

Assessment of Sexual Behavior and Knowledge of Sexually Transmitted Infections and HIV/AIDS Among High School Adolescents in Jardega Jarte Woreda, Oromia Regional State, Ethiopia, 2014

Kumera Bekele Negera¹, Yohannes Ayalew Bekele², Gebre Gelana Gudisa³

¹Department of Nursing, Jigjiga University, Jigjiga, East Ethiopia

²Department of Nursing and Midwifery, Tikur Anbesa Specialized Hospital, Addis Ababa University, Addis Ababa, Ethiopia

³Department of Nursing, Arba Minch University, Arba Minch, South West Ethiopia

Email address:

kumebek@gmail.com (K. B. Negera), yohannes.abebe@aau.edu.et (Y. A. Bekele), ggelana27@gmail.com (G. G. Gudisa)

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Abstract: *Background:* Many people have sexual intercourse for the first time in their teen age. Lack of information and knowledge encourage sexual risk behavior such as unprotected sex, early marriage, early pregnancy, sexually transmitted infections (STIs) and HIV/AIDS. *Objective:* To assess the sexual behavior and the knowledge of STI and HIV/AIDS among high school adolescents. *Method:* A cross-sectional study was conducted on 562 adolescents from March to April 2014, among two high schools, in Jardega Jarte woreda, Horo Guduru Wollega zone, west Oromia regional state. The data was entered into EPI-info 3.5.3 and transported to SPSS 21 version for analysis. Bivariate and multivariate logistic regression models were used to check the association between independent and outcome variables. *Result:* From the total respondents, 38.6% of adolescents had experienced sexual activity. Among those, only 46.6% of them had used condom the first time they had sexual intercourse. The mean age at first sexual intercourse was 16.24 (16.24 ± 0.682) for male and 15.40 (15.40 ± 0.796) for females. From all sexually active adolescents, 92.2% (97.2% of boys and 86.7% of the girls) had their first sexual intercourse between the ages of 15 and 17 years. *Conclusions and recommendations:* from this study, substantial proportion of the adolescents ever had sexual intercourse. Moreover adolescents are practicing risky sexual behaviors such as unprotected sex, multiple sexual partners, and sex at early age. Therefore, an integrated effort needs to be initiated to address such adolescents' sexual and reproductive health problems through establishing and strengthening school anti AIDS clubs, providing in service training for teachers on adolescent reproductive health and establishing youth centers.

Keywords: Sexual Behavior, Knowledge of STI and HIV/AIDS

1. Background

The World Health Organization (WHO) defines adolescents as people between 10 and 19 years of age (1). Adolescence is the period between puberty and adulthood and during puberty various endocrine glands produce reproductive hormones which are responsible for body changes and secondary sex characteristics (2). Some of these hormones cause significant remodeling of the brain and hence could explain why adolescents are more likely than adults to engage in risk-taking behaviors (3).

Many people have sexual intercourse for the first time in their teen years. Lack of information and knowledge encourage sexual risk behavior, thus increasing individuals' chances of acquiring STIs (4). In recent years, STIs have occurred mostly among young people, with the highest reported rates found among those aged 15-24 years.

Evidences show that worldwide more than three million people are newly infected with STIs annually and 70% of the infections occur among young people (5).

Because of cultural taboos adolescents in Ethiopia do not discuss sexual matters explicitly with their parents. As a

result, they have a limited knowledge about sexual and Reproductive health and know little about the natural process of puberty. This lack of Knowledge about reproductive health including STI and HIV/AIDS may have a great consequence (6).

Adolescents in Ethiopia are also exposed to various risks such as unprotected sex, early marriage, early pregnancy, sexually transmitted infections (STIs) and HIV/AIDS, unemployment, drug abuse and crime (7). Moreover, studies show that in Ethiopia, 60% of adolescents' pregnancy is unwanted or unintended pregnancies resulted from unprotected sexual intercourse (8).

According to the EDHS of 2011, 29% of the women aged 15-49 had their first sexual intercourse before age 15, 62% before age 18, and by age 25 the majority of Ethiopian women (88%) had had sexual intercourse. The median age at first sexual intercourse for women age 25-49 years was 16.6 years. The median age at first sexual intercourse had increased over the past two decades, from 15.6 years for women currently age 45-49 to 18.8 years for women currently age 20-24 (10).

In Debre Berhan, North East of Ethiopia, out of 663 youth respondents, 32.7% reported to have practiced sexual activity in the past, which included 28.6% of the boys and 36.2% of girls (11).

According to one study conducted in Bale zone, 47.7% of them had more than one sexual partner in the past. Of the sexually active student nearly 21% have reported to have sexual intercourse with CSWs (12).

Similarly, another study showed that 54% of sexually active students reported that they had multiple sexual partners. While among those sexually active students none or minimal use any protection, especially condom. Only 17.6% used condom during first sexual encounter and among these, only 27.7% used condom consistently. One study conducted in Nekemte showed that 7.6% of school girls were engaged in sex for money (13).

