.5
	No	167	51.5
Do you have enough pocket money?	Yes	160	49.4
	No	164	50.6
Discussions about sex related issues with parents	Yes	147	45.4
	No	177	54.6

**Source:** Output from Survey data, 2021 marriage sexual

practices specifically among university students in various higher institutions of Ethiopia, the data in current study is relatively lower than the study conducted by Akibu *et al*<sup>12</sup> at Debre Birhan University, which was reported to be 54.3% and it was 59% in Kenya<sup>3</sup>. These discrepancies might be due to the previous residence of the students, age, and difference in the study area, sample size and others. Nevertheless, the result of the present study was comparatively higher than the study conducted at Debre-Markos by Nigussie *et al*<sup>10</sup> which were reported to be out of 536 respondents 47.6% of them practiced pre marriage sexual intercourse. In addition, the current finding was

also greater than the results obtained from, South Gonder and Haramaya University<sup>17,11</sup>. Still, the study was greater from Malawi (26%), and Nepal (39%) reports<sup>3</sup>. This difference might be due to deviations in life style of students from different background and accessibility to diverse factors which put them at risk of having sexual intercourses. The present study confirmed that most of the respondents engaged first time pre marriage sexual activity as a result of peer pressure 65(20.0%) (Table 2).

Similarly, the study conducted by Tololu *et al*<sup>24</sup> confirmed that peer influence and living unglued from their parents where family fright and control is nonexistent escalates pre marriage sexual practice. Despite, the data differences in several studies, the present study showed that using condoms (6.2%) and abstinence from sexual contact (5.6%) are the main reasons for no to practice unsafe sexes while chewing khat/chat (8.9%) and watching pornographic films (8.4%) shares the highest proportion for reasons of practicing unsafe sex respectively (Figure 2 and 3). Condom utilization is one of the most precautionary methods of STIs including HIV/AIDS and unwelcome gravidity. According to the study of Tololu *et al*<sup>24</sup>, 52.7% and 67.25 % of the study participants were used condoms during their first and most recent sexual activities respectively. However, feeling guilty to buy and unreachability were the stand problems for not using condom consistently. Total sexual abstinence is described as the most effective means of protection against gravidity, HIV contagion and other sexually transmitted infections (STIs)<sup>25</sup>.



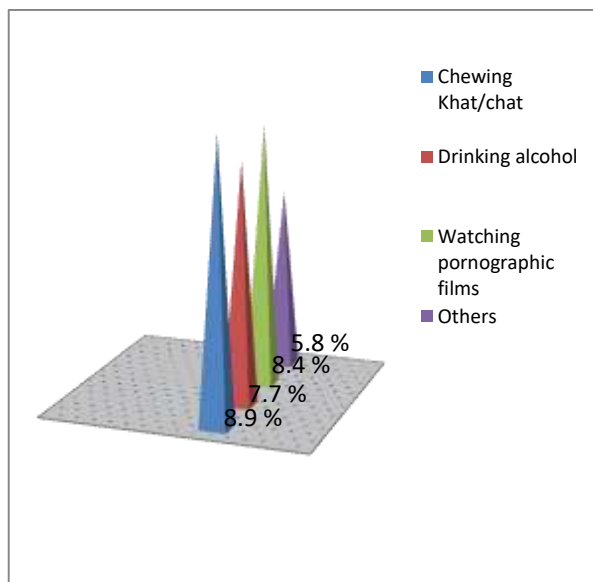
**Figure 2:** Methods used for practicing safe sex  
**Source:** Output from survey data, 2021

**Table 2:** Distribution of premarital sexual practice among students at Woldia University, March –May 2021

Variables	Category	Frequency	Percent
Ever practiced pre marriage sexes (n=324)	Yes	167	51.5
	No	157	48.5
How often you have had sexual contact in your life time? (n=167)	Some times	52	16.1
	Most of the time	68	20.9
	Always	35	10.8
	Do not remember	12	3.7
Have you ever practiced unsafe/unprotected sex? (n=167)	Yes	100	30.8
	No	67	20.7
Age at first sexual practice (n=167)	< 15 years	49	15.1
	15-18 years	61	18.8
	≥18 years	57	17.6
Main reasons for first time sex (n=167)	Forced/coerced	20	6.2
	Desire to have sex	32	9.9
	Peer pressure	65	20.0
	Drunk	43	13.3
	Material gain	7	2.1
Number of sexual partners (n=167)	One	58	17.9
	Two	69	21.3
	Three and above	40	12.3

