



Assessment of Parent-Adolescent Communication on HIV/AIDS Prevention in Kemebata Temebaro Zone, Southern Ethiopia

Fiseha Lemango¹, Terefe Gone^{2*}, Yohannes H/Michael³ and Shimeles Ololo³

¹Department of Public Health, Hossana College of Health Sciences, Ethiopia

²Department of Medical Laboratory Sciences, Hossana College of Health Sciences, Ethiopia

³Department of Public Health, Jimma University, Ethiopia

*Corresponding author: Terefe Gone, Department of Medical Laboratory Sciences, Hossana College of Health Sciences, Ethiopia, E-mail: terefegone@gmail.com

Abstract

Background: HIV/AIDS has significantly affected the well-being of adolescents and has posed serious concern for their parents. Parent-adolescent communication on HIV/AIDS is a key tool to prevent and control the disease among young people. However, information about parental involvement on adolescent HIV prevention activities is scarce in Ethiopia in general and in the study area in particular.

Objective: To assess parent-adolescent communication on HIV/AIDS prevention among adolescents.

Methods: A cross-sectional school based study was conducted in February 2011 on high school adolescents. Simple random sampling technique was used to select study participants. Self-administered structured questionnaire was used to collect both qualitative and quantitative data. Bivariate and multivariate analysis was used to analyze quantitative data and thematic analysis for qualitative part.

Result: A total of 772 adolescents participated in the study. Five hundred twelve (66.8%) of them had parent communication on HIV/AIDS prevention. However, only 188 (36.7%) of the students discussed at least two topics about HIV/AIDS prevention with either of their parents. Age, mother's level of education, place of residence and level of knowledge of adolescents on HIV/AIDS prevention were significantly associated predictors of parent adolescent communication. Adolescents who were eighteen and older were 1.7 times more likely to discuss about HIV/AIDS than adolescents who were less than eighteen years (1.706 (95% C.I., 1.212 -2.403)), $P = 0.002$.

Conclusions: Low parent-adolescent communication was recorded in this study regarding HIV/AIDS issues. Therefore, comprehensive health education should be initiated for school adolescents and others using different accessible situations like health facilities, home and other places for information dissemination.

Keywords

Parents, Adolescents, Communication, HIV/AIDS

Background

Adolescence is a transitional period from childhood to adulthood, characterized by significant physiological, psychological and social changes. World Health Organization (WHO) defines adolescence as the age range between 10 and 19 years (1, 2). Currently, our world carries a historic highest number of adolescents (about 1.2 billion). Of these, about 85% of them live in developing countries [1,2]. In similar fashion, the adolescent population in Ethiopia has been increasing during the last few decades. According to the 2007 national census adolescents constitute about 24% while young adults 10-24 years constitute about 30% of the total population [3].

Globally, HIV/AIDS is now not merely treated as a health problem but also as an economic crisis. It has also posed extraordinary leadership challenges [4]. According to the UNAIDS global estimate 2011, 2 million (1.8 million-2.4 million) adolescents aged 10-19 living with HIV in 2009. An estimated 1.5 million (1.4 million-1.7 million) of these adolescents were in sub-Saharan Africa, and 1.2 million (1.0 million-1.4 million) were in Eastern and Southern Africa alone [5]. With a population of over 83 million, Ethiopia takes a big share of this. The HIV epidemic has affected almost all groups including the rural areas [3,6] where nearly 1.4 million people are living with the virus and almost 129,000 develop new infections every year. It is estimated that HIV ranks a third among all adult causes of deaths in the age group 15-49 years and leaves nearly three-quarters of a million orphans [6,7]. Even though there has been strong progress in reducing the HIV incidence among children younger than 15 years in Sub-Saharan Africa, it is still reported that HIV/AIDS is one of the leading causes of death in the region [5,8].

Parents are the first burden bearer as a result of a multitude of problems associated with HIV/AIDS. It is obvious that one learns everything from families first and shaped by them. They have every role in directing or modifying the future of their children, including their sexuality. Ascendingly, community also plays its own role and their effort is of paramount in mitigating the problem. However, parents have significantly great influence on adolescents and that influence can last for a lifetime [9,10].

Citation: Lemango F, Gone T, H/Michael Y, Ololo S (2016) Assessment of Parent-Adolescent Communication on HIV/AIDS Prevention in Kemebata Temebaro Zone, Southern Ethiopia. J Infect Dis Epidemiol 2:008

Received: November 26, 2016; **Accepted:** February 26, 2016; **Published:** February 29, 2016

Copyright: © 2016 Lemango F, et al. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Parents are important determinants of adolescents' sexual behavior that affect men and women as they "come out" as husband and wife and as they gain and lose ties to family throughout the years [9]. Parents can help protect their children from risky sexual behaviors. Family connectedness and parent child communication is a key for ensuring healthy behaviors [10]. Information, because it is a valuable means to delay an early initiation of sex in adolescents, should have started early at home by the family and primary school teachers.

HIV prevention among young people aged 15-24 is very crucial because 60% of this age group are unable to correctly identify the ways of preventing HIV transmission because HIV/AIDS related service has not been provided at school, at community and at family level [11,12]. In Ethiopia, Sexual and reproductive health problems of adolescents including HIV issues are increasing from time to time and this is related with most parents do not feel happy to discuss about sexual issues with their adolescents and early sexual commencement [13]. There is little data available about parent-adolescent communication about HIV issues and associated factors in the study area. Therefore, the aim of this study was to identify factors affecting parent adolescent communication on HIV/AIDS issues among high school students in Kambata Tembaro Zone, Southern Ethiopia.