In a study conducted in five urban schools in Ethiopia (in Baher Dar, Dessie, Hawassa, Jimma, and Dire Dawa) to explore the patterns and socio-demographic correlates of sexual initiation, subsequent risk behaviors, and condom use among secondary school youth; The mean age of sexual initiation was 15.3 (SD=2.5) years. Two-thirds of the sexual initiations were unprotected and some occur with higher risk groups, including much older (15.5%) or casual/commercial sex partners (9.1%). Multi-partner sex (52.7%) and sex with casual (30.4%) or commercial (25.3%) partners were the most commonly reported lifetime risk behaviors (14).

Regarding to the sexual issue communication, the study which was conducted in Nekemte found that 76.5% and 70.3% of sexually at risk male and female respectively found to be having low communication with their parents. But on the other side the study made on Nekemte adolescents' showed condom used is less likely among adolescents who had never discussed about sexual matters with their parents than who discussed it (15).

2. Methods and Materials

2.1. The Study Area and Period

The study was conducted in Jardega Jarte woreda, which is located in Horo Guduru Wollega zone of Oromia regional state. The capital city of this woreda is Alibo and it is found 387 Km in the west of Addis Ababa. According to the 2007 national census, the woreda has a total population of 48,943 of whom 24,475 were men and 24,468 were women. This woreda has four high schools, one preparatory and thirty elementary schools. The study was carried out from March to April 2014.

2.2. Study Design

A cross - sectional study design was employed on the selected Jardega Jarte woreda high school to assess the sexual behavior of adolescents and their knowledge toward STI/HIV AIDS.

2.3. Sample Size and Sampling Procedures

To determine the sample size for the study population the following assumption was made. The actual sample size for the study was determined using single Population proportion formula by assuming 5% marginal error and 95% confidence interval at alpha ($\alpha=0.05$) and the population proportion (21%), this was taken from the previous study. Based on the above information the 255 sample size was calculated and the final total sample size was 562 by considering 10% non response rate and 2 design effect.

A multi-stage sampling, initially students were stratified by grade, which was from 9-10 and from each grade section; study unit was selected by simple random sampling. To select the study unit student's roster was used as sampling frame. And to determine the number of students from each grade proportionate allocation to their size was used.

2.4. Data Collection Tools and Quality Assurance

Data was collected through self-administered structured questionnaire having both close and open ended questions. The questionnaire was developed in English and first translated to Afan Oromo to insure the clarity of questions for the respondents. After that it was translated back to English to assure its consistency. The questionnaire was pre-tested on 10% of high school students prior to the date of data collection and those students were excluded from the study.

Four data collectors were recruited. Two supervisors were selected and they were responsible to lead the whole situation of data collecting process, to check the data collected for Consistence, completeness, editing, and suspicious of irregularity. Training was given for both data collectors and the supervisors for one day before the pretest. The supervisors were checked the questionnaire every day after data collection for its relevance, completeness and the correction was made at the point.

2.5. Data Analysis Procedure

For quantitative data, data was cleared and coded manually. After data was cleared and coded, it was entered into EPI-info 3.5.3 and transported to SPSS 21 version for analysis. Bivariate and multivariate logistic regression models were used to check the association between independent and outcome variables. Frequency tables, graphs and charts are used to present the data.

2.6. Ethical Consideration

The study was undertaken after the approval of Nursing Research Review Committee of Addis Ababa University, School of allied health science, department of Nursing and Midwifery and permission of Jardega Jarte woreda

administration education bureau. Information on the purpose and procedures of the study was explained; issue of confidentiality of information was assured verbally to all study subjects and the importance of their verbal consent before engaging into the study.

3. Results

3.1. Socio-Demographic Characteristics of the Adolescents

A total of 562 school adolescents were invited to participate in the survey, and the response rate was 95%. Among the total of 534 respondents, 52.8% and 47.2% were males and females, respectively. The mean age of the respondents was 16.8 ± 0.972 (Table1).

Table 1. Socio-demographic characteristics of the study population: Jardega Jarte woreda, West Ethiopia 2014.

Variables		Frequency	Percentage
sex	Male	282	52.8
	Female	252	47.2
	Total	534	100.0
Age	10-14	6	1.1
	15-19	528	98.9
	Total	534	100.0
Grade level	9 th	276	51.7
	10 th	258	48.3
	Total	534	100.0
Religion	Protestant	397	74.3
	Orthodox	65	12.2
	Muslim	37	6.9
	Catholic	15	2.8
	Others	20	3.7
	Total	534	100.0
Ethnicity	Oromo	508	95.1
	Amhara	23	4.3
	Others	3	0.6
	Total	534	100.0
Currently living with	Both parents	428	80.1
	Single parents	62	11.6
	Relatives	30	5.6
	Friends	9	1.7
	Total	534	100.0
Pocket money	Yes	92	17.2
	No	442	82.8
	Total	534	100.0

Table 2. Description of parents of the study population: Family education, occupation & economic status Jardega Jarte woreda, West Ethiopia 2014.