Source: Output from survey data, 2021

However, several groups understand the concept of abstinence in a different way. In addition, faithful sex relations are accepted as flawless in terms of romantic prospects and HIV deterrence, but were considered impracticable if the sex relations had a power disparity<sup>26</sup>. According to the study of Akibu *et al*<sup>12</sup>, pornographic movies encourage non-normative sexual practices and students are subjected to diverse sexual behaviors.



**Figure 3:** Methods used for practicing unsafe sex  
Source: Output from survey data, 2021

Therefore, movies can affect students’ psychological and biological perspectives for sexual intercourse, hence more likely to perform premarital sexual practices. Of 650 participants, 92.8% of the sexually active adolescents had a history of watching romantic films<sup>3</sup>. The present result was in agreement with the finding in Shendi town<sup>6</sup> and northern Ethiopia<sup>27</sup>. In addition, when students chewed khat/chat, the ability of self-control declines and flawed decisions over sexual practice build up and may lead to youthful sexes. During the 2017 survey at Debre Birhan University, from a sample of 328, about 123 (20.4%) students were reported to be Khat users per year. Of these, 38 (30.9%) were regular users<sup>12</sup>. There are a number of factors associated with pre marriage sexual practice among Woldia University students. These factors were reported as predictors of pre marriage sexual practices among students (Table 3). The present study found that more of those students who didn’t attend religious education [AOR=1.229, 95% CI (3.581 – 9.528)], had pre marriage sex as compared to their counter parts. The possible reason could be that religious education makes attendants to be refrained from sex before marriage as spiritual institutions are impermissible for unintentional and risky sexual behavior. The current study was in accordance with the study done in Bahir Dar

city<sup>27</sup> and Mizan Aman<sup>28</sup>. The Bible convicts pre marriage sex or sex outside of mirage as wickedness in God's sight<sup>29</sup>. The Qur'an also counseled unmarried Muslims counter to premarital sex<sup>30</sup>. The communities and religious leaders voiced against destructive behaviors of different forms such as alcoholism, dishonesty, hoarding, and risky sexual acts and so on, but seldom enactment<sup>2</sup>. People who actively practice religion are less likely to engage in pre marriage

sex or at least go longer before having sex for the first time<sup>31</sup>. In relation to gender, male students [AOR=2.593, 95%CI (1.262 – 5.328)], have a strong relationship with pre marriage sexual intercourse than females. This could be due to the fact that the communal and cultural values given to males have more freedom in sexual engagement than females. Or simply males are more aggressive than females and can demonstrate their sentiments easily. The other concept stated was the public

**Table 3:** Factors associated with pre marriage sexual practice among students at Woldia University, March - May 2021, (n=324)

