Communication about HIV/AIDS among Adolescents in Community Schools–Social Ecological Perspective

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Abstract

The risk health behaviors among adolescents such as unsafe sex and inducing drugs use keep them at risk of HIV infection. Hence, study aims to assess awareness about HIV/AIDS among adolescents of community schools in rural community of Nepal. This cross-sectional study was made among 381 adolescent students using cluster sampling. The pretested self-administered instrument was used. Data were analyzed by Pearson's *chi-square* test and binary logistic regression. A majority of students were informed about HIV/AIDS. The informed students were much participation on communication and use of health care services of HIV/AIDS. Therefore, gender responsive health education from family, school and community helps adolescents to promote communication about sexual health including HIV/AIDS.

Keywords: Adolescents • Communication • HIV/AIDS • Community school • Students

Introduction

The Human Immune Virus/Acquired Immunodeficiency Syndrome (HIV/AIDS) epidemic is in its fifth decade and is still public health disease that threatens the world population. The AIDS affect all body systems, the mental health and social relationships of carriers and asymptomatic patients [1]. Along with change of times, individual, family and work place/school and community/ society have changed values about sex matter. Moreover, with changes of climate/environment, many adolescents start sexual activity at very early age and mature much faster. Research results also indicate that many young people are still at risk because of high-risk sexual behavior, despite sound knowledge about sexual health risks. Hence, appropriate information on sexual matters since early-stage adolescents seems crucial to make people free from infection of Human Immune Virus (HIV).

On other hand, the limited communication of parents with their children about sex matters is in most cultures of the world [2]. In Nepalese context, almost all parents have expressed discomfort and lack of confidence in educating their children on sex matters including HIV/AIDS. Actually, parents and adolescents have to break cultural barriers. In reality, parents, in particular, mothers are very central to provide correct information to their children in any matters including sexual and reproductive health. Nowadays, changes of society and access of information technology including Nepal have shown increased sexual activity among adolescents which predisposes them to risk of Sexually Transmitted Infections (STIs)/HIV infection and unplanned pregnancies.

The gaps in access to sexuality education, health, social, and legal services is particularly wide among those at higher risk of experiencing violence and discrimination.

Access to timely, appropriate, and comprehensive sexual and reproductive health information and education by young people is central to healthy transition from childhood into adulthood [3]. This is beginning to change in terms of both increased access to sexual and reproductive health interventions and the corresponding impacts on health outcomes such as child marriage, adolescent childbearing, and female genital mutilation.

Additionally, Nepal Demographic and Health Survey (NDHS) reported about one percent adolescents of 15-19 years had ever paid for sexual intercourse even without condom use [4]. Further, adolescents had multiple sex partners. Adolescents (13.0%) had intercourse with persons who neither their wife nor lived with them and only 67.7% of them used condom during sexual intercourse with such partners. However, HIV testing among adolescents (boys-4.4% and girls-6.2%) was rare. The prevalence of STIs among adolescents of 15-19 years (boys-0.2% and girls-0.2%) and no advice and treatment seeking behavior among them was for STIs (girls-51.7% and boys-34.9%). Moreover, STIs act as positive catalyst to HIV infection. Very few adolescents had knowledge on treatment for HIV (boys-30.1% and girls-50.3%) and place of receiving treatment (boys-9.2 % and girls-17.7%). Hence, this study aims to assess practice of communication related to HIV/AIDS among adolescent students in community schools.

Materials and Methods

Study settings and population

This study was community school-based cross-sectional survey in Nepal. Nepal is the least developed country of South East Asia region. Study population was adolescent students of grades 9 and 10 from Dedh Gaun higher secondary community school based resource of Nawalparasi district of Nepal. The study site has diversified ethnic community and seasonal transport facilities only in winter. Hence, the school going adolescents of this distant resource center was selected.

The study population of students from each five schools (with pseudo name) and proportionate sample size of students from these schools within this resource centre was presented in Table 1. The name list of the schools and number of students became sampling frame of this study. After that, schools and students became sampling unit. Sample size of the students was calculated using Yamane formula as follows:

Sample size (n)=N ⁄ (1+Ne^2)
Where, N=740 and e=0.05.
The refore, sample size (n)=254.

