

### Knowledge, Health Consequences and Associated Risk Factors of Premarital Sexual Practice among University Students (15-24years) in Molyko Buea, Cameroon

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#### ABSTRACT

**Background:** Pre-marital sex is any sexual activities with an opposite sex partner or a same sex before he/she has started a marriage life. The term is usually used to refer the inter course before the legal age of marriage. In the course of experimentation, adolescents often in counter high risk situation, as contracting STD /HIV/AIDS and often exposed to an intended pregnancy and illicit abortions.

**Objective:** This study aimed to determine the prevalence of premarital sexual practice, knowledge, health consequences and associated risk factors among university students (15-24 years) leaving in Molyko Buea Cameroon.

**Materials/Methods:** A cross-sectional community based analytic study was carried among 562 University students from January 2023 to April 2023 in Molyko Buea Cameroon. A structured questionnaire was used to collect data from participants, Data was analyzed in SPSS version 27.

**Results:** Out of the 562 participants about 422 (75.1%) had an overall good knowledge on premarital sexual practice. As health consequence, 80 of them (14.8%) had been infected with STDS, 188(35.1%) had been medically screened for STDs with 66(35.1%) having a positive test result, 85(15.5%) had been pregnant, 39 participants that committed abortion 56(65.9%) drop out of school due to the pregnancy. Factors like alcohol consumers [ AOR= 2.071 (95%CI: 1.03-4.18, p=0.042)], shisha [AOR= 4.282 (95%CI: 1.584-11.578, p=0.004)], Multiple sexual partners [AOR = 12.723 (95%CI :3.49-46.35, p=0.001)], boyfriend/girlfriend [AOR= 2.312 (95%CI :1.12-4.76, p=0.023)], Age group 22 / 24 years [AOR=17.683 (95%CI: 6.11-51.19, p=0.001)]. Conclusion: Majority of the participants had an overall good knowledge on premarital sexual practice and affected vastly by STDs, pregnancies and abortion. Alcohol consumers, shisha smokers, boyfriend/girlfriend, age group 22-24 and multiple sex partners were significantly associated premarital sexual practices.

#### BACKGROUND

Premarital sex is sexual activity which is practiced by people before they are married. Premarital sex is considered a sin by a number of religions and also considered a moral issue which is taboo in many cultures[1]. Since the Sexual Revolution of the 1960s, it has become accepted by certain liberal movements, especially in Western countries. A 2014 Pew study on global morality found that premarital sex was considered particularly unacceptable in "Muslim Majority Countries", such as Malaysia, Jordan, Pakistan, and Egypt, each having over 90% disapproval, while people in Western European countries were the most accepting, with Spain, Germany, and France expressing less than 10% disapproval [1].

According to a 2001 UNICEF survey, in 10 out of 12 developed nations with available data, more than two-thirds of young people have had sexual intercourse while still in their teens. In Denmark, Finland, Germany, Iceland, Norway, the United Kingdom and the United States, the proportion is over 80%. In Australia, the United Kingdom and the United States, approximately 25% of 15-year-olds and 50% of 17-year-olds have sex [3]. In a 2005 Kaiser Family Foundation study of US teenagers, 29% of teens reported feeling pressure to have sex, 33% of sexually active teens reported "being in a relationship where they felt things were moving too fast sexually", and 24% had "done something sexual they didn't really want to do [2]. Several polls have indicated peer pressure as a factor in encouraging both girls and boys to have sex [4][5].

Adolescent childbearing and its harmful consequences for the health of both adolescent girls and the children is another dimension that has been strongly linked to premarital sexual intercourse that reflects broader forms of social and economic marginalization of girls [6]. Due to rapid globalization and availability of mass Medias, youths today have different exposures. University students in particular are suddenly exposed to a liberal environment and are free from parental control. Also, as they are in a phase where they are more prone to taking risks and exploring their sexuality, it may put them at risk of unwanted pregnancies and sexually transmitted diseases (STIs) [7]. Each student comes to the universities and colleges with his/her own socio-cultural background. Because of the multi ethnic and social nature of higher education institutions, they have the chance of learning malpractice in the process of daily association including risky sexual practices [8]. For the reason that students are relatively detached from familial supervision in the higher education centers, they have the opportunity to build their own way of life. Unfortunately, they are expose to risky sexual practices by their peers or adults in the campus [9]. Alcoholic beverages and unsafe sex contribute to the global burden of disease, furthermore, amplified through the linkages that have been shown to exist between alcohol, risky sexual behavior and the spread of sexually transmitted infections (STIs).