Variables		Frequency	Percentage
Fathers education level	Illiterate	37	6.9
	Read and write	121	22.7
	Primary (1-8)	79	14.9
	Secondary (9-12)	196	36.7
	Above 12	101	18.9
Mothers Education level	Illiterate	153	28.7
	Read and write	252	47.2
	Primary (1-8)	58	10.9
	Secondary (9-12)	53	9.9
	Above 12	18	3.4
Fathers' occupation	Daily laborer	21	3.9
	Farmer	190	35.6
	Civil servant	106	19.9
	Employed in private sector	98	18.4
	Has private business	110	20.6

Variables		Frequency	Percentage
Mothers' occupation	Others	9	1.7
	Daily laborer	82	15.4
	Farmer	152	28.5
	Civil servant	52	9.7
	Employed in private sector	90	16.9
	Has private business	102	19.1
	Others	56	10.5
Perceived family economic status	Very rich	27	5.1
	Rich	119	22.2
	Medium	366	68.5
	Poor	22	4.1

3.2. Sexual History of the Adolescents

Among all adolescents aged 10-19years, 206 (38.6%) reported ever having sexual intercourse.

The mean age at first sexual intercourse was 16.24 (16.24 \pm 0.682) for male and 15.40 (15.40 \pm 0.796) for females. From all sexually active adolescents, only 1 (0.49%) of respondents had first sexual intercourse before the age of 14 years, while the large proportion, 109 (100%) of males and 96 (99.5%) of females had their first sexual intercourse after the age of 14 years.

The majority of the adolescents 190 (92.2%), (97.2% of boys and 86.7% of the girls) had their first sexual intercourse between the ages of 15 and 17 years.

Among those who were sexually active, 80 (38.8%) were 9th grade while 126 (61.2%) were attending 10th grade at the time of the survey.

When the relationship of the adolescents to their first sexual partners is examined, the majority of the partners were boy/girl friends 119 (57.8%) followed by acquaintance, 72 (35%) (Table3).

Adolescents claimed that the main reasons for the initiation of their first sexual intercourse were fall in love,

accounting for 78 (37.9%), had desire, 74 (36%), peer pressure, 30 (14.5%), were drunk, 12 (5.8%), to get money or gifts, 5 (2.4%), rape, 4 (1.9%), got married, 2 (0.9%) and due to other factors, 1 (0.5%).

One hundred fifty three out of 206 adolescents, who were sexually active, gave response to the question enquiring the number of their sexual partners they had in the past 12 months. Accordingly, 132 (86.3%) had only one sexual partner and 19 (12.4%) had two sexual partners, while 2 (1.3%) had three and more sexual partners.

Among those who were sexually active males, 20 (20.4%) had had sexual intercourse with commercial sex workers. Of these 14 (70%) had ever used condom. Among those who ever used condom, 5 (35.7%) used condom consistently, 5 (35.7%) used sometime while 4 (28.6%) used condom most of the time.

Among all adolescents, 290 (45.7%) of students have heard about sexual intercourse other than vaginal while 244 (54.3%) of students have not heard.

This study indicated that among sexually active adolescents, 21 (10.2%), 26 (12.6%) of them ever had oral and anal sex, respectively (Table3).

Table 3. Sexual history among high school adolescents Jardega Jarte woreda, West Ethiopia 2014.

Variables		Frequency	Percentage
Ever had sexual partner	Yes	362	67.8
	No	172	32.2
Ever had sexual intercourse	Yes	206	38.6
	No	156	29.2
Relation of the first sexual partner	Acquaintance	72	34.9
	Friends	119	57.8
	Fiancé	12	5.8
	Relatives	1	0.5
	Others	2	0.9
	Fall in love	78	37.9
	Had desire	74	36
Reason to start sex	Raped	4	1.9
	Peer pressure	30	14.5
	To get money or gift	5	2.4
	Got married	2	0.9
	Were drunk	12	5.8
	Others	1	0.5
	Yes	153	74.3
Had sexual intercourse in the past 12 months	No	53	25.7
	One person	132	86.3
Number of sexual partners in the last 12 months	Two	19	12.4
	Three & above	2	1.3
	Yes	131	63.6
Used condom the first time you had sexual intercourse	No	75	36.4

Variables		Frequency	Percentage
Heard sexual intercourse other than vaginal	Yes	290	45.7
	No	244	54.3
Type of sexual intercourse heard other than vaginal	Oral sex	225	42.1
	Anal sex	252	47.2
Type of sexual intercourse ever had other than vaginal	Oral sex	21	10.2
	Anal sex	26	12.6

Regarding to condom use, among adolescents who ever had sexual intercourse, 75 (36.4%) of them did not use condom the first time they had sexual intercourse, majority of them 131 (63.6%) had used (Table 3).

3.3. Adolescents' Knowledge About STI and HIV/AIDS

Five hundred twenty eight (98.9%) of the respondents claimed to have ever heard about sexually transmitted diseases (STIs), of which, HIV/AIDS 516 (96.6%), gonorrhea 405 (75.8%), Syphilis, 397 (74.3%) and Chancroids 214 (40.1%), were the most commonly known types of STI (Table 4).

The most commonly cited sources of information for HIV/AIDS were media, such as radio and TV, 418 (78.3%),

school clubs, 398 (74.5%) and followed by school teachers, 336 (62.9%) (Table 4).

The majority of the adolescents mentioned the modes of HIV/AIDS transmission to be through unprotected sexual intercourse 515 (96.4%), sharing contaminated instruments 437 (81.8%) surprisingly 42 (7.9%) of respondents mentioned Mosquito or insect bite can transmit HIV/AIDS (Table 5).

The adolescents were also asked about the prevention methods of HIV/AIDS; and the larger proportion of the respondents 497 (93.1%), 491 (92%), 292 (54.7%) and 253 (47.4%) mentioned that abstaining from sexual intercourse, followed by using condom, can prevent HIV/AIDS respectively (Table 4.)