Methods

Study area and period

This study was conducted in Southern Ethiopia, Kemebata Tembaro Zone (the middle level administrative structure in Ethiopia) in February, 2011. The Zone covers an area of 1,355.89 km² and an estimated population of 788,141 with 49% males and 51% females and a density of 502.13 inhabitants per square kilometer. It was also estimated that 24% of the total residents are adolescents. The main ethnic groups are Kemebata, Tembaro and Hadiya. Christianity is the major religion in the area which includes protestant, orthodox and catholic Christians. Currently the zone has nine high schools. Four of them are found in two Woredas and the remaining is found in every other Woreda (descending administrative structure to Zone). There were 17,222 students for the academic year 2011/2012 with 53% males and 47% females [3,14].

Study design

A cross-sectional study was employed using both quantitative and qualitative data collection methods.

Sample size determination and sampling technique

Quantitative Study: The required sample size was calculated using a single population proportion formula [15]. By taking expected (50%) population proportion of parent-adolescent communication on HIV/AIDS prevention among school students, 95% confidence level (alpha 0.05), and 5% desired precision, the initial sample size was 384. After multiplying the initial sample size by 2 for the design effect of multistage sampling, and adding 5% of the intermediate sample for the potential non response rate, a total sample of 806 students were considered as a final sample size for quantitative study.

$$n = \frac{\left(Z \frac{\alpha}{2}\right)^2 P(1-P)}{d^2}$$

$$n = \frac{3.8416 \times 0.5 \times 0.5}{0.0025}$$

$$n = \frac{(1.96)^2 \times 0.5(1-0.5)}{(0.05)^2}$$

$$n = 384$$

$$n = 384 \times 2 \times 5\% = 806$$

Where, $Z_{\alpha/2}$ = the standard normal distribution corresponding to a significance level of 5%.

P = Expected proportion of parent-adolescent communication on HIV/AIDS (50%)

d = desired precision, 5%

From a total of nine high schools in the zone, four namely *Doyogena*, *Damboya*, *Angecha* and *kachibera* high schools were randomly selected. A multi stage sampling procedure was employed to obtain a representative sample of adolescent students in the schools. Stratification in grades (Grade 9, 10) and simple random sampling technique using students list (Roster) was employed to select two to three sections from each grade and respondents in the respective sections. In case of absenteeism the next number was included in the study. The sample size was distributed proportionally to each selected school based on the student population they have.

Qualitative part

Eight focus group discussions (FGD) were done with 8 parent discussants purposively selected for each FGD (I.e. parents above 35 years of age, no hearing or speaking problems). It was conducted in all selected Woredas with a total of 64 participants (32 fathers and 32 mothers). The focus group discussion for mothers and fathers were conducted separately to increase the quality of information that can be generated and to be able to ensure the confidence of the respective parents. Tape recorder was used in order to capture their opinion fully. A semi structured FGD guide was used to lead the discussion.

Data collection Instrument

The data collection tool was adapted and modified after reviewing literatures and Ethiopian Health and Demographic Survey (EDHS) [16-19]. The questionnaire were prepared in English and later translated in to Amharic, and back translated to English to ensure that the original meaning was retained. The Amharic version was validated by experienced professional after they had been well informed about the purpose of the study. The questionnaire was pre-tested among 81 (10% of the sample size) students' in Durame high school. The structured questionnaire contains four parts: socio demographic conditions, items to assess knowledge of adolescents, parent-adolescent communication on HIV/AIDS prevention and the factors that affect their communication for study subjects. Eight diploma nurses and two BSc health professionals were selected and recruited as data collectors and supervisors respectively after they had been trained for two days on instructions and how to supervise the whole activity.

Operational Definition

Parents

Are father, mother and foster parents (biological and non-biological parents)

Adolescents

According to the World Health Organization, adolescence is the age bracket between 10-19 years. For purposes of this study, adolescents will refer to persons aged 15-19 years corresponding to the Ethiopia educational system for high school.

Living arrangement

Means those adolescents living with father, mother and foster parents (biological and non-biological parents)

To say there is communication

When adolescents report they frequently discuss at least two topics related to HIV/AIDS transmission and its prevention methods such as condom use, abstinence, limited partner, safe sexual intercourse, avoiding contact with contaminated instruments etc. with their parents.

Knowledge about prevention

knowledge of HIV prevention was assessed using items on prevention of HIV/AIDS, respondents were considered to be knowledgeable about HIV prevention if they correctly identified the three main ways to prevent HIV transmission: abstinence, being faithful to uninfected partner and condom use. (Behavioral Surveillance Survey (BSS) indicator considered a person knowledgeable when the person mentioned all three.

Knowledgeable about means of transmission of HIV/AIDS

Subjects were considered to be knowledgeable about HIV transmission when they report at least the three major modes of HIV transmission; namely, unprotected sex, contaminated instruments and from mother to child transmission.

