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# Prevalence and Associated Factors of Risky Sexual Behaviours Among in-School Youth in Lalibela Town, North Wollo Zone, Amhara Regional Sate, Ethiopia: A Cross-Sectional Study Design

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**Abstract:** Adolescence and youth are the periods for great opportunity and hope in human life. They are the periods between childhood and adulthood where by the young people are expected to undergo major physical, emotional, and social developments, with significant impact on their sexual and reproductive health. This study was aimed at assessing the magnitude and factors associated with risky sexual behaviours (RSB) among in-school youth (15-24) in Lalibela Town, Ethiopia. A cross-sectional institution based quantitative survey was conducted in June, 2014. A systematic random sampling technique was used to get the required sample size of 1362 study participants. A structured pretested and self-administered questionnaire was used to collect the data. The univariate statistical analysis was used to describe the variables using tables and graphs. The multivariable logistic regression model was developed and factors associated with risky sexual behaviour were identified. A total of 1332 in-school youth (ISY) with a 97.8% response rate were included in the study. Five hundred fourteen (38.6%) in-school youth reported that they have initiated sexual intercourse. The mean age at the first sexual experience with standard deviation (Mean  $\pm$  (SD)) was  $15.25 \pm (1.85)$  years, Median = 15 years, Ranges from 11 to 24 years. Among sexually active in-school youth, the prevalence of risky sexual behaviour, students reported at least one of the three risky behaviours which consist of engaging sexual debut before age 18 years, having multiple sexual partners and not consistently using condom was 46.5% (239/514). The odds of having risky sexual behaviour among urban resident ISY was 1.65 times higher than their counterpart (AOR 1.65; 95%CI: 1.12 – 2.43, Pvalue<0.001). The odds of risky sexual behaviour among ISY who had peer influence in sexual debut was 2 folds higher (AOR 2.06; 95%CI: 1.37 – 3.12, P-value<0.001) than their counterpart. The odds of the risky sexual behaviour of youth who never chew khat was less by 49% (AOR 0.51; 95%CI: 0.32 – 0.80, P-value<0.001) than their counterpart or khat chewers. A large proportion of in-school youth engaged in the risky sexual behaviour. Permanent residence, peer pressure, and substance uses are factors associated with risky sexual behaviours among in-school youths. Therefore, improving access to sexual and reproductive health for in-school youth is highly recommended. All concerned partners should work hard to create awareness about the identified factors and consequences of risky sexual behaviours among in school youth in the study area.

Keywords: Lalibela, In-School Youth, Substance Use, Risky Sexual Behaviour, Ethiopia

# 1. Background

According to the third national report of Population Census Commission of the Federal Democratic Republic of Ethiopia, one-fifth of its population consists of the age category between 15 to 24 years [1]. Adolescence and youth

are the period of great opportunity and hope, whereby young people undergo major physical, emotional, and social development, with significant impact on their sexual and reproductive health [2].

A large proportion of young people in the world are sexually active, which exposes them to the risk of acquiring Sexually

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Transmitted Infections (STIs), including HIV and puts them at risk for unplanned pregnancies [3]. Due to the fact that there are efforts to address the health of young and vulnerable population group aged 15 – 24 years. After multiple decades of intervention to mitigate the major adolescent and youth health problem including HIV|AIDS and other sexual transmitted infections risky sexual behaviour remains the major health concern in Ethiopia [4, 5].

The reproductive health needs of young people are believed to be directly affected by socio-economic and cultural contexts [6 - 10]. Youth is the time of initiating sexual experimentation and may include risky behaviour [3]. Many studies documented age of first sexual debut as below 18 years. Young people who initiate sex at an early age face a higher risk of becoming pregnant or contracting STI than young people who delay initiation of sexual activity [11-13]. Some studies documented that youth has knowledge of risky sexual behaviour like having multiple partners and inconsistent condom use. However, they still lack experience in decision making compared to adults [8]. Engaging in sexual debut in exchange for money or as a gift with much older partners increases the risk of acquiring STIs [14]. In addition, there is evidence that a linear increase of substances uses like khat, alcohol and cigarette with a higher prevalence of having risky sexual behaviours [15, 16]. Therefore, these substances are at the top of the list among the predictors of risky sexual behaviours.