Table 4. Adolescents' knowledge about STI and HIV/AIDS among study subjects Jardega Jarte woreda, West Ethiopia 2014.

Variables		Frequency	Percentage
Heard about STI	Yes	528	98.9
	No	6	1.1
Type of STI Heard about	Syphilis	397	74.3
	Gonorrhea	405	75.8
	Granuloma inguinal	122	22.8
	Cancroids	214	40.1
	HIV/AIDS	516	96.6
	LGV	34	6.4
	Trichomonas	40	7.5
Heard about HIV/AIDS	Yes	531	99.4
	No	3	0.6
Source of information of HIV/AIDS	Parents	170	31.8
	Peers	53	9.9
	Boy/Girl friend	130	24.3
	Health workers	237	44.4
	School teachers	336	62.9
	School clubs	398	74.5
	Religious leaders	26	4.9
	News paper, books	279	52.2
	Media (radio, TV	418	78.3
	Unprotected sex	515	96.4
	Contaminated sharp materials	437	81.8
	Taking unscreened blood	136	25.5
Modes of transmission of HIV/AIDS	From mother-to child	365	68.4
	Insect bite	42	7.9
	Sharing common latrine	2	0.4
	Eating food with PLWHA	15	2.8
	Cures from Good	12	2.2
	By Oral sex	114	21.3
	By Anal sex	202	37.8
Transmission of HIV by other than vaginal sex	Abstain from sex	497	93.1
	Use condom	491	91.9
	Be faithful to one uninfected partner	253	47.4
	Avoid sex with CSW	43	8.1
	Use new needle	292	54.7
	Take VCT	188	35.2

Majority of adolescents 366 (68.5%) did not know that Ulcers and/or pus in the genital organ and pain on passing urine are some of the features of STIs other than HIV/AIDS, while 168 (31.5%) of them know the features of STIs. The adolescents were

also asked about the complication (outcome) of STI other than HIV if not treated early, and most of respondents 263 (49.3%), 125 (23.4%), 40 (7.5%), 24 (4.5%) mentioned exposure to HIV, sterility, urethral stricture and cancer respectively (Figure 3)

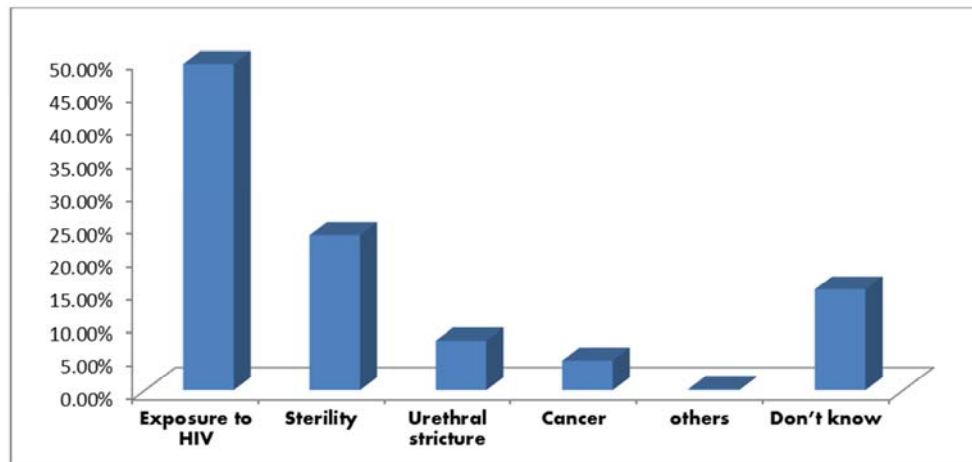


Figure 1. Adolescent's response on Outcome of STI if not treated early Jardega Jarte woreda, West Ethiopia 2014.

Four hundred forty- fifty one (84.5%) of the adolescents believe that a person can get HIV infection the first time she or he had sexual intercourse. While only 55 (12.2%) of the respondents believe that if someone carefully looks at a person she/he can identify that a person is living with or without HIV/AIDS.

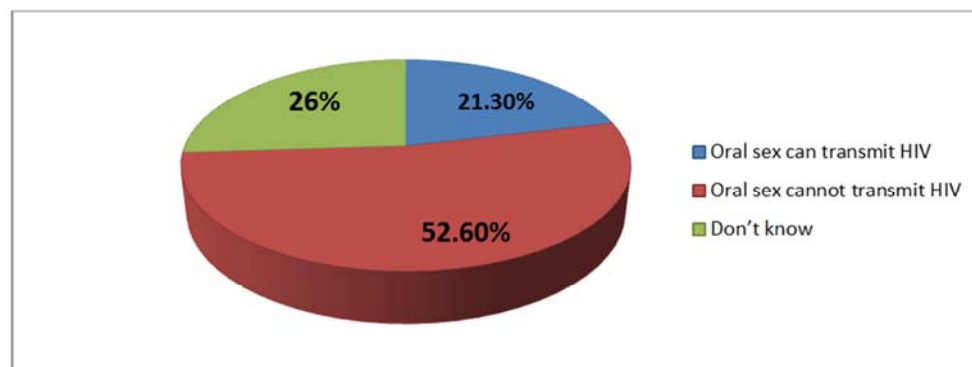


Figure 2. Knowledge of HIV Transmission by oral sex of study subjects Jardega Jarte woreda, West Ethiopia 2014.