Ethical Considerations

The study obtained ethical clearance from the Ethical Committee of Jimma University, College of Public Health and Medical Sciences. Consent was also sought from the officials at different levels in the study area. Verbal and written consents were obtained from each school administrations and study subjects (both parents and adolescents) after purpose and procedures of the study had been explained. The responses to the survey were anonymous and the subjects were free to withdraw from the study at any time when they don't want to continue their participation.

Data Analysis

The collected data was entered into computer using the SPSS version 16.0 statistical package. To identify the factors associated with parent-adolescent communication about HIV/AIDS, bivariate and multivariate analyses was conducted. For each of the two datasets, bivariate analyses were first performed between possible factors and the main outcome measure with P value 0.05. Next multivariate logistic regression analysis was conducted for each variable to identify important factors associated with HIV/AIDS communication. Analysis of the qualitative data was accomplished based on the predetermined themes and adding the context of peculiar information provided by some respondents.

Results

Socio-demographic characteristics

A total of 806 school adolescents were invited to complete the questionnaire. Thirty four responses were excluded for gross incompleteness. Seven hundred seventy two (95.8%) responses were found complete.

Out of the total 772 respondents, 420 (54.4%) were males and 352 (45.6%) were females. The median age of the respondents was 17 ± 1.407 SD. The majority 480 (62.2%), of the respondents were Kemebat by ethnicity followed by Hadiya 175 (22.7%). Five hundred eighty eight (76.7%) of the respondents were Protestants followed by catholic religion followers 104 (13.5%). Six hundred forty two (83.2%) of the respondents were living with both parents. Two hundred and ninety six (38.3%) of the participants had mothers whose educational status were secondary education and above. Three hundred ten (40.2%) of participants' fathers educational level were secondary education and above. Five hundred and twenty two (67.6%) of the students' mothers were housewives. Four hundred ninety one (63.6%) of the participants' fathers were farmers by occupation (Table 1).

Source of information about HIV/AIDS

Seven hundred sixty seven (99.4%) of the school adolescents have heard about HIV/AIDS. The most reported source of information for HIV/AIDS was health workers including health extension workers (325 (42.4%)), followed by mass media 185 (24.1%).and 168 (21.9%) have heard about HIV/AIDS from their parents (Table 2).

Table 1: Socio-demographic characteristics of school adolescents in Kemebata Temebaro Zone, February 2012

Variable	Number	Percent (%)
Sex		
Male	420	54.4
Female	352	45.6
Age category		
15-17	493	64.3
18 &19	274	35.7
Level of education		
Grade nine	402	52.1
Grade ten	370	47.9
Religion		
Protestant	588	76.2
Orthodox	67	8.2
Catholic	104	13.5
Muslim	9	1.1
Other	4	0.5
Ethnicity		
Kemebata	480	62.2
Temebaro	38	4.9
Hadiya	175	22.7
Amhara	59	7.6
Other	20	2.6
Living arrangement		
Living with mother and father	642	83.2
With father only	79	10.2
With mother only	26	3.4
Other	25	3.2
Residence		
Rural	428	55.4
Urban	344	44.6
Family size		
Greater than 5	485	62.8
Less than 5	287	37.2
Mother's educational level		
No formal education	255	33.1
Primary education	221	28.6
Secondary education and above	296	38.3
Father's educational level		
Can't read and write	236	30.6
Primary education	226	29.3
Secondary education and above	310	40.1
Mothers' occupation		
House wife	522	67.6
Government employee	62	8
Private Employee	15	2
Small scale merchant	115	14.9
Other	58	7.5
Fathers' occupation		
Farmer	491	63.6
Government Employee	115	14.9
Private Employee	52	6.7
Small scale merchant	85	11
Other	29	3.8

Table 2: School adolescent's source of information about HIV/AIDS in Kemebata Temebaro Zone, February 2012

Source of information	Number	percentage %
Parents	168	21.9
Health workers including HEWs	325	42.4
Mass media	185	24.1
Community health agent	55	7.2
Other source	34	4.4

Level of knowledge of school adolescents on HIV/AIDS issues

Among seven hundred sixty seven adolescents who heard about HIV/AIDS, 690 (90%) of them were aware (they knew at least two or more topics on HIV/AIDS prevention). HIV preventive measures

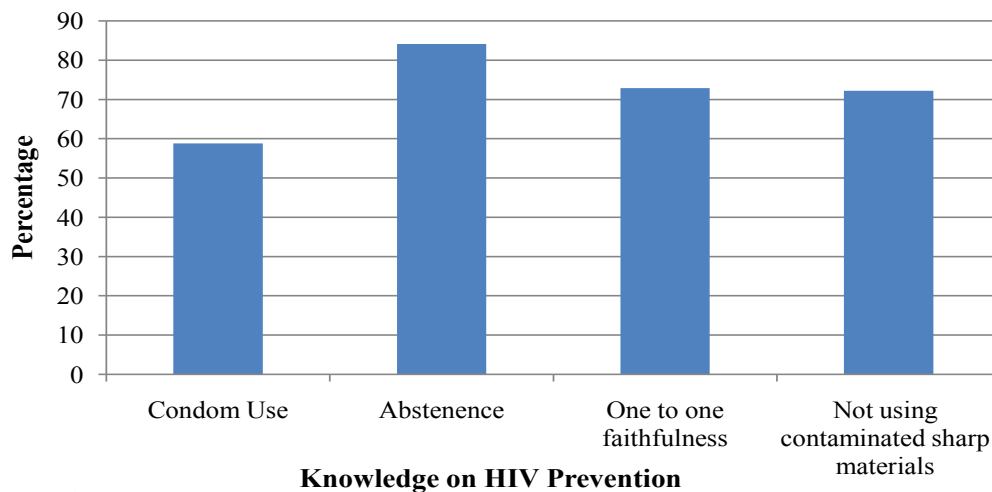
which respondents knew include abstinence (646 (84.2%), faithfulness to one uninfected partner (554 (72.2%), avoided using contaminated instruments (559 (72.9%), and regular condom use (451 (58.8%) (Figure 1). Among the respondents reported that using condom protects from HIV 385 (85.4%) knew how to use condom properly. Majority of the respondents 317 (82.1%) reported the importance of proper and consistence use of condom in the prevention of HIV/AIDS (Figure 2).