Sexual behavior accounts for a large number of opportunities for acquiring HIV infection, and alcohol use has been shown to increase high-risk sexual behavior [10]. A study in Maiduguri, Nigeria showed that students were 2.5 times more likely to engage in premarital sex than other community parts, Various drugs were used by students for enhancing sexual practice which made them drug addicts. In some cases, students take drugs after their relationship has broken to forget anxiety [11]. Similar finding was produced by Basel in Nepal, where one fifth of college youths had risky premarital sex where substance users had higher risky sex than non-users [12].

Substance misuse is the main reason for risky sexual intercourse which currently becoming a growing problem in Buea, Cameroon. Use of shisha, alcohol and cigarette were significantly associated with risky sexual activities [13]. Despite the fast growth of college population in Cameroon, little has been known about risky sexual behaviors of these sexually active groups. Even though a few academic studies were conducted, there are significant inter- and intra-regional variations on the result [14]. There are now many students enrolled in higher education centers, those students should be helped to set proper norms of behavior for our society and serve as role models for younger students, that college students are establishing and solidifying lifestyles and behaviors that will stay with them for the rest of their lives. It is imperative to identify the level of knowledge on premarital sex and its predisposing factors in order to design appropriate strategy to minimize health consequences.

### **Operational Definition of Terms**

**Premarital sex:** Premarital sex refers to sexual activity between two individuals who are not married to each other. It is an umbrella term encompassing various forms of sexual intimacy, including but not limited to sexual intercourse.

**Premarital sexual practice:** It is sexual activity with opposite sex partner before marriage.

**Risk factors:** something that increase the chance of developing a disease.

**Health Consequences:** Means any significant adverse experience, including those that may be either life-threatening or involve permanent or long-term injuries that are nonlife-threatening and that are temporary and reasonably reversible

**Health:** This is a state of complete physical, mental and social well-being and not merely the absence of disease and infirmity.

### **General objectives**

To determine the knowledge, health consequence and associated risk factors of premarital sexual practices among university students (15-24years) in Molyko Buea, Cameroon.

### **Specific objectives**

To assess the knowledge on premarital sexual practice among University students age (15-24 years) living in Molyko Buea.

To determine the health consequences of premarital sexual practice among University students age (15-24years) living in Molyko Buea.

To identify associated risk factors that exposes these University students age (15-24years) to premarital sexual practices.

## **MATERIALS AND METHODS**

### **Study Design**

The study employed a cross-sectional analytic community-based study design.

### **Study Site**

The study was conducted in Molyko health area Buea, Buea is the capital city of the southwest region of Cameroon. This city is located in Fako division on the eastern slope of mount Cameroon and has an estimated population of 300000 (at the 2013 census). Molyko health area is one of the biggest health areas in the Buea health district with an estimated population of (30000).

### **Study Population**

This study was carried out on university students aged (15-24 years) living in Molyko Buea during the period of these study.

### **Sample Size**

The sample size of the study was calculated using the Cochran formula which is a formula used to calculate sample size for cross-sectional studies  $n = \frac{Z^2 * p(1-p)}{e^2}$  Where N = the minimum sample size Z= a constant value corresponding to the confidence level of 95% (1.96), P= Expected prevalence (that can be obtained from studies or a pilot study conducted by the researchers), E= error margin or precision. The expected prevalence was to be to obtained from similar research, but due to the fact that we could not find any studies related to our study content, so we took our prevalence to be (P=50%) (0.5)  $n = \frac{(1.96)^2 * 0.5(1-0.5)}{(0.05)^2} = N = 385$

### **Inclusion and Exclusion criteria**

#### **Inclusion criteria**

University students between the age (15-24 years) leaving in Molyko Buea

University students between the age (15-24 years) that gave their consent during the period of data collection.

### **Exclusion criteria**

University students aged (15-24 years) who were critically ill at the time of data collection

University students (15-24 years) who were married.

### **Sampling Technique**

A multi-stage sampling technique was used.

A propulsive sampling technique was used to select the Molyko health area from the seven different health areas found in the Buea Health District, Molyko health area was selected because it fit best our inclusion criteria for the study. A simple random sampling technique was used to select seven major quarters of the Molyko community out of the ten major's quarters that constitute the Molyko community. With the used of balloting, the seven quarters were randomly picked from the ten major quarters in Molyko community. These seven quarters were Ndongo 1 & 2, Molyko new layout, Railway 1&2, malingo, UB 1& 2 & 3, wojoke, wojumba. Probability proportionate to size sampling technique was used to sample out the youths aged (15-24years) from the selected quarters to meet up the calculated sample size. The calculated values are been imputed in the table I above. Convenient sampling method was used to get the exact number of participants in each of the selected quarters based on the willingness of the university students to participate in the study

### **Data Collection Procedure**

The data collection tool used was a pretested structured questionnaire. The questionnaire was self- administered by the principal investigator and some other trained data collectors, a simple and nice approach was used to get to the participants were the objectives and purpose of the study was well explained to the participant and allow them to give their consent by signing the consent form for participants older (>18years) and assent form for participant younger (<18years). Once consents were obtained from participants, the data was then collected using the structured questionnaire. The data collection technique was a face-to-face interview approach.