Two hundred eighty one (52.6%) of adolescents believe that oral sex cannot transmit HIV/AIDS. Similarly, 203 (38%) of respondents also believe HIV/AIDS cannot be transmitted through Anal sex (Figure 2 and 3).

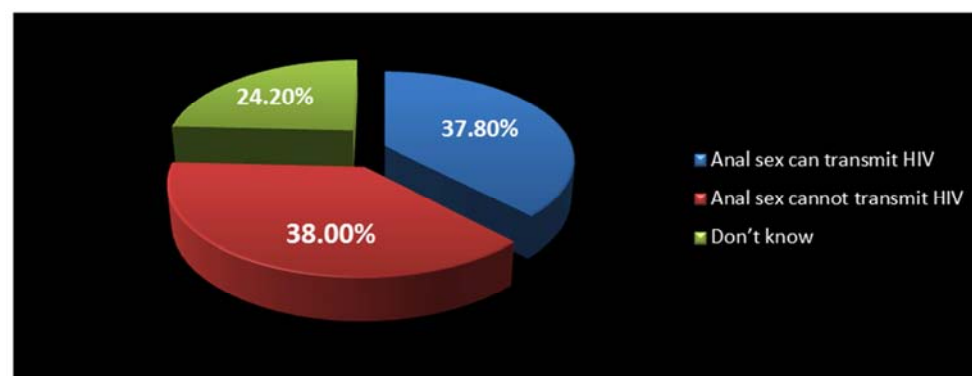


Figure 3. Knowledge of HIV Transmission by Anal sex of study subjects Jardega Jarte woreda, West Ethiopia 2014.

About 88 (16.5%) of the respondents believed that they had done something that might put them at risk of getting HIV/AIDS infection. The reasons of their fear of getting HIV

were they have had sexual intercourse without condom, 60 (68.2%), have had more than one sexual partner 23 (26.1%), and had sexual intercourse with commercial sex workers, 5 (5.7%).

3.4. Results of Multivariate Analysis of Sexual Behavior and SIT/HIV Knowledge

This study indicated that adolescents who had no pocket money were more likely to report safe sexual behavior than those who had pocket money (AOR=4.326, CI, 1.844, 10.152).

Adolescents who had no sexual partner were most likely had safe sexual behavior than adolescents who had sexual partner (AOR=92.586, 95%CI, 7.255, 11.81).

Adolescents who had more than one sexual partner were less likely practiced safe sexual behavior than adolescents who had onese sexual partner (AOR=0.002, 95%CI, 0.000, 0.023).

Adolescents who had not discussed about sexual issue with their parents were less likely had safe sexual behavior than adolescents who had discussed with their family (AOR=0.47, 95%CI 0.229, 0.990).

Sexual behavior had also an association with adolescent's risk behaviors, accordingly, adolescents who did not drink alcohol were more likely had safe sexual behaviors than those who had drink (AOR=2.207, 95%CI, 1.03, 4.727).

In addition to sexual behavior, Adolescents knowledge of STI and HIV/AIDS had an association with some independent variables. Accordingly, females were less likely had sufficient knowledge on STI and HIV/AIDS than males (AOR=0.531, 95%CI, 0.328, 0.859).

Adolescents who had discussed about sexual issue with their parents were more likely had sufficient knowledge than adolescents who had not discussed with their family (AOR=2.114, 95%CI, 1.240, 3.603).

Additionally adolescents who had sexual partner were more likely had sufficient knowledge of STI and HIV/AIDS than adolescents who had no sexual partner (COR=1.617, 95%CI, 1.013, 2.580 & AOR=1.772, 95%CI, 1.078, 2.912).

Table 5. Multivariate Analysis of Sexual behavior Jardega Jarte woreda, West Ethiopia 2014.