With regard to respondent's knowledge on HIV/AIDS

transmission, 691 (91%) were aware of transmission modes; 677 (88.3%) knew HIV could be transmitted through unprotected sexual intercourse; (620 (80.8%), 536 (69.9%); and 497 (64.8%) stated that it could be transmitted through contaminated sharp instruments, contaminated blood transfusion and from infected mother to child, respectively (Figure 3).

Communication on sexual intercourse and premarital sex

Out of 767 school adolescents who had heard about HIV/AIDS,



*The total percentage exceeds 100% because of multiple response

Figure 1: School Adolescent's Knowledge on HIV/AIDS Prevention in Kembata Temebaro Zone, Southern Ethiopia, 2012. The proportion of respondents who knew about HIV-preventive measures was abstinence 646 (84.2%), faithfulness to one partner 554 (72.2%), not using contaminated instruments 559 (72.9%), and regular condom use 451 (58.8%).

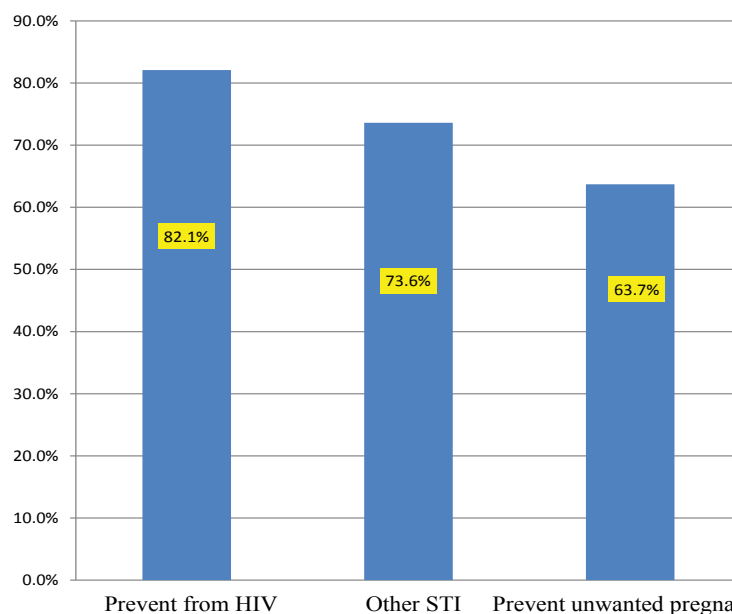


Figure 2: School adolescent's knowledge on the importance of consistent use of condom in HIV/AIDS prevention in Kemebata Temebaro Zone, February 2012. Large proportion of respondents reported that the importance of proper and consistence use of condom, 317 (82.1%) prevent from HIV, 284 (73.6%) protect from STI and 246 (63.7%) prevent from unwanted pregnancy.

**Total percentage exceeds 100% because of multiple responses

344 (44.9%) had discussed about sexual intercourse with their parents, while the rest who had no experience of discussion mentioned their reason as shamefulness (253 [60%]) and it is not recommended by their religion to do so (204 [48.2%]), respectively.

Out of the 334 respondents who communicated the issue with their parents, 157 (45.7%) of them had discussed with their mothers, and 124 (36%) with their fathers. From a total of 147 females who discussed, 82 (55.8%) had preferred their mothers and from a total of

197 males who had discussed, 77 (39.1%) had preferred their fathers to discuss the issue (Table 3).

Out of 767 adolescents, 699 (91.1%) did not support premarital sex. Out of these, 68.1% of them reported that it predisposes them to HIV/AIDS and 280 (36.5%) of them had discussed the issue with either of their parents. From those respondents who had discussions about avoiding premarital sex, 134 (47.9%) had discussed with their