Moreover, design effect in sample size has been used to address heterogeneity (presence of outliers or/and small sample size). Sample size (254) was multiplied by design effect (1.5) to get final sample size (n) (254 × 1.5) =381. Proportionate sample size of the students from each school was calculated by dividing the multiplication product of students of every school (Y) and sample size of the resource center (X=381) by total number of population of the resource center (Z=740). Hence, the formula become (n)=Y × X ÷ Z.

Where, Y=the number of students of each school, X=the sample size and Z=the total number of students of the resource center. For example, proportionate sample size of school A (n) =225 × 381/740. Where, Y=225, X=381 and Z=740, n=116. Similarly, the proportionate sample size was calculated for school B=59, school C=73, school D=47 and school E=86 has been presented in Table 1 as follows.

Table 1. Name of school, population and sample of study.

Name of schools	Schools population (N=740)	Sample (n=381)
School A	225	116
School B	114	59
School C	143	73
School D	91	47
School E	167	86

All secondary schools within resource centre were selected. The lottery method was used to select students in each school. These selected students were suggested to stay in their class in leisure period. This process was repeated in every school.

In course of developing questionnaire, this researcher visited different professionals (public health graduate, project manager, development worker, students and faculty) who had worked experience or have been working on HIV/AIDS issues. Pilot test was made among 10 percent sample size students of grade nine and ten of secondary schools. Questionnaire was finalized by contextualization.

Measurement

Questionnaire had background variables of respondents (age, sex, ethnicity, study grade, parental education and parental occupation) and communication related questions were 'do you have information about HIV/AIDS?' and 'have you discussed about HIV/AIDS with others?' These question had 'yes' and 'no' response options. Likewise, sources of information about HIV/AIDS and with whom you discussed about HIV/AIDS had multiple choice options. Item-statements about school activities and households were 'Have you ever been taught about harmfulness of injecting drugs use in class?, Have you ever been taught about HIV/AIDS in class?, Have you ever been debated about condom?, Have you ever been observed the world AIDS day?, Have you ever been participated health behavior counseling services in school?, Do you ever have discussion about HIV/AIDS in households?, Do you ever have discussion about HIV/AIDS among friends in school?. These item-statements of questionnaire had 'yes' and 'no' responses.

Because of the educated and availability of respondents at the same place and time, data was collected by self-administer instrument. During data collection process, purpose of visit was described to teachers and students. After getting consent from students, questionnaire was distributed. Teachers were requested not to stay in classroom to address the cultural sensitivity of students and schools as well as to maintain privacy of students in sex affair.

Validity of instrument/study

The split half method was used to test reliability of this instrument. To avoid recall bias, pilot study was totally different from the study site and respondents. The Chronbach's alpha/reliability coefficient of instrument was maintained 0.70 and above. English instrument was translated into Nepali and retranslated into English language. Finally, instrument was administered in Nepali language. Three types of validity like content, construct and criterion were assured. The content validity was ensured by incorporating participants' views/suggestions from pilot test. Contents of the instrument in English were contextualized in Nepali cultural context. Constructs of this instrument were developed through intensive literature (empirical, policy and theoretical) reviews. Problem statement, research questions and hypotheses were duly interconnected to develop construct. Criterion validity was established by contrasting and comparing with similar other studies/surveys in local, national and international level. Ethical consideration is an essential component of entire research process. Hence, the ethical principles in research like autonomy, justice, beneficence and respect participants and sites were consciously followed from inception up to report/article writing.

Analytical methods

After completion of fieldwork, data were organized, coded and entered into Statistical Package for the Social Sciences (SPSS)-17. Data were cleaned and analyzed using descriptive and inferential statistical tools. Non-parametric test like Pearson's *chi-square* test and logistic regression analysis was used. Confidence interval was 95% and "P" value was at 0.05 percent. The relationship of students' personal characteristics (age, sex, ethnicity and study grade), parental characteristics (education and occupation), information about HIV/AIDS, curricular school activities (ever taught about HIV/AIDS and ever taught about inducing drugs use) and extracurricular activities (condom debate, world AIDS day observation, health behavior counseling services and discussion about HIV/AIDS among peers) were examined with students' discussion behavior about HIV/AIDS.