Variables	Sexual behavior		OR (95%CI)	P=	value	AOR
	Risky	Notrisky	COR			
Sex						
Male	63 (22.3)	219 (77.7)	1.00	0.886		0.00
Female	55 (21.8)	197 (78.2)	1.030 (0.684,1.552)			
Grade						
9 th	43 (15.6)	233 (84.4)	1.00	0.00		1.00
10 th	75 (29.1)	183 (70.9)	0.45 (0.295,0.687)			0.812 (0.431,1.527)
Age						
10-14	0 (0.0)	6 (100.0)	0.00	0.99		0.00
15-19	118 (22.3)	410 (77.7)				
Parents income level						
Very rich	7 (25.9)	20 (74.1)	1.00			1.00
Rich	36 (30.3)	83 (69.7)	0.807 (0.314,2.077)	0.657		1.946 (0.150,25.227)
Medium	69 (18.9)	297 (81.1)	1.507 (0.613,3.704)	0.372		0.647 (0.083,5.040)
Poor	6 (27.3)	16 (72.7)	0.933 (0.26,3.334)	0.915		0.485 (0.068,3.460)
Living with						
Both parents	85 (19.9)	343 (80.1)	1.00			1.00
Single parents	22 (35.5)	40 (64.5)	0.451 (0.254,0.798)			0.666 (0.266,1.666)
Relatives& friend	11 (31.4)	24 (68.6)	0.541 (0.255,1.147)			0.804 (0.257,2.57)
Alone	0 (0.0)	9 (100%)	400336337.0			
Fathers education level						
Illiterate	5 (13.5)	32 (86.5)	1.00			1.00
Read & write	31 (25.6)	90 (74.4)	0.454 (0.162,1.267)	0.131		2.157 (0.599,7.764)
Primary	12 (15.2)	67 (84.8)	0.872 (0.283,2.687)	0.812		1.292 (0.617,2.706)
Secondary	45 (23.0)	151 (77.0)	0.524 (0.193,1.425)	0.205		2.592 (1.052,6.386)
College& above	25 (24.9)	76 (75.2)	0.16 (0.167,1.351)	0.163		1.181 (0.599,2.332)
Pocket money						
No pocket money	86 (19.5)	356 (80.5)	2.208 (1.3,3.602)**	0.002		4.326 (1.844,10.152)**
Had pocket money	32 (34.8)	60 (65.2)	1.00			1.00
Had sexual partner						
No sexual partner.	1 (0.6)	172 (99.4)	82.475 (11.41,59.14)**	0.00		92.586 (7.255,11.81)**
Had sexual partner	117 (32.4)	244 (67.6)	1.00			1.00
Discuss sexual issue with	87 (20.5)	338 (79.5)	0.648 (0.401,1.045)			0.47 (0.229,0.990)
parent	31 (28.4)	78 (71.6)	1.00			1.00
Not discuss				0.075		
Discuss						
Drink alcohol						
Never	38 (11.9)	281 (88.1)	2.28 (1.47,3.53) **	0.00		2.207 (1.03,4.727) **
drink	80 (37.2)	135 (62.8)	1.00			1.00
Chew chat						
Never	74 (16.4)	377 (83.6)	0.174 (0.106,0.286)	0.00		1.468 (0.589,3.656)
chew	44 (53.0)	39 (47.0)	1.00			1.00

Variables	Sexual behavior		OR (95%CI)		P-value	AOR
	Risky	Notrisky	COR			
Total number of sexual partner					0.00	1.00
One	54 (11.5)	415 (88.5)	1.00			
More than one	64 (98.5)	1 (1.5)	0.002 (0.00,0.15) **			0.002 (0.0,0.023) **

NB*=Significant

Adjusted for sex, grade, age, parent's income level, family arrangements, fathers education level, pocket money, had sexual partner, discuss sexual issue with partner, drink alcohol, and chew chat and number of sexual partner.

Table 6. Multivariate Analysis of knowledge of STI/HIV Jardega Jarte woreda, West Ethiopia 2014.

Variables	STI/HIV knowledge		OR (95%CI)		P-value	AOR
	Poor	Good	COR			
Sex						
Male	36 (12.8)	246 (87.2)	1.00			1.00
Female	53 (21.0)	199 (79.0)	0.549 (0.346,0.873) **	0.011		0.531 (0.328,0.859) **
Grade						
9 th	43 (15.6)	233 (84.4)	1.00			1.00
10 th	46 (17.8)	212 (82.2)	0.851 (0.539,1.341)	0.486		0.771 (0.476,1.250)
Family income level						
Very rich	9 (33.3)	18 (66.7)	1.00			1.00
Rich	23 (19.3)	96 (80.7)	2.087 (0.831,5.239)	0.117		1.694 (0.639,4.494)
Medium	54 (14.8)	312 (85.2)	2.889 (1.234,6.764)	0.015		2.161 (0.857,5.451)
Poor	3 (13.6)	19 (86.4)	3.167 (0.738,13.595)	0.121		1.989 (0.430,9.210)
With whom you live	73 (17.1)	355 (82.9)	1.00			1.00
Both parents Single parents	10 (16.1)	52 (83.9)	1.069 (0.519,2.201)	0.856		1.073 (0.505,2.277)
Relatives& friend	5 (14.3)	30 (85.7)	1.234 (0.463,3.286)	0.674		0.822 (0.291,2.318)
Alone	1 (11.1)	8 (88.9)	1.645 (0.203,13.354)	0.641		1.437 (0.169,12.250)
Pocket money						
Had no pocket money	64 (14.5)	378 (85.5)	2.204 (1.297,3.745) **			1.576 (0.869,2.860) **
Had pocket money	25 (27.2)	67 (72.8)	1.00	0.003		1.00
Discuss sexual issue with parents						
Not discuss	58 (13.6)	367 (86.4)	1.00			1.00
Discuss	31 (28.4)	78 (71.6)	2.515 (1.526,4.146) **	0.00		2.114 (1.240,3.603) **
Had sexual partner						
Had no sexual partner	52 (14.4)	309 (85.6)	1.00			1.00
Had sexual.partner.	37 (21.4)	136 (78.6)	1.617 (1.013,2.580) **	0.044		1.772 (1.078,2.912) **
Heard STI						
Not heard	3 (50.0)	3 (50.0)	1.00			1.00
Heard	86 (16.3)	442 (83.7)	5.140 (1.020,25.890)	0.047		3.335 (0.603,18.450)

NB*=Significant. Adjusted for sex, grade, family income, living arrangements, discussion of sexual issue with parents, had sexual partner and heard of STI.