The subjects of this study were in-school youth (15-24) years old) who were attending their high schools, preparatory schools, and technical and vocational education training (TVET) centres. Students in the stated levels are considered knowledgeable about the mode of transmission and prevention of HIV|AIDS and other STIs. So they are expected to protect themselves better and have a safer sexual behaviour than their counterparts, who were out-of-school youths [3]. In addition, the national adolescent youth reproductive health strategy (2006-2015) endorses the health need this special group can be addressed through accelerated, flexible and participatory activities from all committed partners [4]. However, the effect of the intervention was not evaluated in the study area.

Therefore, the aim of this study was, to assess the magnitude of risky sexual behaviours and associated factors that predispose in-school youths in Lalibela town. As the town is a tourist attraction place that brings people around the globe together the probability of being exposed for risky sexual behaviours related health problems especially among young population segment is unquestionable. Therefore, the findings of this study were believed to play significant role in the process of designing proper health information system for action and initiate youth friendly services to address the risky sexual behaviours by different sectors and actors.

# 2. Operational Definition

Youth: According to the United Nations youth is defined as persons between 15-24 years of age [3]. The Ethiopian

National Youth Policy defines youth as persons aged from 15 to 29 years [17]. For this study, since most of secondary school students fall in the age category 15 – 24 years, we adopted the United Nations' recommended age category.

Risky Sexual Behaviours (RSBs): is defined as the practice of at least one of the three outcome variables: initiating sexual debut before the age of 18, inconsistent condom use and/or having multiple sexual partners.

Substance use: refers to the use of substances such as alcohol, khat leaves (Catha edulis) and tobacco.

# 3. Methods

#### 3.1. Study Settings and Design

A cross-sectional institution based quantitative study was conducted in Lalibela town of North Wollo Administrative Zone, at Amhara Region in Ethiopia. Lalibela is located at 12°01'54"N; and 39°02'28"E with an altitude of 2480 meters above sea level. The town is located 700 km and 300 km away from Addis Ababa and Bahir Dar, respectively. The town also serves as the centre of the neighbouring districts for different social, economic and cultural services, including the preparatory school and Technical and Vocational Education and Training (TVET) centre [29].

In terms of infrastructure development, there is one hospital, one health centre, three primary schools, one high school, one preparatory school and one TVET. In the academic year 2013/14, there were 3502 students (i.e. 1553 (44.3%) males and 1949 (55.6%) females) enrolled in the above three levels of education. Of these, 2253(64.3%) were in high school, 759 (21.6%) were in preparatory and 490 (13.9%) were in TVET in the year 2013/14[18].

### 3.2. Sample Size

The sample size of this study was determined using single population proportion formula [19]. Stat Cal interface of Epi info Software, version 3.5.2 (CDC, Atlanta, GA, USA) was used to calculate the sample size. The assumption used in calculating the sample size was a proportion of 34.1% of inschool youth who ever had risky sexual behaviour (i.e. sex without a condom), was documented in study Behavioural Survey Surveillance (BSS) II [20]. D = 4% states the marginal error and CI = 95% is the confidence interval of certainty ( $\alpha = 0.05$ ). Based on this assumption the actual sample size for the study computed was determined, using single population proportion formula as indicated below. In addition, a non-response rate of 10% was added. Accordingly the calculated sample was 592. But, through reviewing literature we found the proportion of students who were sexually active is 42.9% [21]. Hence, to increase the precision of the point estimates and power of the study the investigators decided to use a correction factor 2.3 (1/0.429). Therefore, the total estimated sample size was 1,362.

## 3.3. Sampling

First students were stratified based on their level of

schooling. Then, a systematic random sampling technique was applied to select individuals in each year of study from the roster in their respective grades and levels. Students (males and females) from each level of schooling were selected proportionally to their population size. Then, after calculating the sampling interval and choosing the 1<sup>st</sup> number randomly every third student was selected.

#### 3.4. Data Collection Tools and Procedures

We adopted the data collection tool developed by Cleland, Ingham and Stone that is recommended by WHO in sexual and reproductive health studies [22]. The structured questionnaire was originally developed in English, then translated into the local language, Amharic, and translated back to English to ensure consistency of the tool. The tool was pretested among fifty grade ten students in Bahir Dar City. At the end of pretesting, a discussion with participants

was arranged and facilitated by the principal investigator. Notes were taken on any language barriers and difficulties that were found in the questionnaire. Based on the findings changes were made on the instruments accordingly. The responses of in school youth were scored and the internal consistence of the tool was determined using Cronbach's Alpha. The scoring process consists of engage in sexual debut '1' otherwise '0'; age of first sexual debut '1' for<18 years old, otherwise '0' for no sexual debut and age greater or equal to 18 years; Multiple sexual partner '1' for having two or more sexual partners in life otherwise '0' for no sexual debut or having faithful sexual relationship with single partner; and inconsistent condom use score '1' otherwise no sexual debut and consistent condom use '0'. The result shows that the Cronbach's alpha ranges from 0.632 to 0.854 which show the scale is reliable (*Table 1*).