Additionally, the significant independent variables such as information about HIV/AIDS, ever taught about HIV/AIDS, ever taught about inducing drugs use, condom debate, world AIDS day observation, talk about HIV/AIDS in family, discussion about HIV/AIDS among school peers were further analyzed by binary logistic regression analysis. For this analysis, 'yes and no' categories were coded by one (1) and zero (0). Hence, the '0' and '1' made dichotomous categorical dependent variable that is allowable for logistic regression analysis. Likewise, students' discussion behavior about HIV/AIDS were coded by '0' and '1' correspondingly for 'no' and 'yes' responses. The category "0" (zero) was taken as reference value to analyze result. Enter method of logistic regression analysis was used to predict students' communication behavior about HIV/AIDS.

Results

Firstly, frequency and percentage of the socio-demographic characteristics and parental-related variables of students have been presented. After this, the relation of individual/intra, inter, institutional/school and community/society related-variables with students' discussion behavior about HIV/AIDS was depicted as follows.

Socio-demography of adolescent students

The frequency and percentage of intra/socio-demography of students like age, gender, and ethnicity has been presented as follows. Students of below 15 years age group 208 (54.6%) was slightly more than 15 years and above age group 173 (45.4%). Male students 184 (49.6%) were slightly lower than female students 187 (50.4%). A majority of students were Janajaties 258 (68.1%) followed by Bahun/Chhetri 72 (19.1%) and Dalit 49 (12.8%).

The frequency and percentage of inter-person related variables like parental education and parental occupation of students. Students' mothers were both literate 346 (91.9%) and illiterate 30 (8.1%). In the same way, almost of the respondents' fathers were literate

368 (96.8%) and illiterate 12 (3.2%). A majority of students' mothers had agriculture occupation 363 (95.8%) but very few mothers were non-agriculturists 16 (4.2%). A majority of students' fathers had agriculture as main occupation 260 (70.1%) but only one third of students' fathers possessed non-agriculture occupation 111 (29.9%).

Awareness about HIV/AIDS among adolescents students

Getting information helps to acquit knowledge or facts about HIV/AIDS and adopt preventive behavior about HIV/AIDS. Here, getting information and sources of information about HIV/AIDS has been correspondingly presented in Tables 2 and 3 as follows.

Table 2. Communication about HIV/AIDS among adolescent students.

Communication about HIV/AIDS	Frequency	Percentage
Yes	358	94
No	23	6.00%

Almost all students 358 (94.0%) had informed about HIV/AIDS. A minority of them 23 (6%) had not obtained information about HIV/AIDS in Table 2. Actually, AIDS is a dread disease; it needs to be informed about HIV infection to all reproductive active population as well as adolescents.

Sources of information about HIV/AIDS

Generally, students obtain information about HIV/AIDS from different sources. Students themselves reported sources of information about HIV/AIDS were in Table 3 as follows.

Table 3. Sources of information about HIV/AIDS among adolescent students.

Sources of information	Frequency	Percentage
Internet	21	2.2
School teachers	332	34.8
Health workers	123	12.9
Guardians	74	7.7
Television	74	7.7
Radio	133	13.9
Newspaper	79	8.3
Friends	129	12.5

A majority of students (34.8%) get information about HIV/AIDS from school teachers followed by radio (13.9%), health workers (12.9%) and friends (12.5%). It showed that school teachers were key informants for students. Students almost equally get information from guardians (7.7%), television (7.7%) and newspapers (8.3%). Moreover, students scantly get information about HIV/AIDS from family and relatives. Internet consuming students were quite lowest (2.2%) in number in study site in Table 3.

Adolescent students' communication about HIV/AIDS with others

Communication with different people helps to know more information about any events/issues. Hence, students had rated about ever discussion about HIV/AIDS with different people in schools and community in Table 4 as follows.

Table 4. Adolescent students ever communication about HIV/AIDS with others.