### **Data Management**

All data collected using the kobo collect tool was exported to Microsoft excel 2016, were collected data was verified for completeness and ensured that all the data enter are properly filled, in case of incomplete data filled (questionnaires with up to 5% unfilled questions was rejected from the study). Data cleaning and coding was done, also questionnaires with missing data were given the code (999). The data was saved in different software and backup to an external flash drive.

### **Data Analysis**

The cleaned and coded data from the Microsoft excel 2016 was then transferred to SPSS v27 for statistical analysis. A univariate analysis was performed where descriptive statistics were run, the mean and standard deviation for continuous variables like aged and frequency distribution, charts, figures and tables were used to present the results of categorical variables like marital status, religion. Knowledge was analyzed and presented by means and frequencies item-by-item. Then, the overall mean knowledge score was computed and presented by mean (SD) and percentages. The right answers to the knowledge questions were taken to be 1 and the wrong answers were taken to be 0, the overall knowledge was gotten from the mean knowledge score =11.2 participants with score above the average mean knowledge score were taken to have an overall good knowledge with regards to premarital sexual practice and consequences,

participants with scores below the average mean knowledge score were taken to have poor knowledge on premarital sexual practice. Bi-variate logistic regression used to identify variables that crudely associated and variables with p - values less than or equal to 0.05 fitted to multiple logistic regression. Then association between dependent and independent variables was assessed using adjusted odds ratio (AOR), 95% CI and p value of < 0.05 considered statistically significant.

**Ethical Considerations**

The study was approved by the Ethics Committee of the Faculty of Health Sciences, University of Buea. An administrative clearance was obtained from the Regional Delegation of Public Health for the South West Region of Cameroon. Informed consent was obtained from all participants before their enrolment in the study.

**RESULTS**

**Socio-demographic characteristics of study participants**

The mean age of the participants was 20.8±2.2. Of the 562 participants who took part in the study (Table 1a), about 229 (40.7%) were within the age group 22-24 and 303 (53.9%) were females. A vast majority of the participants 501 (89.1%) came from a Christian background and 344 (61.2%) attended religious services occasionally. Most of the participants 549 (97.7) were single and about 206 (36.7%) were in their level 300 of study. About 358 (63.7%) attended a public university and 374 (66.5%) reported receiving allowance. Two hundred and fifty-three (45%) of the respondents’ fathers had attended at least tertiary education and 231 (41.1%) of their mothers had attended at least a tertiary education as well. About 394 (70.1%) reported that, their parents were resident in urban setting and 243 (43.2%) were living alone. Most of the participants interviewed 177 (31.49%) came from the North West region.

**Table 1a: Socio-demographic characteristics of study participants**

Variables	Categories	Frequency	Percentage (%)
Age Group (years)	15-18	79	14.1
	19-21	254	45.2
	22-24	229	40.7
	<b>Total</b>	<b>562</b>	<b>100.0</b>
Sex	Female	303	53.9
	Male	259	46.1
	<b>Total</b>	<b>562</b>	<b>100.0</b>
Religion	Christian	501	89.1
	Muslim	23	4.1
	Others	38	6.8
	<b>Total</b>	<b>562</b>	<b>100.0</b>
Religious service attendance	>= 3 times a week	111	19.8
	Daily	59	10.5
	Not at all	48	8.5
	Occasionally	344	61.2
	<b>Total</b>	<b>562</b>	<b>100.0</b>
Marital Status	Divorced	13	2.3
	Single	549	97.7
	<b>Total</b>	<b>562</b>	<b>100.0</b>



**Table 1b: Socio-demographic characteristics of study participants**

Variables	Categories	Frequency	Percentage (%)
University level	200	127	22.6
	300	206	36.7
	400	168	29.9
	500	31	5.5
	600	27	4.8
	700	3	0.5
	<b>Total</b>		<b>562</b>
University type	Public	358	63.7
	Private	204	36.3
	<b>Total</b>	<b>562</b>	<b>100.0</b>
Given allowance	No	188	33.5
	Yes	374	66.5
	<b>Total</b>	<b>562</b>	<b>100.0</b>
Father's Education	No formal Education	71	12.6
	Primary Education	89	15.8
	Secondary Education	149	26.5
	Tertiary	253	45.0
	<b>Total</b>	<b>562</b>	<b>100.0</b>
Mother's Education	No formal Education	88	15.7
	Primary Education	76	13.5
	Secondary Education	167	29.7
	Tertiary	231	41.1
	<b>Total</b>	<b>562</b>	<b>100.0</b>