Table 1. Reliability test result of the survey tool, June 2014.

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Ser No	Variables	Respondents	Mean ± (SD)	Alpha Reliability
1	Engage in Sexual debut	50	$0.32 \pm (0.47)$	0.632
2	Age of first sexual debut	50	$0.24 \pm (0.43)$	0.683
3	Multiple Sexual partner	50	$0.12 \pm (0.32)$	0.854
4	Inconsistent Condom Use	50	$0.16 \pm (0.37)$	0.833

Before the questionnaire was self-administered, the students were provided with an orientation in their respective classrooms about issues related to the purpose of the study, the selection criteria and confidentiality. To complete the task of data collection, ten data collectors (5 males and 5 females) who achieved a Bachelor degree were recruited and attended a two days long training on basic principles of behavioural research techniques, objective of the research, content of each question and response, and ethical issues. One of the researchers ensures the quality of the whole data collection process through supervision. The selected students responded to the questionnaire in separate rooms. The data were collected in June 2014.

#### 3.5. Measurements

The dependent variable was risky sexual behaviour; in the regression analysis it was coded '1' while '0' was coded for safe sexual behaviour. The independent variables were age, sex, educational status, permanent residence, pocket money (income), living arrangements, peer pressure, khat chewing and drinking alcohol.

#### 3.6. Data Analysis

The data were double entered into Microsoft Access 2010 office facility (Microsoft Corporation, Redmond, WA) and cleaned by the investigator for improved accuracy. The cleaned data were exported and analysed using Statistical Packages for Social Sciences research (SPSS IBM version 20) [23]. The magnitude of risky sexual behaviour was determined using descriptive statistics frequencies and percentages.

Univariate logistic regression analysis was made by

considering the dependent variable risky sexual behaviour and several independent variables. Crude Odds Ratios (CORs) with 95% confidence intervals were estimated to assess the association between each independent variable and risky sexual behaviour together with the p-value. Independent t test was employed to identify difference in age of sexual debut by sex. A multivariate logistical regression model was developed after identifying candidate variables with Wald statistic P<0.25 [24]. Adjusted Odds Ratios (AORs) with 95% confidence intervals were estimated to determine the strength of association, and a p-value<0.05 was set to declare statistical significance in multivariable analysis.

#### 3.7. Ethical Considerations

Ethical clearance was obtained from Institutional Review Board (IRB) of University of Gondar and Addis Continental Institute of Public Health. Permission to conduct the data collection was obtained from Amhara Regional State Education Bureau and an official letter of support was written to the respective schools. In addition, the recommendation of Ethiopian Federal Ministry of Health (EFMOH) minimum of age of consent i.e.15 years and above are considers [25]. Written informed consent was obtained from each participant. Participants were informed that they have full right to discontinue or refuse participation in the study. In order to protect confidentiality, personal identifiers were not included on the written questionnaires. The investigators responsible for keeping and protecting the confidentiality of the information provided by all the respondents. After receiving their consent, the data were collected by self-administering the questionnaire.

# 4. Results

A total of 1,362 in-school youth participated in the study, of which 1332 properly completed, making the response rate 97.8 per cent. A little higher than half (55.3%) of the

participants were females. The mean age and standard deviation of the study participants were  $17.39 \pm 1.63$  years. The majority (96.1%) of the respondents were Orthodox Christians followed by (2.2%) Muslim. Almost half of the respondents' 727 (54.6%) live in urban areas (*Table 2*).

Table 2. Socio demographic characteristics of study participants (in-school youth) n = 1,332, Lalibela town, June 2014.