4. Discussion

Sexuality is the area that has long attracted researchers because of the identified relationships between sexual behaviors and certain reproductive health problems.

This study was done on a representative sample of two high schools' adolescents of both sexes aged 10-19 years to assess the sexual behaviors and knowledge of STI and HIV/AIDS among high school adolescents.

The findings of this survey regarding the behavior of sexually active school adolescents raise concerns regarding the likelihood of them contracting HIV and other sexually transmitted infections.

The finding that the Percentage of adolescents who had ever had sex increases markedly with age, (increased almost four fold from 20% at age 14 to 78.6% at age19), concurs with the findings of the Zambia Sexual Behavior Survey of 2003, in which a 5.6 fold increase was noted (14% at age 15 to 79% at age 19) (16).

The proportion of sexual active Jardega Jarte school adolescents (38.6%) is almost similar to the national Zambian proportion of 43% but is lower than the one in urban areas of Zambia of 56% (17) and in more urbanized countries such as South Africa (48%) (18).

In this study it is found that 38.6% of respondents ever had sexual intercourse in their life time. Experience of sexual

intercourse in this study was greater than the previous studies conducted in Debre Berhan which was about 32.7% (11). This finding is also relatively higher when compared to similar study findings. In Agaro the figure was 25% (19). This finding is higher when also compared to other similar studies done in five urban schools (in Baher Dar, Dessie, Hawassa, Jimma, and Dire Dawa) that reveals (33.3%) of the youth reported having had sexual intercourse prior to the study (14).

Nowadays adolescents are engaged in different behaviors that put them in risky sexual behavior than ever. This might be due to globalization that most of adolescents to be sexually active. This study indicated that the mean age at first sexual intercourse is 16.24 ± 0.68 years and 15.4 ± 0.80 years for males and for females, respectively.

Different studies done in Ethiopia revealed that the mean age at first sexual debut to be between the age of 13.6 and 19 years.

According to the study which was conducted in Debreberhan, the mean age at first sexual intercourse was 18.1 (+2.1 SD) years. (11) In Similar study conducted in five urban schools (in Baher Dar, Dessie, Awassa, Jimma, and Dire Dawa) the mean age of sexual initiation was 15.3 (SD=2.5) years (14).

This study shows that the school girls' mean age at sexual debut is low, 15.24 years. This result is consistent with that of other studies conducted on the African continent, showing that the age at first sexual intercourse has become lower almost everywhere in Africa for female adolescents, ranging from 15 to 19 years.

In this study, 2.4% of the adolescents are engaged in sex for money or gifts in exchange for sex. This finding is lower than the findings of the study done in Botswana that is about one in five in the out of school adolescents reported money in exchange for sex. Similar finding was also reported in Nekemte in which 7.6% of schoolgirls engage in sex for money. This is because of adolescents; especially females are forced to engage in sexual intercourse to satisfy their economic and material needs such as clothing, ornaments and cosmetics that they see on their peers (13).

In this study some adolescents were involved in different types of sexual practices during their first sexual act including anal and oral sex. However, vaginal sex was the most common first sexual act reported by secondary school students. This finding is in line with previous study done in Tanzania which reported that some of the school adolescents were engaged in oral and anal sex. (20).

In this study among those who were sexually active males, 20.4% had had sexual intercourse with CSWs, of these 70% had ever used condom. Among those who ever used condom, only 35.7% of them were used condom consistently. Similarly in the study done in Bale zone, of the sexually active student nearly 21% have reported to have sexual intercourse with CSWs. among respondents who have claimed to have sexual intercourse with CSWs, 88.8% of them did not use condom (12). This sexual intercourse with CSWs might be because of alcohol consumption and using

other substances like hashish.

Generally In this study, some socio-demographic variables such as pocket money of the respondents, as well as from the behavioral variables, such as alcoholic beverages and some sexual history of respondents were analyzed for possible association with both sexual behavior and knowledge of STI and HIV/AIDS.

Adolescents who had no pocket money were more likely to engage in safe sexual behavior than those who had pocket money (AOR=4.326, 95%CI, 1.844, 10.152). This may indicates that adolescents who have pocket money can have a better exposure to different Medias that initiate sex and adolescents who have money can buy sex.

In similar study which was conducted in Bale zone, among sexually active males 21% have reported to have sexual intercourse with CSWs. This might be the influence of having pocket money (12).

In this study, Compared to adolescents living with both parents, adolescents living with single parents relatives, friends and fiancé were less likely to be engaged in safe sexual behaviors. In similar study so many researchers found that from single parent family, adolescents are more likely to report early sexual activity compared to adolescents from two parent families (21). This Adolescent who perceived a low level of parental monitoring were more likely to be sexually active than males who perceived a high degree of monitoring.

In this study, alcohol was found to be more likely to contribute to risky sexual behavior both before and after controlling other factors. Accordingly adolescents who did not drink alcohol were more likely had safe sexual behaviors than those who had drink (AOR=2.207, 95%CI, 1.03, 4.727).

Similarly, other studies report that alcohol drinking and khat chewing are strongly as that associated with rape and early initiation of sex. (13) Studies done in USA shows those students who have sex under the influence of alcohol are 2.5 times more likely not to use protection (22).