**knowledge of study participants on premarital sex**

The knowledge of university students on premarital sex (Table 3), 538 (95.7%) were aware that, practicing premarital sex has health consequences and 548 (97.5%) were aware of sexually transmissible diseases. About 549 (97.7%) of the participants were aware that, practicing premarital sexual intercourse exposes one to STDs and 548 (97.5%) knew that, STIs can be prevented. Most of the students 548 (97.5%) were knowledgeable that, engaging into premarital sex can result to early pregnancy and 531 (94.5%) were aware that, premarital sexual practices are the leading cause of abortion now our days. A vast number 542 (96.4%) were aware of contraceptives methods that can be used to prevent pregnancy and 269 (47.9%) reported hospital/clinic as legal sources of contraceptives. About 545 (97.0%) of the participants understood that, the use of condoms and other contraceptives are good means to prevent STIs and pregnancy.

**Table 2a: Knowledge of study participants on premarital sex practices**

Variables	Categories	Frequency	Percentage(%)
Aware that practicing premarital sex has health consequences	No	24	4.3
	Yes	538	95.7
	<b>Total</b>	<b>562</b>	<b>100.0</b>
Health consequences cause by practicing premarital sex do you know?	STD like	280	52.0

		HIV/AIDS		
		Early pregnancy	60	11.2
		Abortion	180	33.5
		Headache	15	2.8
		Malaria	2	0.37
		Typhoid	1	0.18
		<b>Total</b>	<b>538</b>	<b>100.0</b>
Aware of STDs		No	14	2.5
		Yes	548	97.5
		<b>Total</b>	<b>562</b>	<b>100.0</b>
Some of the STDs you know		HIV/AIDS	290	52.9
		Gonorrhea	150	27.4
		Chlamydia	68	12.4
		High blood	40	7.3
		<b>Total</b>	<b>548</b>	<b>100.0</b>
Aware that practicing premarital sex exposes one to STIs		No	13	2.3
		Yes	549	97.7
		<b>Total</b>	<b>562</b>	<b>100.0</b>
Aware that STIs can be prevented		No	14	2.5
		Yes	548	97.5
		<b>Total</b>	<b>562</b>	<b>100.0</b>
Aware that practicing premarital sex can let to early pregnancy		No	14	2.5
		Yes	548	97.5
		<b>Total</b>	<b>562</b>	<b>100.0</b>

**Table 2b: Knowledge of study participants on premarital sex practices**

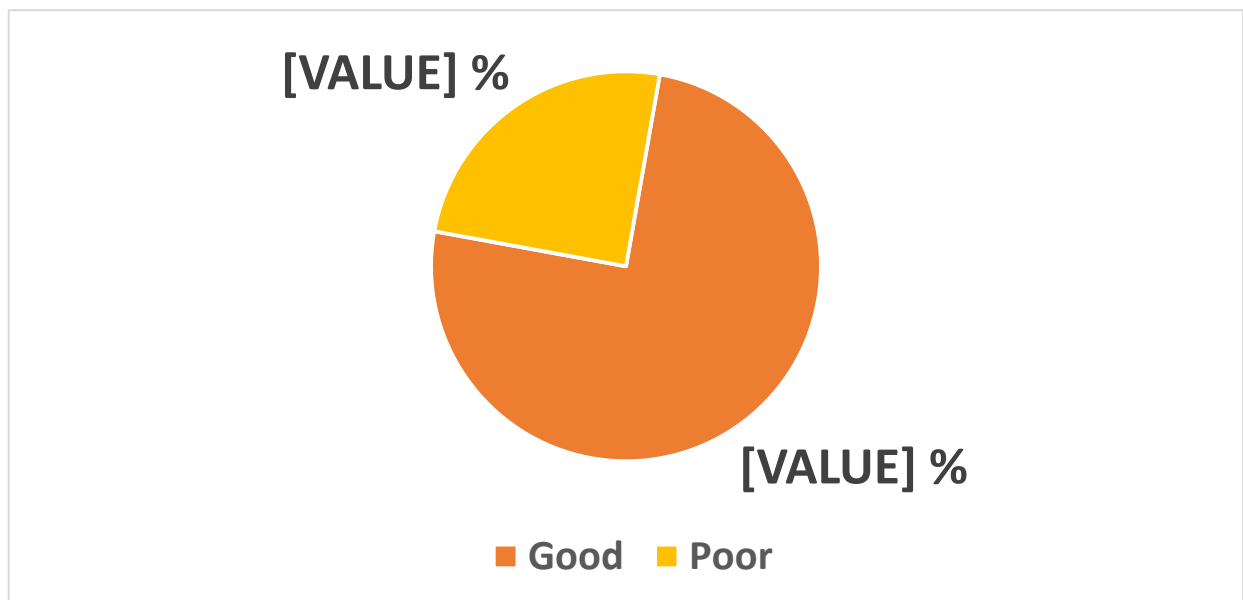
Variables	Category	Frequency	Percentage(%)
know that premarital sexual practices are the leading cause of abortion now our days	No	31	5.5
	Yes	531	94.5
	<b>Total</b>	<b>562</b>	<b>100.0</b>
Participants is aware of contraceptive methods use to prevent pregnancy	No	20	3.6
	Yes	542	96.4
	<b>Total</b>	<b>562</b>	<b>100.0</b>
Sources of contraceptives	I do not know	24	4.3
	Local stores	95	16.9