	Male		Female	Female		Total (M+F)	
Characteristics	Freq n = 595	% (44.7%)	Freq n = 737	% (55.3%)	Freq n = 1332	% (100%)	
Age of respondents	-		•				
15-18 Years	241	40.5	464	62.9	705	52.9	
19-24 Years	354	59.5	273	37.1	627	47.1	
Total	595	100.0	737	100.0	1332	100.00	
Mean $\pm$ (SD) = 17.39 $\pm$ (1.63) years,	Median = 17 Years, R	ange $(24-15) = 9$ year	nrs				
Religion							
Orthodox Christian	573	96.30	703	95.39	1276	95.80	
Muslim	15	2.52	14	1.90	29	2.18	
Protestant	3	0.50	11	1.49	14	1.05	
Catholic	3	0.50	4	0.54	7	0.53	
Other	1	0.17	1	0.14	2	0.15	
Total	595	100.0	737	100.0	1332	100.00	
Educational status of respondents							
Grade 9	202	33.95	295	40.03	497	37.30	
Grade 10	158	26.55	200	27.14	358	26.90	
Grade 11	66	11.09	83	11.26	149	11.20	
Grade 12	76	12.77	61	8.28	137	10.30	
TVET	93	15.63	98	13.30	191	14.30	
Total	595	100.0	737	100.0	1332	100.00	
Educational status of mother's#							
Unable to read and write	264	45.13	324	44.57	588	44.80	
Read and write	180	30.77	237	32.60	417	31.80	
Elementary school (Grade 1-8)	51	8.72	77	10.59	128	9.80	
High school (Grade 9 - 12)	39	6.67	49	6.74	88	6.70	
Tertiary (College graduate)	51	8.72	40	5.50	91	6.90	
Total	585	100.0	727	100.0	1312	100.00	
Educational status of father's							
Unable to read and write	155	26.14	186	25.51	341	25.80	
Read and write	250	42.16	313	42.94	563	42.60	
Elementary school (Grade 1-8)	74	12.48	84	11.52	158	12.00	
High school (Grade 9 - 12)	51	8.60	84	11.52	135	10.20	
Tertiary (College graduate)	63	10.62	62	8.50	125	9.50	
Total	593	100.0	729	100.0	1322	100.00	
Permanent Address							
Urban	337	56.64	390	52.92	727	54.60	
Rural	258	43.36	347	47.08	605	45.40	
Total	595	100.0	737	100.0	1332	100.00	

NB: # n = 1312

#### 4.1. Sexual Experiences

A little higher than one-third of in-school youth (38.6%) were sexually active. The mean age at first sexual debut with standard deviation was  $15.25 \pm 1.84$  years. In addition, the magnitude of early sexual debut was 39.5% (203/514). Moreover, among the sexually active female students, a little less than half (41.2%) have risky sexual behaviour. Similarly, close to half of the male counterparts (52.2%) also have at least one risky sexual encounter. On average, female inschool youth in Lalibela town began having sexual intercourse earlier (mean =  $15.01 \pm 1.54$  with standard error 0.094) than their male counterpart (Mean =  $15.51 \pm 2.10$  with standard error 0.131). This difference was statistically significant at (t (512) = 3.10, P = 0.002).

# 4.2. Reasons for Sexual Debut and Magnitude of Risky Sexual Behaviour

The main reasons reported for the first sexual debut were related to personal desire 328(63.8%), followed by peer pressure 165(32.1%), influence of substance use 53(10.3%), coercion 54(10.5%), to earn money 43(8.4%), and partners' interest 137(26.7%). Close to half of the ISY 235(45.7%) had their first sexual experience with their girl/boyfriends, 119(23.2%) with a casual partner, 124(24.1%) with their spouse, 30(5.8%) with a tourist and the rest 6(1.2%) suggested others. In terms of the lifetime (total) number of sexual partners among in-school youth in Lalibela town, 292(56.8%) reported one sexual partner, 101 (19.6%) reported two sexual partners, 121(23.5%) reported three or more sexual partners. Similar, the prevalence of inconsistent

Condom use were reported by 236 (45.9%) sexually active ISY. The most cited reason for not consistently using a condom were the shame of buying condoms 35.6% (84/236), followed by trusting a partner 29.6% (70/236), a partner's refusal 25.0%(59/236) and not available 9.8% (23/236). Among sexually active in-school youth, the prevalence of risky sexual behaviour, students reported at least one of the three risky behaviours which consist of engaging sexual debut before age 18 years old, having multiple sexual partners and not consistently using condom was 46.5% (239/514).