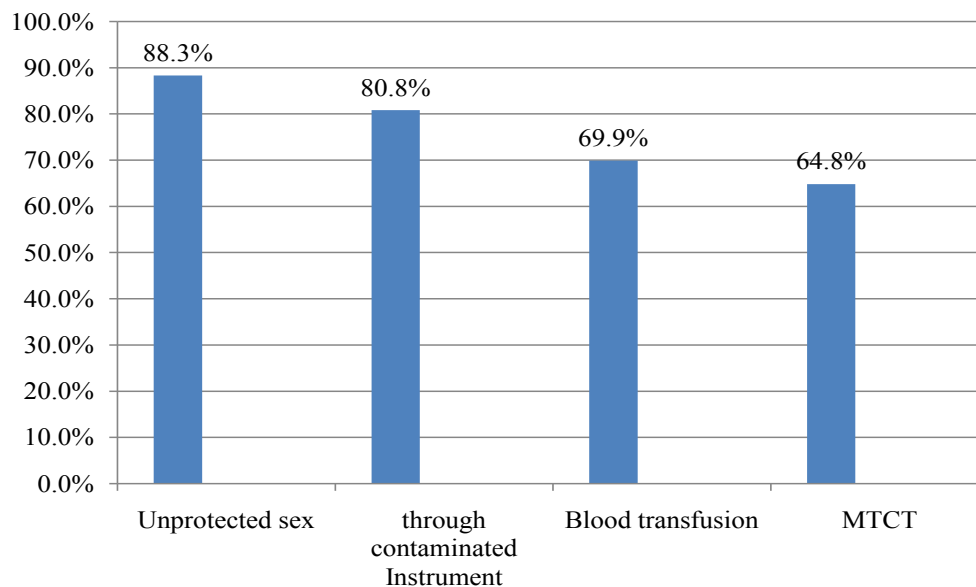


Figure 3: School adolescence knowledge on HIV/AIDS transmission in Kemebata Tembaro Zone, February 2012. Most respondents (88.3%) knew HIV could be transmitted through unprotected sexual intercourse; 80.8%, 69.9% and 64.8% stated that it could be transmitted through contaminated sharp instruments, contaminated blood transfusion and from infected mother to child respectively.

**NB: - Multiple responses is possible

Table 3: School adolescence preference or with whom they discussed on sexual intercourse and premarital sex in Kemebata Tembaro Zone, February 2012

Topics discussed	Sex of student	With whom they discussed/preference		
		Father	Mother	Other
Sexual intercourse	M (197)	77 (39.1%)	75 (38.1%)	45 (22.8%)
	F (147)	47 (32%)	82 (55.8%)	18 (12.2%)
Premarital sex	M (151)	68 (45%)	63 (41.7%)	20 (13.2%)
	F (129)	50 (38.8%)	71 (55%)	8 (6.2%)

** Other (non biological parents)

Table 4: Major reasons, for not discussing with their parent in HIV/AIDS prevention and related issues in Kemebata Tembaro Zone, February 2012.

Topics of discussion	N (%) not discussed	Reason for not discussing either of their parents				
		Culturally unacceptable	Religiously not allowed	Being shy	Lack of knowledge by Parents	Lack of communication skill by Parents
HIV/AIDS	255 (33.2%)	89 (34.9%)	61 (23.9%)	122 (48%)	87 (34.1%)	60 (23.5%)
Sexual intercourse	423 (55.1%)	175 (41.1%)	204 (48%)	254 (60%)	100 (23.6%)	76 (8%)
Premarital sex	487 (63.5%)	168 (34.5%)	206 (42.3%)	264 (54%)	133 (27.3%)	69 (14.2%)

** Percentage exceeds 100% due to multiple responses

mothers, 118 (42.1%) with their fathers, and 28 (10%) with others. It is noticed that while female adolescents (55%) prefer their mothers to discuss premarital sex, males prefer their fathers (45%) (Table 3).

For those who had not discussed, the commonly reported reasons were being shy to raise the issue with their parents as they perceive it as not being respectful 264 (54.2%) followed by religious view, taking it as not recommended 206 (42.3%) and cultural unacceptability 168 (34.5%) (Table 4).

Parent-adolescent communication on HIV/AIDS prevention

Five hundred twelve (66.8%) adolescents reported that they had discussed on HIV/AIDS with parents. However, only 188 (36.7%) of the students discussed at least two or more topics about HIV/AIDS prevention with either of their parents. From a total of 512 adolescents, 313 (61.1%) had discussed the issue only with their fathers, followed by 175 (34.2%) only with mothers. The remaining had not discussed at all, because 122 (47.8%) reported it is shameful to discuss the issue with parents, and another 87 (34.1%) mentioned parents have lack of knowledge in this regard. From a total of 294 male respondents 195 (66.3%) prefer their fathers and 87 (29.6%) prefer their mothers. And from a total of 218 female school adolescents 118 (54.1%) and 88 (40.4%) prefer their mothers and fathers respectively. Some of the issues discussed on HIV/AIDS by the parents included: Abstinence

362 (70.7%), being faithfulness 304 (59.4%), use of condom 118 (23%), not using contaminated sharp instrument 308 (60.2%) and not using contaminated blood transfusion 192 (37.5%).

Bivariate analysis

Bivariate analysis was done first to identify possible association between explanatory and the main outcome variable. On bivariate analysis adolescents' age, educational status/grade level, knowledge of HIV/AIDS prevention, gender, and place of residence and mother's education were associated with capability of discussing on HIV/AIDS issues.

Multivariate analysis

Results from the logistic regression analysis of parent-adolescent communication on HIV/AIDS prevention in relation to different socio-demographic and other variables are presented in table 5. Age, place of residence, knowledge of adolescents on HIV/AIDS prevention and mothers' education were significantly associated with HIV/AIDS communication in multivariate analysis. Adolescents whose age was eighteen and above were 1.7 times more likely to discuss HIV/AIDS issues with their parents than those whose age less than eighteen years [OR = 1.706 (95% C.I., (1.212 -2.403), P = 0.002].