This study indicated that adolescents who had more than one sexual partner were less likely practiced safe sexual partner than adolescents who had one sexual partner. (AOR=0.002, 95%CI, 0.000, 0.023).

Having multiple sexual partners gives chance of not using condom during sexual intercourse and leads to high chance of acquiring HIV/AIDS in their lifetimes. In addition to these, adolescents who have multiple sexual partners more likely to abuse drugs, alcohol later in life.

The potential negative outcomes of people and unsafe sexual practices are high risk of contracting STIs and HIV/AIDS, through high rate of unprotected sex with multiple partners (23)

Many studies done on sexual behavior revealed that a number of people have sexual experience with more than two persons in their lifetime without use of condom. According to one study conducted in Bale zone, 47.7% of adolescents had more than one sexual partner in the past. Of the sexually active student nearly 21% have reported to have sexual intercourse with CSWs. Among respondents who have

claimed to have sexual intercourse with CSWs, 88.8% of them did not use condom (12).

This study indicated that adolescents who had not discussed about sexual issue with their parents were less likely had safe sexual behavior than adolescents who had discussed with their family. (AOR=0.47, 95%CI 0.229, 0.990). Also in this study adolescents who had discussed about sexual issue with their parents were more likely had sufficient knowledge than adolescents who had not discussed with their family (AOR=2.114, 95%CI, 1.240, 3.603).

Because of social or religious custom adolescents in many developing countries rarely discuss about sexual matters explicitly with their parents. As a result the lives of them are at risk because they do not have the information; skills, health services and support they need to go through sexual development during adolescent (24). Also discussion of the sexual issue makes adolescents to be aware of sexuality which can help them in their future life. Similarly the study which was conducted in Nekemte found that 76.5% and 70.3% of sexually at risk male and female respectively found to be having low communication with their parents (15).

In this study 99.4% of respondents showed a high awareness about HIV/AIDS. And some adolescents (6.9%, 8.1%) said that staying with faithful partner and using a condom will not protect them from HIV/AIDS respectively. Surprisingly, the majority felt that they were not susceptible to HIV infections. This finding was almost similar with the study done by Hartell (2005), in which 97% of respondents showed a high awareness about HIV and AIDS. And 10% of respondents answered staying with a faithful partner and using a condom will not protect them from HIV/AIDS. In contrast, this finding was greater than the findings of the EDHS (2011) report in which 96.2% adolescents aged 15-19 has heard about HIV (10).

In this study females were less likely had good knowledge of STI and HIV/AIDS than males

(AOR=0.531, 95%CI, 0.328, 0.859). This might be due to lack of enough access from which they get knowledge of HIV/AIDS as compared to males and cultural influences has also makes females not to participate in sexuality and in related things.

In similar study of EDHS (2005) only around one-fifth of women and one-third of men aged 15- 24 knew all of the basic facts about HIV/AIDS. This finding is consistent with findings of the national HIV prevalence study done by Shishana et al. (2009); found that females aged 15-24 years had the lowest scores at 40.6%, while males in the 15 and older age group had higher levels of accurate knowledge about HIV transmission.

This study indicated that Five hundred twenty eight of the respondents claimed to have ever heard about sexually transmitted diseases (STIs) including HIV/AIDS, of which, HIV/AIDS) is the most commonly known type of STI 96.6%, followed by gonorrhea 75.8%, Syphilis, 74.3% and Chancroids 40.1%. This may be attributable to the fact that information on HIV/AIDS is being widely disseminated through different Medias and the attention given to the problem in the respective

area and the country at large. This finding was similar with the findings of the study conducted in Tanzania in which majority of students (98%) have heard about STIs (17).

In this study the overall knowledge of STI and HIV/AIDS is about 83.3%. This finding was greater than the findings of the study done in Egypt which revealed a general lack of knowledge of sexual issues. 96% of male and 96% of female scored zero on STI knowledge. In contrast, studies conducted in Japan and United States among adolescents demonstrated high levels of knowledge concerning HIV and STIs (25).

In this study, among those sexually active adolescents only 46.6% used condom the first time they had sexual practice, and in the past 12 months, only 35.7% used condom consistently.

In similar findings, one study from sub-Saharan Africa indicated that in Burkina Faso, Ghana, Uganda and Malawi the proportion of adolescents reporting consistence use of condoms in the 3 months preceding the survey was 38%, 47%, 20% and 36% respectively.

Another study finding from a cross-sectional survey conducted in Tanzania among adolescents aged 10-19 years also revealed that only 42% of sexually active adolescents reported having used a condom during their most recent sexual act (17).

This finding was also greater than the findings of the EDHS 2005/2006 report in which condom use among adolescent is low, only one percent of young women and 17% of young men used condom during their first sexual intercourse

5. Conclusion

From this study, a substantial proportion of the adolescents ever had sexual intercourse which is found to be higher than most of the studies. The adolescents were found to start sexual intercourse at their earlier age with the mean age of 16.24 for males and 15.40 for females. The percentage of sexually active schoolgirls increased markedly with age in this study.

This early onset of adolescents' sexual activity usually leads to increased risk of contracting STI/HIV/AIDS, unwanted and unplanned pregnancy.

In this study, most of the adolescents were practicing risky sexual behaviors such as multiple sexual partners, unprotected and early sex and sexual intercourse with commercial sex workers in the study area.

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