#### 4.3. Substance Use Behaviour

The study revealed that among the respondents, 190 (14.3%) of them used to chew khat. In connection with the

chewing patterns, 153 (80.5%) of the respondents chewed 2-3 times a month, 31 (16.3%) of them chewed 2-3 times a week and 6 (3.1%) chewed on a daily basis.

Almost half 651 (48.8%) of the in-school youth reported that they used to drink alcohol. Among these, 496 (76.2%) drank 2-3 times per month, 124 (19.0%) drank 2-3 times a week and the remaining 31 (4.7%) drank every day. The most commonly cited reasons for drinking alcohol were to get personal pleasure (57.8%) followed by peer pressure (35.5%), and the third reported reason were socialization (32.9%). Sixty (4.5%) of the respondents used to smoke cigarettes, among these 30 (50.0%), 16 (26.6%) and 14 (23.3%) of the respondents respectively used to smoke 2-3 times in a month, 2-3 times in a week and on daily basis respectively.

**Table 3.** Uni-variate and multivariate analysis of socio-demographic and economic variables against Risky Sexual Behaviour among in-school youth in Lalibela Town, June 2014.

	Risky Sexual Behaviour		COD (050/ CD)	A OD (050/ CD)	
Characteristics	Yes N(%) No N(%)		— COR (95%CI)	AOR (95%CI)	
Sex of respondent					
Male	129(52.2%)	118(47.8%)	1.56 (1.10, 1.27)*	1.30(0.85, 1.97)	
Female	110(41.2%)	157(58.8%)	1	1	
Age in category	, in the second second	, ,			
15 -18 Years	194(45.5%)	232(54.5%)	0.89 (0.62, 1.27)	0.93 (0.58, 1.50)	
19 – 24 Years	45(51.1%)	43(48.9%)	1	1	
Educational status	, ,	, ,			
Grade 9	100(47.4%)	111(52.6%)	0.78 (0.46, 1.33)	0.89 (0.47, 1.72)	
Grade 10	47(40.2%)	70(59.8%)	0.58 (0.32, 1.05)	0.65(0.34, 1.26)	
Grade 11	18(38.3%)	29(61.7%)	0.54(0.25, 1.14)	0.53 (0.24, 1.19)	
Grade 12	35(53.0%)	31(47.0%)	0.98 (0.50, 1.92)	1.09(0.53, 2.26)	
TVET	39(53.4%)	34(46.6%)	1	1	
Permanent Residence	-> ()	2 ((3,3,7,7)			
Urban	138(54.2%)	115(45.8%)	1.84 (1.29, 2.61)*	1.65 (1.12,2.43)*	
Rural	103(39.2%)	160(60.8%)	1	1	
Frequency of attending religious s		100(00.070)		•	
Regular (Daily)	61(39.4%)	95(60.6%)	0.65(0.44 0.95)*	0.85(0.55, 1.30)	
Irregular	178(49.7%)	180(50.3%)	1	1	
Living arrangement	170(47.770)	100(30.370)	1	1	
Single Parent, Peer	115(44.7%)	142(55.3%)	0.87 (0.61, 1.23)		
With Both Parents	124(48.2%)	133(51.8%)	1		
Pocket money	124(40.270)	155(51.070)	•		
Yes	148(47.3%)	165(52.7%)	1.08(0.76, 1.54)		
No	91(45.3%)	110(54.7%)	1.00(0.70, 1.54)		
Peer influence	91(43.370)	110(34.770)	ı		
Yes	97(40.6%)	142(59.4%)	2.07 (1.42, 3.03)*	2.06(1.37, 3.12)*	
No	68 (24.7%)	207(75.3%)	1	1	
Open Discussion with family	00 (24.770)	207(73.370)	ı	1	
Yes	119 (49.8%)	120(50.2%)	0.66 (0.46, 0.93)*	0.68(0.46, 1.01)	
No	165(60.0%)	110 (40.0%)	1	1	
Chew khat	103(00.078)	110 (40.076)	1	1	
	150(41.29/)	213(58.7%)	0.40(0.22, 0.72)*	0.51(0.22, 0.90)*	
Never chew Khat 150(41.3%)		62(41.1%)	0.49(0.33, 0.72)*	0.51(0.32, 0.80)* 1	
Used to chew Khat Drunk Alcohol	89(58.9%)	02(41.170)	1	1	
Never drink alcohol	77(20, 20/)	110(60.70/)	0.62 (0.42, 0.80)*	0.70(0.52, 1.10)	
Used to drink alcohol	77(39.3%)	119(60.7%)	0.62 (0.43, 0.89)*	0.79(0.53, 1.19)	
	162(50.9%)	156(49.1%)	1	1	
Where do you spend your spare tin		101((4.70/)	1 40 (0 45 4 02)	2.02 (0.57, 7.12)	
Library	55(35.3%)	101(64.7%)	1.49 (0.45, 4.92)	2.03 (0.57, 7.12)	
Home	93(48.9%)	97(51.1%)	2.64 (0.81, 8.57)	3.86(1.12, 13.37)*	
Alcohol house	21(65.6%)	11(34.4%)	5.25(1.35, 20.39)*	5.00(1.20, 20.73)*	
Khat house	21(77.8%)	6(22.2%)	9.62 (2.21, 41.46)*	5.84(1.25, 27.24)*	
Youth Centre	26(60.5%)	17(39.5%)	4.20 (1.14, 15.39)* 4.66(1.20, 18.04)		
Church	19(37.3%)	32(62.1%)	1.63(0.45, 5.85)	2.31(0.59, 8.94)	
Other (Support family)	4(26.7%)	11(73.3%)	1	1	