When we see place of residence of adolescents, it had statically

Table 5: Multivariate Analysis on parent-adolescent HIV/AIDS communication by different socio-demographic variables in Kemebata Temebaro Zone, February 2012

Variable	HIV/AIDS communication		COR (95%CI)	AOR (95%, C.I)
	Yes	No		
Sex				
Male	295 (70.6%)	123 (29.4%)	1.0	1.0
Female	217 (62.2%)	132 (37.8%)	0.685 (0.507- 0.927)*	0.736 (0.536-1.011) P > 0.05
Age category				
15-17	309 (62.7%)	184 (37.3%)	1.0	1.0
18-19	203 (74.1%)	71 (25.9%)	1.703 (1.229- 2.359)	1.706 (1.212- 2.403)* P < 0.05
Level of education				
Grade nine	252 (63.2%)	147 (36.8%)	1.0	1.0
Grade ten	260 (70.6%)	108 (29.4%)	1.427 (1.054-1.932) *	1.384 (.998-1.920) P > 0.05
Residence				
Rural	266 (62.4%)	160 (37.6%)	1.0	1.0
Urban	246 (72.1%)	95 (27.9%)	1.558 (1.145-2.118)*	1.503 (1.085 -2.084)* P < 0.05
Mother's education				
Can't read and write	152 (59.8%)	102 (40.2%)	1.0	1.0
Primary education	150 (68.2%)	70 (31.8%)	1.438 (.985-2.100)	1.29 (.863-1.930) P > 0.05
Secondary education & above	210 (71.7%)	83 (28.3%)	1.698 (1.188-2.426)	1.622 (1.115-2.358)* P < 0.05
Level of Knowledge of adolescent on HIV/AIDS prevention				
Knowledgeable	482 (69.9%)	208 (30.1%)	3.63 (2.233-5.903)	3.57 (2.145-5.828)* P < 0.05
Not Knowledgeable	30 (39%)	47 (61%)	1.0	1.0

** P-value <0.05

significant relationship with adolescents discussion on HIV/AIDS issues with their parents [OR = 1.503 (95% C.I (1.085 -2.084)] i.e. urban residents were 1.5 times more likely to discuss HIV/AIDS issues with their parents than rural residents (Table 5). Level of knowledge of adolescents was also significantly determining parental communication on HIV/AIDS issues. Knowledgeable adolescents were 3.57 times more likely to discuss than non-knowledgeable adolescents [OR = 3.57(95% C.I, 2.145-5.828), P = 0.000].

The educational status of mothers was significantly associated with their adolescents' communication on HIV/AIDS issues [OR = 1.622 (95% C.I, 1.115-2.358), P = 0.004]. Mothers with educational level of secondary and above were 1.62 times more likely to discuss with their adolescents than uneducated mothers. However, there was no significant difference in communication about HIV issues among adolescents with respect to family size, living arrangement and father's education.

Focus groups discussion (FGD) of the parents

Majority of the participants explained that most adolescents did not accept to discuss sexuality issue directly in early age because they think it as shameful and culturally unacceptable. But now it is becoming practical as a result of health education by health extension workers. Many of the parents heard about HIV/AIDS and hence knew HIV/AIDS can be transmitted by sexual contact and sharing contaminated sharp instruments. However, few of them responded it can naturally occur and some others said it can be transmitted through mosquito bite and due to committing sins.

Most of the parents (both males and females) reported that they discuss with their adolescents because this guides their adolescents for better future life; they can differentiate right doing from the wrong one, protects them from diseases like (HIV/AIDS). Majority of the discussants said that frequent parent-adolescent communication about HIV/AIDS related to sexual and reproductive health issue

is important. Few parents were able to estimate the frequency of communication and reported that the frequency of communication in their families ranges from once in a month to once within two or three months. It was also noted that most parents were careful in their selection of words when giving advice related to sex to adolescents. When asked about how they felt while talking about sex with their adolescent, most of the male parents said that talking about sex with one's adolescent is shameful, unnecessary, and encouraging them to have sex.

Few of the female and male discussants supported premarital sex and the reasons they put were that it is natural feeling and they can protect themselves by using different methods like condom. But majority of the discussants do not accept premarital sex because it exposes their adolescents to HIV/AIDS, unwanted pregnancy, and it is not supported by different religions. They also noted that discussion about the issue with their children is important but not openly. They also reported that adolescents do have sex preference to discuss the issue with their parents. Female adolescents are closer to their mothers while males are closer to their fathers. The reason they put was since female adolescents usually help their mothers and boys do their fathers. But as to males they are uncomfortable and even they become aggressive to them. Some of them said it is out of their culture and unacceptable because rising about the issue exposes them to many dangerous situation.

Most of the male and female discussants said that they discuss on topics like AIDS, on premarital sex, on addictive behaviors of the adolescents and the like.

Discussion

The current study documented low parent adolescents communication about HIV/AIDS related issues in the study area. Majority of the parents and adolescents had information from different sources and they are knowledgeable about HIV/AIDS

transmission means and its prevention methods. However, they were not frequently communicating each other raising at least two topics related to HIV/AIDS issues due various parent and adolescents related factors.

Health providers including health extension workers were found to be main source of information about HIV/AIDS followed by mass media. Only 21.9% of the adolescents heard from their parents. This was higher when compared to similar study conducted in Nigeria where only 12.1% reported family as the first source of information [20]. This difference may be due to the contribution of health extension program especially the promotion of Information Education Communication (IEC) in the facility, community and at house hold level.