Variables	Ever practiced pre marriage sexual intercourse		OR(95%CI)			
	Yes n(%)	No n (%)	COR(95%CI)	p-value	AOR(95%CI)	P-value
<b>Gender</b>						
Male	114(35.2)	63(19.4)	3.209(2.034 – 5.064)	.000**	2.593(1.262 – 5.328)	.009*
Female	53(16.4)	94(29.0)	R		R	
<b>Age</b>						
15-19	65(20.1)	61(18.8)	0.394(0.204-0.760)	.005*	1.487(0.485- 4.557)	.488
20-25	56(17.3)	79(24.4)	0.262(0.136-0.503)	.000**	0.987(0.368 - 2.648)	.980
>26	46(14.2)	17(5.2)	R		R	
<b>Previous place of residence</b>						
Rural	70(21.6)	100(30.9)	0.411(0.263-0.644)	.000**	1.800(0.718 - 4.514)	.210
Urban	97(29.9)	57(17.6)	R		R	
<b>Attending religious education</b>						
Yes	105(32.4 )	52(16.0)	R		R	
No	62(19.1)	105(32.4)	0.292(0.185 – 0.462)	.000**	1.229(3.581 – 9.528)	.003*
<b>With whom do you live now?</b>						
Alone	71(21.9)	31(9.6)	R		R	
With parents	53(16.4)	52(16.0)	0.445(0.252-0.787)	.005*	0.010(0.003 - 0.040)	.000**
With friends/relatives	43(13.3)	74(22.8)	0.254(0.144-0.446)	.000**	0.024(0.006-0.094)	.000**
<b>Do you have enough pocket money?</b>						
Yes	88(27.2)	72(22.2)	R		R	
No	79(24.4)	85(26.2)	0.632(0.324-0.863)	.002*	11.321(3.672-21.340)	.000**
<b>What is your status of academic achievement</b>						
High achiever	58(17.9)	45(13.9)	R		R	
Medium achiever	52(16.0)	48(14.8)	0.035(0.046-0.792)	.026*	0.651(0.072-2.680)	.629
Low achiever	57(17.6)	64(19.8)	0.043(0.016-0.335)	.003*	5.112(10.130-24.469)	.006*
<b>Discussions about sex related issues with parents</b>						
Yes	70(21.6)	77(23.8)	R		R	
No	97(29.9)	80(24.7)	0.056(0.453-0.671)	.005*	1.310(1.980-14.629)	.032*

Statistically significant at: \* = P < 0.05; \*\*= P < 0.001; COR=crude odds ratio; AOR= adjusted odds ratio; CI= confidence interval, R = reference groups,

Source: Output from survey data, 2021

norms that endorse safeguard of girls' virginity onwards their marriage in the community could also be another scenario. Similarly, the reports in Yabello<sup>32</sup>, Bahir Dar<sup>27</sup> and Malaysia<sup>33</sup>, Debre-Markos secondary and preparatory school<sup>8</sup> were in line with the present study. This finding was also

in agreement with the study from Nekemte town<sup>34</sup> and Debre Birhan University<sup>12</sup>. According to the study of Shrestha<sup>1</sup> males showed significantly more sexual relationship than females. In the current study also, students who live with their parents [(AOR=0.010, 95%CI (0.003-0.040)] and

friends/close relatives [AOR=0.024, 95%CI (0.006-0.094)] respectively showed a less likely association and are passive participant of pre marriage sexual activities as compared to those living alone. The reason could be traditional parental sexual attitudes are more likely linked with lower risk, and a laissez-faire attitude linked with higher risk of pre marriage sexual activity. Or it could be due to the fact that peers in adolescences are a significant factor to affect personality and behavior fluctuations in one way or another. The other scenario might be parent-adolescent relationship satisfaction that is, the greater the satisfaction in relationships the less likely to be sexually active and to start pre marriage sexual intercourse and vice versa. The present study was consistent with the studies from Bahir Dar<sup>27</sup>, Maichew, Alamata, Gondar and Metema<sup>8</sup>. Similarly, Jaccard *et al*<sup>35</sup> found that maternal condemnation of pre marriage sex, and satisfaction of mother-child relationship, was significantly linked to abstinence from non-marital sexual activity, infrequent sexual intercourse and more consistent use of contraceptives among sexually active teenagers. Most researchers support the idea of an advanced level of parental monitoring which is connected to postponement of sexual contact<sup>36</sup>, smaller number of partners and better use of contraceptives<sup>37-39</sup>.

Enough pocket money was another predictor of pre marriage sexual activity. Students who have insufficient pocket money 11 times more associated with pre marriage sexual practices than those who have sufficient pocket money [AOR = 11.321, 95%CI = (3.672-21.340)]. The possible justification might be family support will not be enough to meet the demand of students other than school needs. Therefore, in most of the circumstances sleeping with sugar daddies that can pay huge money will be their preference. Most girls are keen to obtain big money and material goods accessible from these people. Similarly, parents who are economically poor or less empowered are often incapable of fulfilling basic needs of their daughters thus; girls are devoted to looking for monetary favors from somewhere else<sup>40</sup>. Additional researches showed the sources of getting such economic needs most likely from rich youngsters and adult men who in reverse ask for sexual desires from these girls<sup>40</sup>. This study