NB: In multi-variable logistic regression we consider P<0.25 form uni-variate analysis. \*: P value<0.05

#### 4.4. Factors Associated with Risky Sexual Behaviour

The univariate logistic regression analysis was conducted to identify any statistically significant relationship between the dependent variable (risky sexual behaviour) and independent variables (*Table 3*). The odds of risky sexual behaviour (P<0.05) for male in-school youth was 1.56 times higher (COR 1.56; 95% CI: 1.10 – 1.27, P- value<0.001) than their counterpart. The Urban in-school youth had risky sexual behaviour 1.84 folds higher (COR 1.84; 95%CI: 1.84 – 2.6, P-value<0.001) than youth from rural areas. The odds of risky sexual behaviour among youth whose sexual debut was influenced by their peers was 2.07 times higher (COR 2.07; 95%CI: 1.42 – 3.03, P-value<0.001) than their counterpart.

In-school youth who reported regular attendance of religious services had 0.65 times lower risk of risky sexual behaviour than the ISY irregular visitors (P-value = 0.05). The risky sexual behaviour among ISY who never chewed khat and never drank alcohol was 0.62 and 0.49 times lower than their counterparts, respectively.

We developed a model to control all confounder variables and identified the factors influencing risky sexual behaviour among the sexually active in-school youth in the study area. The odds of having risky sexual behaviour among urban resident ISY were 1.65 times higher than their counterpart (AOR 1.65; 95%CI: 1.12 – 2.43, P-value<0.001). The odds of RSB among ISY who had peer influence in the sexual debut were 2-folds higher (AOR 2.06; 95%CI: 1.37 – 3.12, P-value<0.001) than their counterpart. The odds of the risky sexual behaviour of youth who never chewed khat were 0.51 times lower (AOR 0.51; 95%CI: 0.32 – 0.80, P-value<0.001) than their counterpart, khat chewers. The odds of youth who spent their spare time in alcohol houses and khat houses were 5.0 and 5.8 times higher than ISY who spent their time in supporting their family.

#### 5. Discussions

In this study, slightly higher than one-third of the respondents 514 (38.6%) among in-school youth had started sexual intercourse. This finding was in line with 33.3% to 42.9% in a recent study conducted in Jimma zone, West Ethiopia and Bahir Dar Town in-school students [15, 21, 26, 27]. This was much higher than the 25.0% prevalence documented in Ghana [7]. A study conducted among high school students in Kenya also documented more than half of the youth engaged in pre-marital sexual intercourse [8]. These variations could be due to the time and cultural differences.

The mean age at sexual debut (intercourse) was 15.25 years with differences in gender, where females (15.01 years) started earlier than males (15.51 years). This is statistically significant according to the independent t-test with t (512) = 3.10, P = 0.002. Fantanhu and Mamo [15] reported the odds of female in-school youth to initiate sexual debut earlier than

their counterpart was 1.6 times higher. This finding was a little higher than the findings in Kenya's Bondo District where 13 years was the mean age [8] and 14.8 years in Ghanaian youth [7]. Nevertheless, it was in alignment with a study conducted in northeast Ethiopia, which documented that females tend to engage in sexual intercourse earlier than males [11]. However, a study conducted among youth in secondary school in Kenya's Bondo district had shown that males initiate sexual intercourse a year earlier than females at the mean age of 13 and 14 years old, respectively [8].