Ninety percent of the respondents were aware about HIV/AIDS prevention methods and ways of transmission. The HIV-preventive measures which respondents knew include abstinence (84.2%), faithfulness to one uninfected partner (72.2%), not using contaminated instruments (72.9%), and regular condom use (58.8%). This finding is consistent with the study conducted in western Nigerian city where abstinence accounted for 81.0%, regular condom use 66.2% and faithfulness to one uninfected partner 69% [20]. It is also similar with 2011 EDHS report which indicated the percentage of adolescents who reported that HIV can be prevented by using condoms and limiting sexual partners (61.6% and 68.4% respectively) [19].

Adolescent's communication about HIV/AIDS was significantly associated with their knowledge about HIV/AIDS prevention. Those knowledgeable adolescents were 3.57 times more likely to discuss HIV/AIDS related issues with their parents than those adolescents who are not knowledgeable. This finding was also supported by parents focus group discussion where they said those adolescents who attend high school and above discuss the issue with their parents openly, because they know more than their parents.

In this study about 66.8% of the students had parent-adolescent communication about HIV/AIDS. This finding was low as compared to similar studies conducted among senior secondary school students in Nigeria (79.7%) and Ghana (73.6%) [20,21]. The difference might be due to cultural variations among the countries regarding adolescents' communication on sexuality and HIV/AIDS with parents. Majority of the parents had not discussed on pre-marital sex with their children rather they focus mainly on HIV/AIDS prevention measures like abstinence and avoiding sharing sharp instruments. A few respondents discuss on condom use. This is in contrary to the study conducted in Ghana where all of the adolescents discuss on HIV/AIDS prevention and transmission followed by use of condom (98%) whereas a few discuss about pre-marital sex (33.7%) [21]. This may suggest that adolescents in the study area fear their parents, culture and religion and this can be considered as the main barriers. This is also supported by parents FGD where majority of the discussants said that most of the time they are engaged in giving advice to be abstained than talking about condom since they take it as shame.

Mothers' tendency to discuss on HIV/AIDS issues was significantly associated with their educational level. Those mothers whose educational level was secondary and above were 1.62 times more likely to discuss with their adolescents than those who cannot read and write or uneducated. This is in line with a study conducted in Nigeria where the educational status of mothers significantly determined students family communication on HIV/AIDS ($P = .00001$) [20]. This is also supported by the present qualitative finding in which the discussants said that those parents who are educated discuss more than uneducated because educated parents understand the effect of the disease better than uneducated parents.

With respect to place of residence, those who reside in urban areas discuss 1.5 times more than the rural residents on HIV/AIDS. This was supported by the present qualitative finding where parents who were educated and urban residents recognize better about HIV/

AIDS prevention than rural parents and adolescents since they are more exposed to media and other accesses of information.

In this study, 91.1% of the respondents disapproved premarital sex which quite higher than the finding of the study done at Butajira high school in Western Ethiopia and Benishangul high school in southern Ethiopia where 75.4% and 69% of the students disapprove premarital sex respectively [17,18]. The FGD result showed that the majority of parents said HIV/AIDS prevention related to sexuality education should be given in school, health facility, and supplemented by home which is similar with that of Benishangul-Gumuz study in which parents believed that majority of sexuality education should be provided by schools and supplemented by home [17].

About 90% of the study discussants knew the methods and ways of HIV/AIDS prevention and transmission. This may be related to the information that is widely disseminated by health providers, different medias and the adverse effect of the problem that HIV is posing on more and more people in the area and in the country at large. Moreover, this study illustrates that most parents understand the importance of discussing on sexuality with their adolescents but as many of them found they were unable to address the subject comfortably. Some believe that they don't know enough or they are ashamed of it. On the other hand, adolescent's age had statistically significant association with HIV/AIDS discussion with parents. Those respondents whose age categories is greater than eighteen years were 1.7 times more likely to discuss HIV/AIDS issues as compared to age category less than eighteen years. This is supported by the present FGD and other various studies in the country and outside [22-25] in which early age adolescents were shyer than late adolescents to discuss sex related issues to their parents.

In this study there was no gender difference in discussing HIV/AIDS preventive issues related to sexual and reproductive health. This finding was not similar to the previous study conducted in North Western Ethiopia which stated that discussing sexual intercourse and condoms is higher in males than females (52.1% VS 20.3%) and (68.3% VS 39.1%) respectively [17].

In conclusion majority of the adolescents knew about HIV/AIDS prevention and ways of transmission. Both adolescents and parents had good attitude towards the importance of communication on HIV/AIDS prevention. There was positive attitude towards avoiding premarital sex both in the students' survey and focus group discussion of the parents. Nevertheless, parent-adolescent communication was considerably low on some sexual and reproductive health issues related to HIV/AIDS prevention like condom use and premarital sex. Our study also highlights that age, knowledge of adolescents about HIV/AIDS prevention, mothers' education and place of residence as important factors that influence parent's discussion on HIV/AIDS with their children. Therefore, there is a need to equip parents with appropriate communication skill on sexuality and RH related issues. Effective sexual education should be introduced to adolescents at an early age at family level and at school. Communities should be sensitized and encouraged for open discussion among family members in general and between parents and children in particular. Furthermore, further studies should be conducted to examine what trigger quality and timing of parents-adolescents communication on sexuality and reproductive health related issues and the effect of communication on safe sexual behaviors.