	The hospital/Clinic	269	47.9
	The pharmacy	174	31.0
	<b>Total</b>	<b>562</b>	<b>100.0</b>
Aware condoms and other contraceptives good for prevention of STDs	No	17	3.0
	Yes	545	97.0
	<b>Total</b>	<b>562</b>	<b>100.0</b>

**MEAN KNOWLEDGE SCORE =11.2**

### Overall knowledge of students on premarital sexual practices

The overall knowledge of the university students who were recruited for the study as shown in (Figure1), out of the 562 participants about 422 (75.1%) had an overall good knowledge on premarital sexual practice.



**Figure 1: Overall knowledge of university students on premarital sexual intercourse.**

### Health consequences of premarital sexual practices

The consequences of premarital sexual practices of the respondents (Table 3), 482 (85.8%) had not been infected through sexual intercourse and 80 of them (14.8%) had been infected with STDS such as Gonorrhoea (25%), Genital itches (26.3%) follow by Chlamydia, Syphilis Other disease with lesser percentages. Of the 562 participants roll in this study 188(35.1%) had been medically screened for the above sexually transmitted diseases with 66(35.1%) having a positive test result and a most of them had a negative result 120 (63.8%) of them. 476 (84.7%) had not been pregnant as they practice premarital sexual intercourse while 85(15.5%) had been pregnant before due to practicing premarital sex, of the 85 that were pregnant 39 (45.88%) committed abortion, 37 (43.52%) put to birth and 9(10.59%) had miscarriage as seen in . Of the 39 participants that committed abortion, 19(48.7%) admitted they had some site effects such after the abortion process such as vaginal bleeding 9(69.3%), 6(31.6%) had stomach cramps. Out of the 39 students who did abortion and reported sources of their abortion services, about 16 (43.2%) reported getting abortion services from private hospitals. 56(65.9%) of the 85 that were pregnant confirm that they had to drop out of school due to the pregnancy. Most 520 (92.5%)



had not used drugs to enhance sexual ability and 42(7.5%) accepted that they take drugs to enhance their sexual abilities, out of the 42 (7.5%) that took drugs 15 (35.7%) says it makes them more power during sexual activities also 10 (23.8%) said they suffer from headache as a result of the drugs.401 (71.4%) reported not being depressed as a result of premarital sex practice. The majority 382 (68.0%) said they do not feel guilty practicing premarital sex and almost half 286 (50.9%) believed that, premarital sex could lead to family support loss. About 284 (50.5%) of the students reported that, premarital sex could lead to loss of self-respect and 292 (52.0%) are for the fact that, premarital sex negatively affects academic performance.

**Table 3: Health Consequences of premarital sex practices among the study participants**

Variable	Category	Frequency	Percentage(%)
Ever infected through sexual intercourse	No	482	85.8
	Yes	80	14.2
	<b>Total</b>	<b>562</b>	<b>100.0</b>
Infections infected with	Gonorrhea	20	25
	Genital itches	21	26.3
	Chlamydia	10	12.5
	Syphilis	8	10
	Others	12	15
	<b>Total</b>	<b>9</b>	<b>11.3</b>
	<b>80</b>	<b>100.0</b>	
Medically screen/tested for any of the above infection or infections	No	374	63.8
	Yes	188	35.1
	<b>Total</b>	<b>562</b>	<b>100.0</b>
Results of the test	Negative	120	63.8
	Positive	66	35.1
	I don't know	2	1.1
	<b>Total</b>	<b>188</b>	<b>100.0</b>
Pregnant due to premarital sexual practice	No	476	84.6
	Yes	85	15.3
	<b>Total</b>	<b>562</b>	<b>100.0</b>
Pregnancy outcome	Aborted	39	45.88
	Gave birth	37	43.52
	Got Miscarriage	9	10.59
	<b>Total</b>	<b>85</b>	<b>100.0</b>