also found that those students who didn't discussed about sex related issues with their parents are more likely engaged in pre marriage sexual activities as compared to those who can openly discuss [AOR = 1.310, 95%CI = (1.980-14.629)]. This finding was supported by the qualitative result during the FGD. It says "We human beings are naturally too keen to see or exercise what we must not to do or banned to see..." Communication regarding sexuality is useful; however, a study done in Ethiopia reported that 70.3% of the sexually active females had very low communication with parents on sex-related concerns<sup>3</sup>. This is because parents may withhold conversations about sexuality because of fear of loading thoughts into their child's mind earlier than their sexual maturity or parents may relate sexuality talk with giving an indirect consent to explore sexual activities<sup>41</sup>. In Africa, most of our elderly leaders and parentages made it difficult to speak about sexual practices publicly, notwithstanding its apparent inferences to youths. This approach has influenced our teenagers to procure sexual information from social media and peers, predominantly in higher learning institutions. Education about sex and parent-child discussions concerning sexuality are connected with reduced sexual activity and regular contraceptive usage<sup>42-44</sup>. Other scholars also revealed that frequent discussions were quite correlated to postponed first sexual contact for sons, lessened the probability of being antenatal for daughters, and upturn contraceptive use<sup>45-47, 38</sup>. Contrary to this, some investigators also confirmed that greater levels of parent-child discussions upsurge the possibility of sexual activity among youths<sup>48-49</sup>. Other researchers showed no association between parent-teenage discussion and adolescent sexual behavior<sup>50-51</sup>. Academic achievement was the last but not the least factor shown to have a positive association towards pre marriage sexual practice. Students who have low academic performance were 5 times more likely practiced pre marriage sexual activities than those who have high academic performance [AOR = 5.112, 95%CI = (10.130-24.469)]. The discrepancies might be female students can rarely make sexual attachments for academic purposes, specially the low performers. Female students who are academically low

achievers become sexually appointed for any student who is excellent in academic status and committed to do his/her exams and assignments. Whereas top level students are comparatively busy with academic tasks because of greater aspirations to keep up their great accomplishment. The current study was supported by the study of Ekpenyong NS and Ekpenyong AS<sup>40</sup> which confirmed that some of the Lombroso's (poor but intelligent students) are often eager to the support of low achiever students; they occasionally take part in sex with them and collect coins. Only for the pursuit of academic benefit, female students sleep with male students as an expense for his writing examinations, assignments, copying notes etc. for her. Low academic achievement is one of the most significant risk factors for sexual contact among youngsters<sup>52,37</sup>. Despite the contributions to the current knowledge on pre marriage sexual practices, this study also has some limitations such as the study is being confined to Woldia University and small sample size could limit the reliability and generalizability of the findings at national and international level. Also being cross-sectional in design also limits the applicability of the findings in establishing causality between variables.

### **Ethics approval**

The study was approved by the institutional review board of Woldia University. Woldia University had no grant numbers. Permission was also granted from department head, the colleges, institution, and faculty and school dean offices to access students' archive. Written or oral consent from participants was obtained. The respondents' right to refuse or withdraw from participating was fully maintained and the information provided by each respondent was kept strictly confidential.

### **Conclusion**

Significant numbers of Woldia University students were engaged in sexual practice before marriage. Being male, not attending religious education, living together with parents, friends or relatives, inadequate pocket money, low academic performance and no discussion about sex related issues with parents were identified as major factors associated with pre marriage sex. Therefore,

efforts have to be made on the family and students' behavioral change; Sex education sessions towards risky sexual behavior and reproductive health matters are imperative to students and the community at large. Further study should also be done to identify the prevalence and risk of pre marriage sexual intercourse among adolescents out of the school or a larger community.

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### **Contributors**

SBA contributed to conceptualization of research idea, designing and data collection and analysis, data interpretation, searching resources, writing – original draft, review & editing, read and approve the final manuscript.

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### **Competing interest**

The author declares that he has no competing interests.

### **Data availability**

The data used to support the findings of this study are included within the article. All data are available upon reasonable request.

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