In this study, the majority of in-school youth had their first sexual intercourse with their boy/girlfriend 235 (45.7%). A study conducted in West Amhara by Bogale and Seme [13] reported 40.8% of in-school youth had their first sexual encounter with an in school boy/girlfriend. The second most common reported partner in this study was a casual partner for 23.2% of the subjects, and 30 (5.8%) of them reported that they had sex with a foreign tourist. This is consistent with the Kenyan youth whereby 4.0% of them had sexual intercourse with strangers [8]. With regard to the perception that having sex with foreign tourists exposes them to STIs, a significant proportion of them (53.8%) did not believe they were more at risk. However, in an in-depth interview study on sexual health and HIV in travellers and expatriates suggested that there is a well-established association between travellers and the acquisition of STIs [26].

The magnitude of risky sexual behaviours was also determined. At least one out of two sexually active in-school youth 239 (46.5%) had risky sexual behaviours. This finding was consistent with a study conducted in Gondar town among preparatory students 43.3% had risky sexual behaviours [29]. A little higher than the finding of the study conducted in Jimma zone where there was 30.8% among preparatory students who reported their history of having multiple sexual partners [28] and 31.0% of the Ghanaian youth reported a similar history of having multiple sexual partners [21].

Among in-school youth, those whose permanent residences were documented as rural areas were less likely to be engaged in risky sexual behaviour than their counterpart in urban residents. This finding was in line with a study conducted in eight African countries [6].

The prevalence of substance use among in-school youth varies depending on the substances being used. Alcohol and khat were the two substances used by a larger proportion of in-school youth in the study area. We found that 14.3% of in-school youth had ever chewed khat. Derese, Seme and Misganaw [26] documented in their survey a prevalence of 20.3% of youth were khat chewers. Unlike chewing khat, almost half of the study participants in Lalibela town (48.8%) drank alcohol. This finding was much higher than the reported prevalence of 37% of in-school youth consuming alcohol in Jimma zone and the 17.5% of the Haromaya university students [21, 26, 30].

The lifetime number of sexual partners reported among inschool youth in Lalibela town; 292 (56.8%) had one, 101

(19.6%) had two, 121(23.5%) had three or more partners. This finding was closely related with the findings among Ghanaian youth who reported one sexual partner 66.3% (m = 61.5% f = 70.5%), two 14.9% (m = 13.8% f = 16.5%) and three or more 18.2% (m = 12.35% f = 6.2%) [7]. Moreover, in the study area almost half of sexually active ISY inconsistently uses condom. This finding was a little previously reported 34.0% of ISY inconsistently uses condom in BSS II [20].

#### 6. Conclusions

The study found a significant proportion of risky sexual behaviour among in-school youth in Lalibela town. A little higher than one-third of the study subjects had engaged in a sexual debut, from which close to half of them involved in the risky sexual behaviour.

Improving access to sexual and reproductive health programs for in-school youth is highly recommended. All concerned bodies should work together to create awareness on sexual and reproductive needs and services. Dissemination of tailored health messages for in-school youth through friendly reproductive health services is recommended.

Limitation: Lalibela District is selected using purposive sampling methods so the findings couldn't be generalized to other places. Since the data collected request sexual and related risky behaviour, there is a high possibility of underreporting (it is not free from social desirability bias). It is highly likely that this study contains a recall bias, especially, in estimating age at first sexual experiences.

#### List of Abbreviation

List of A	Abbreviation				
AIDS	Acquired Immune Deficiency Syndrome				
AOR	Adjusted Odds Ratio				
BSS	Behavioral Survey Surveillance				
CDC	Centers for of Disease Control and Prevention				
CI	Confidence Interval				
COR	Cruds Odds Ratio				
EFMOH	Ethiopian Federal Ministry of Health				
HIV	Human Immune-Deficiency Virus				
IRB	Institutional Review Board				
ISY	In-School Youth				
RSB	Risky Sexual Behaviors				
SD	Standard Deviation				
SPSS	Statistical Package for Social Science				
STIs	Sexually Transmitted Infections				
TVET	Technical, Vocational, Education and Training				
UNAIDS	Joint United Nation Program on HIV/AIDS				
UNICEF	United Nations Children's Fund				
USAID	United States Agency For International				

Development

World Health Organization

WHO

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