<b>Variables</b>	<b>Category</b>	<b>Frequency</b>	<b>Percentages (%)</b>
Any side effect after the abortion	No	20	51.28
	Yes	19	48.7
Which of the effects below did you experiences	<b>Total</b>	<b>39</b>	<b>100.0</b>
	Vaginal Bleeding	9	69.3
	Period-type Pains	3	15.8
	stomach cramps	6	31.6
Abortion services from.	Loss of womb	2	10.5
	<b>Total</b>	<b>19</b>	<b>100.0</b>
	Private hospital	16	43.2
	Government hospital	10	32.4
Drop out of school due to the pregnant	Self-administer pills	8	16.2
	traditional means	5	8.1
Use drugs to enhance sexual ability	<b>Total</b>	<b>39</b>	<b>100.0</b>
	Yes	56	65.9
	No	29	34.1
	<b>Total</b>	<b>85</b>	<b>100</b>
	No	520	92.5
	Yes	42	7.5
	<b>Total</b>	<b>562</b>	<b>100.0</b>
<b>Variables</b>	<b>Categories</b>	<b>Frequency</b>	<b>Percentages (%)</b>
Effect of the drugs on them	Powerful	15	35.7
	Headaches	10	23.8
	Blurred vision	8	19.0
	Back pains	5	11.9
	Violent	4	9.5

	<b>Total</b>	<b>42</b>	<b>100.0</b>
Feel depress involving in premarital sex	No	401	71.4
	Yes	161	28.6
	<b>Total</b>	<b>562</b>	<b>100.0</b>
Felt guilty after practicing premarital sex	No	382	68.0
	Yes	180	32.0
	<b>Total</b>	<b>562</b>	<b>100.0</b>
Premarital sex causes family support loses	No	286	50.9
	Yes	276	49.1
	<b>Total</b>	<b>562</b>	<b>100.0</b>
Premarital sex cause loss of self-respect	No	284	50.5
	Yes	278	49.5
	<b>Total</b>	<b>562</b>	<b>100.0</b>
Premarital sex affects academic performance	No	292	52.0
	Yes	270	48.0
	<b>Total</b>	<b>562</b>	<b>100.0</b>

### Factors associated to premarital sexual practice among the study participants

In the multivariate analysis using the multiple logistic regression model, about six factors were found associated to premarital sexual practices (Table 5). The factors found significantly associated in the multivariate analysis were age group, having a boy/girlfriend, number of sexual partners, alcohol consumer and shisha smoker. The odds of someone within the age group 22-24 involving in premarital sexual practices was 17.683 (95%CI: 6.11-51.19,  $p < 0.001$ ) times higher than the odds of a student with the age group 15-18 involving in premarital sexual practices. The odds of a student who had a boy/girlfriend involving in premarital sexual practices was 2.312 (1.12-4.76,  $p = 0.023$ ) times more than the odds of those who did not have a boy/girlfriend. Students who had multiple sexual partners involving in premarital sexual practices were 12.723 (3.49-46.35,  $p < 0.001$ ) more likely to practices premarital sex than those who had no sexual partner. The odds of those who were shisha smokers practicing premarital sex was 4.282 (1.584-11.578,  $p = 0.004$ ) times greater than the odds of those who were not shisha smokers. The odds of those who believed that premarital sexual practices could negatively affect academic performance involving in premarital sexual practice was 0.372 (95%CI: 0.18-0.79,  $p = 0.010$ ) times less than the odds of those who did not think that premarital sexual intercourse could affect academic performance.

**Table 5: Factors associated to premarital sex practice among study participants**

Practiced Premarital sex					
Variable	Category	N (%)	COR (95%CI)	AOR (95%CI)	p-value
Age group (years)	22-24	229 (40.7)	6.518 (3.64-11.66)	17.683 (6.11-51.19)	<b>&lt;0.001</b>
	19-21	254 (45.2)	1.514 (0.91-2.51)	3.170 (1.26-7.95)	<b>0.014</b>
	15-18	79 (14.1)	1	1	