List of Abbreviations

EDHS: Ethiopian Demographic and Health Survey, EIFDDA: Ethiopian Inter-faith Forum for Development, Dialogue and Action, EMSAP: Ethiopian Multi-Sectoral HIV/AIDS Prevention and Control Project, FGD: Focus Group Discussion, HAPCO: HIV/AIDS Prevention and Control Office, HIV/AIDS: Human Immunodeficiency, Virus/Acquired Immuno Deficiency syndrome, MOH: Ministry of Health, MSP: Multiple Sexual Partners, PLWHA: People Living With HIV/AIDS, SNNPR: Southern Nations Nationalities and People Region, SPM: Strategic Plan for Multi-sectoral HIV/AIDS

Response, UNAIDS: Joint United Nations Programmes on HIV and AIDS, UNESCO, United Nations Educational, Science and Cultural Organization, UNFPA: United Nations Family and Population Agency, UNICEF: United Nations International Children's Fund, WHO: World Health Organization

Authors' contributions

FL: Conception of research idea, designing and data collection, data analysis and interpretation and manuscript reviewing. YHM: Facilitation of field work, supervision of data collection and manuscript reviewing. SO: Facilitation of field work, supervision of data collection and manuscript reviewing. TG: Supervision of data collection and manuscript reviewing. All authors read and approved the final manuscript.

Acknowledgements

We would like to thank Jimma University for its financial support. We would also like to extend our great appreciation to all the study participants, data collectors, Zonal and Woreda Educational offices, participating schools and supervisors for their meaningful cooperation.

References

1. WHO (2006) Programming for adolescent health and development report of WHO/UNFPA/UNICEF study group on programming for adolescent health WHO, technical report series 938, Geneva.
2. UNFPA (1998) Sexual and Reproductive Health of Adolescents: a review of UNFPA assistance. Technical Report. N 48.
3. CSA (2008) The 2007 population and housing census result.
4. UNAIDS (2004) Global Report. AIDS Update.
5. UNAIDS (2011) The Joint United Nations Programmers on HIV/AIDS, Opportunity in Crisis: Preventing HIV from early adolescence to young adulthood.
6. MOH (2008) The driver's HIV/AIDS epidemic and response in Ethiopia, HAPCO.
7. MOH (2007) Aids in Ethiopia, 6th report; Federal ministry of health HIV/AIDS prevention and control office.
8. UNAIDS(2011) Report on the Global AIDS Epidemic, global HIV/AIDS response progress report.
9. Pequegnant W, szapocznik J (2000) Working with Families in the Era of HIV/AIDS. Stage publication 1-219.
10. Bauman EK, Foshee VA, Ennet T S, Pemberton M, Hicks KA (2001) The influence of a family program on adolescent tobacco and Alcohol use. *Am J public Health* 91: 604 -609.
11. (2009) Joint united nations on HIV/AIDS.
12. Kloos H, Hailemariam D (2000) Community-based organization and program in HIV/AIDS prevention and control in Ethiopia: a preliminary survey. *North East African studies in press* 7: 13-33.
13. Federal Democratic Republic of Ethiopia Ministry of Health: National Reproductive Health Strategy 2006 – 2015. Addis Ababa, Ethiopia.
14. Kemebata Temebaro Zone. Education department Annual report, Durame, SNNPR, Ethiopia, 2010/2011.
15. Daniel WW, Cross CL (2005) Biostatistics: A foundation for analysis in the health Sciences 8: 189-190.
16. Nolin MJ, Petersen KK (1992) Gender differences in parent-child communication about sexuality: an exploratory study. *J Adolesc Research* 7: 59-79.
17. Desalegn G, Yesus, Mesganaw F (2010) Assessing communication on sexual and reproductive health issues among high school students with their parents, Bullen Woreda, Benishangul Gumuz Region, North West Ethiopia. *Ethiop. J. Health Dev* 24: 89-95.
18. Versnel M, Berhane Y, Wendte JF (2002) Sexuality and contraception among never married high school students in Butajira. *Ethiop Med J* 40: 46-49.
19. (2011) Ethiopia Demographic and Health Survey 2011. Preliminary Report Central Statistical Agency Addis Ababa, Ethiopia Measure Dhs, USA.
20. Romero de Castilla Gil RJ, Lora Cerezo MN, Estrada R (2001) Adolescents and source of sex information: preferences and perceived usefulness. *Atenprimaria*. 279: 12-17.
21. Adu. Mireku S (2003) Family communication about HIV/AIDS and sexual behavior among senior secondary school students in Accra, Ghana. *African Health Sciences* 3: 7-14.
22. Negussie T, Rahel H, Selamu D, Alemayehu T, Kedir M (1999) Do parents and young people communicate on sexual matters? The situation of family life education in a rural town in Ethiopia. *Ethiopia, J. Health Dev* 13: 205-210.
23. Berhane F (2000) Health Problems and Service preferences of School Adolescents in Addis Ababa with emphasis on reproductive health.
24. MOH, Department of Family Health. Five-year 'action for adolescent's reproductive health in Ethiopia.
25. (1994) Predictions of high risk behavior in unmarried American women: adolescent environment as a risk factor. *J Adolesc Health* 15: 126-132.