Have a boy/girl friend	Yes	353 (62.8)	13.981 (9.06- 21.57)	2.312 (1.12- 4.76)	<b>0.023</b>
	No	209 (37.2)	1	1	
Watching pornography	Yes	185 (32.9)	3.193 (2.05- 4.97)	1.945 (0.93- 4.07)	<b>0.001</b>
	No	377 (67.1)	1	1	
Sexual partners	Multiple	53 (9.4)	41.543 (14.24- 121.23)	12.723 (3.49- 46.35)	<b>&lt;0.001</b>
	One	268 (47.7)	61.528 (32.75- 115.59)	53.957 (46.35- 128.41)	<b>&lt;0.001</b>
	None	202 (35.9)	1	1	
Alcohol consumer	Yes	363 (64.6)	9.901(6.5 6-14.94)	2.071 (1.03- 4.18)	<b>0.042</b>
	No	199 (35.4)	1	1	
Shisha smoker	Yes	152 (27.0)	7.621 (4.09- 14.19)	4.282 (1.584- 11.578)	<b>0.004</b>
	No	410 (73.0)	1	1	
PMSP causes low academic performance	Yes	270 (48.0)	0.618 (0.43- 0.89)	0.372 (0.18- 0.79)	<b>0.010</b>
	No	292 (52.0)	1	1	

## Discussion

Youths have an increased interest in the opposite sex, highly concerned with physical and sexual attractiveness, and are frequently changing relationships. Besides, they are risk-takers who are more likely to make decisions about the future without adequately considering the consequence. The findings of this study were discussed according to the four different objectives of the study.

### Knowledge on premarital sexual practice and consequences

The result of the knowledge on premarital sex among the university students shows that, 538 (95.7%) were aware that, practicing premarital sex has health consequences and 548 (97.5%) were aware of sexually transmissible diseases. About 549 (97.7%) of the participants were aware that, practicing premarital sexual intercourse exposes one to STDs and 548 (97.5%) knew that, STIs can be prevented. Most of the students 548 (97.5%) were knowledgeable that, engaging into premarital sex can result to early pregnancy and 531 (94.5%) were aware that, premarital sexual practices are the leading cause of abortion now our days. A vast number 542 (96.4%) were aware of contraceptives methods that can be used to prevent pregnancy and 269 (47.9%) reported hospital/clinic as legal sources of contraceptives. About 545 (97.0%) of the participants

understood that, the use of condoms and other contraceptives are good means to prevent STIs and pregnancy. The participants of this current study had good knowledge of sex related aspects like the different method of contraceptive, STDs and were aware on the consequence of practicing premarital sex. This study gave us an overall knowledge of the university students who were recruited for the study, (75.1%) had an overall good knowledge on premarital sexual practice. And a similar study conducted on Knowledge and Attitudes Toward Premarital Sex Behavior Students of SMAN “X” Jakarta, reviews showed that the majority of respondents have knowledge about sexuality, particularly premarital sex, is good (61.3%) [15]. The reasons for this high percentage with respects to the knowledge could be justify by the fact that our study participants were current ongoing tertiary students and might had learned lots about sex education from their primary level of education to their current level and also a reason for the good knowledge in the study above because they worked with students.

### **Health Consequences of premarital sex**

In this study, lots different variables were found to be health consequences of premarital sexual practice among these university students. 80 of them (14.8%) had been infected with STDS such as Gonorrhea (25%), Genital itches (26.3%) follow by Chlamydia, Syphilis Other disease with lesser percentages. Of the 562 participants roll in this study 188(35.1%) had been medically screened for the above sexually transmitted diseases with 66(35.1%) having a positive test result. 85(15.5%) had been pregnant before due to practicing premarital sex, of the 85 that were pregnant 39 (45.88%) committed abortion, 37 (43.52%) put to birth and 9(10.59%) had miscarriage, Of the 39 participants that committed abortion, 19(48.7%) admitted they had some site effects such after the abortion process such as virginal bleeding 9(69.3%), 6(31.6%) had stomach cramps. 56(65.9%) of the 85 that were pregnant confirm that they had to drop out of school due to the pregnancy. 42(7.5%) accepted that they take drugs to enhance their sexual abilities, out of the 42 (7.5%) that took drugs 15 (35.7%) says it makes them more power during sexual activities also 10 (23.8%) said they suffer from headache as a result of the drugs. And almost half 286 (50.9%) believed that, premarital sex could lead to family support loss. About 284 (50.5%) of the students reported that, premarital sex could lead to loss of self-respect. These findings are similar to Studies on the consequences of premarital sexual practices among regular undergraduate female students in Ambo university in central Ethiopia [16]. The finding is said to be similar because they two studies focused on university students and regardless of the location, students of the tertiary education are said to have similar behaviors when it comes to sexual activities irrespective of the country. Contradicting to our findings in this study, a study carried out among female students in Aletawondo high school Ethiopia [98] had their result different from the results of study thus might be due to the differences in the study participants as they worked with high school students.

### **Risk factors associated with premarital sexual practice**

The findings of this study reviewed lots of factors that were statistically significant with premarital sexual practice both analyses done at the bivariate and multivariate level. in the bivariate analysis using simple logistic regression, age group, university level, university type, father education, living with both parents, watching pornography were significantly associated to premarital sex practices. Also, number of sexual partners, dressing mood, alcohol consumption, shisha and cigarette smoking were also significantly associated to premarital sexual practices and this finding is in line with studies of [19 20 21], which shows that the findings of this study is consistent with other studies because all students worked with same participants who are university students and investigated similar variables. We will be focusing more on the factors that were significant at the multivariate analysis level because the cofounder’s effect has been made minimal at the multivariate level. The factors found significantly associated in the

multivariate analysis were age group, having a boy/girlfriend, number of sexual partners, alcohol consumer and shisha smoker. The odds of someone within the age group 22-24 involving in premarital sexual practices was 17.683 (95%CI: 6.11-51.19,  $p < 0.001$ ) times higher than the odds of a student with the age group 15-18 involving in premarital sexual practices. This is in line with study [19]. Both studies worked on the same aged group of participation. In this study the odds of a student who had a boy/girlfriend involving in premarital sexual practices was 2.312 (1.12-4.76,  $p = 0.023$ ) times more than the odds of those who did not have a boy/girlfriend and this finding is in line with the study [17]. Because same variable was investigated among similar population. This study also reveals that Students who had multiple sexual partners involving in premarital sexual practices were 12.723 (3.49-46.35,  $p < 0.001$ ) more likely to practice premarital sex than those who had no sexual partner. Similar significant was found in the study [96]. The study also reveals that the odds of those who were shisha smokers and Alcohol consumer practicing premarital sex was 4.282 (1.584-11.578,  $p = 0.004$ ) and (2.071 1.03-4.18,  $p = 0.042$ ) times greater than the odds of those who were not shisha smokers and alcohol consumers. And this study is in line with other local and international studies [18 19 20 21 16]. Similar study participants were recruited in these studies The odds of those who believed that premarital sexual practices could negatively affect academic performance involving in premarital sexual practice was 0.372 (95%CI: 0.18-0.79,  $p = 0.010$ ) times less than the odds of those who did not think that premarital sexual intercourse could affect academic performance.

### **Conclusion**

This study reveals that a majority of the university students had good knowledge with matters related to sex education and these university students suffer from health consequences like unwanted pregnancy, abortion with side effects such as (vaginal bleeding, stomach cramps, loss of womb), sexual transmitted diseases (HIV/AIDS, Gonorrhea, genital itches, syphilis) drug use with effects like (Headache, blur vision, violence) and social consequences like loss of family support, loss of self-respect. Factors like Alcohol consumers, shisha smokers, persons in age group 22-24, persons having boyfriend/girlfriend, persons having multiple sexual partners were seen in this study to be strongly associated with practicing premarital sex among these students.

### **Recommendations.**

1. National sexual education and reproductive health behavior change programs would have paramount importance in reducing the occurrence of premarital sex and ultimately, its consequences. Moreover, such intervention should give due emphasis to youths who use substance, have internet access, own mobile phone and who are from pastoral regions. Indeed, adequate sexual counseling should be given about premarital sexual intercourse when youths come for HIV test. As well students should be aware about high-risk sexual behavior through school-based clubs and other accessible Medias.
2. The government, cooperate organizations and other concerned individuals should create opportunities for youth training on the implications of social vices, especially premarital sex.
3. All educational institutions should engage the services of guidance counselors to counsel the youths on the adverse effects of premarital sex and the benefits of waiting for the right time to involve in sexual activities.
4. Religious institutions should incorporate sex education in their sermons and teachings as this will help educate the vulnerable youths

### **Limitation of study**

Since this study touches very sensitive and very personal issue, social desirability responding cannot be ruled out. Also, the cross-sectional nature of the study makes it impossible to draw



inferences about the direction of relationship between the dependent and independent variables. Moreover, further analytical study design should be done to determine the prevalence and risk of premarital sexual intercourse among out-school youths.

### **Strength of the study**

High response rate, large sample size, sampling procedure and analysis methods utilized were appropriate to the study and considered as the strength of the study.

The study provides useful information that will inform policy makers to design strategies that will help minimize the health consequences that comes out from practicing premarital sex among these youths.

### **Author contribution**

ADA designed the study, supervised the data-collection and enrolment of the respondents, participated in the data analysis, interpretation of results and drafted the manuscript. TN designed, supervised the study, did the statistical analysis and proofread the manuscript. SWG co-supervised the work and edited the manuscript.

All authors participated in the review of the manuscript and approved the final version.

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