Communication about HIV/AIDS	Frequency	Percentage
Yes	267	71.8
No	105	28.2

More than three fifth of adolescent students (71.8%) had discussed about HIV/AIDS with others. However, nearly one third of students had not discussed about HIV/AIDS in Table 4. Still to date, almost one out of three students had hesitancy on discussion about HIV/AIDS. However, majority of students had started to discuss about HIV/AIDS with different people of their community which has been shown in Table 5 as follows.

Table 5. Communication about HIV/AIDS among adolescent students.

Discussion about HIV/AIDS	Frequency	Percentage
Friends	152	27.9

School teachers	217	39.9
Health workers	84	15.4
Guardians	52	9.6
Family members	39	7.2

A majority of students (39.9%) discuss about HIV/AIDS with school teachers followed by friends (27.9%), and health workers (15.4%). School teachers were seen as most trust worthy informants for students to discuss about HIV/AIDS. Students almost equally get information from guardians (9.6%) and family members (7.2%) in Table 5. Moreover, students were scantly ready to discuss about HIV/AIDS with family members and relatives/guardians. Hence, parents and relatives/guardians have to change their behavior to discuss about HIV/AIDS to promote sexual reproductive health of their children.

Health promoting activities against HIV/AIDS in community schools

The notion of school activities towards HIV/AIDS in school is to promote healthy behavior among adolescent students in time so that they can adopt responsible health behavior on sexual health and substance abuse (inducing drugs use) in later life. These activities help adolescent students to be free from HIV infection in their lives. Hence, six different item-statements related to school activities (both curricular and extracurricular) were administered among students. The item-wise statements of activities towards HIV/AIDS in school were about ever taught about harmfulness of injecting drugs, ever taught about HIV/AIDS, debate about condom use, health behavior counseling service, observation of world AIDS day, and ever had discussion about HIV/AIDS among peers. Each item-statement had 'yes' and 'no' response options.

Communicative activities against HIV/AIDS in community schools

The frequency distribution and percentage of practice on six different item-wise statements about HIV/AIDS with yes and no responses have been presented in Table 6 as follows.

Table 6. Item-wise statements of activities about HIV/AIDS in school.

Item-wise statements of activities in school	Yes n (%)	No n (%)
Ever have been taught about injecting drugs use	319 (84.4)	59 (15.6)
Ever have been taught about HIV/AIDS in class	360 (95.4)	17 (4.6)
Ever have been debated about condom	84 (22.2)	294 (77.8)
Ever have been observed world AIDS day	57 (15.0)	322 (85.0)
Ever have been discussed among school friends about HIV/AIDS	288 (76.0)	91 (24.0)
Ever have been conducted health behavior counseling	219 (61.5)	137 (38.5)

Table 8 has depicts students responses about activities towards HIV/AIDS in school. A majority of students rated 'yes' on 'ever taught about harmfulness of injecting drugs use' (84.4%) and 'ever taught about HIV/AIDS' (94.2%). A majority of the students agreed the existence of curricular activities against HIV/AIDS in school. Similarly, respondents rated 'yes' on the extracurricular activities against HIV/AIDS in school like 'ever had condom debate' (22.2%), "observation of world AIDS day' (15.0%), 'ever had health behavior counseling service' (61.5%), ever discussion about HIV/AIDS among friends' (76.0 %) and 'ever had been conducted health behavior counseling' (61.5%) in Table 6. It showed that both curricular and extracurricular activities towards HIV/AIDS in school. However, extracurricular activities related to HIVAIDS were relatively poor.

Relation of interpersonal variables with communication about HIV/AIDS

Students' participation on communication about HIV/AIDS depends on their socio-demography such as age, sex, and ethnicity. Relation of age, sex, and ethnicity with students' communication behavior about HIV/AIDS has been presented in Table 7 as follows.

Table 7. Relation of intrapersonal variables of students with communication about HIV/AIDS.

Intra-personal variables	Communication about HIV/AID		X^2	P
	Yes n (%)	No n (%)		
Age group				
Below 15 yrs	142 (70.6)	59 (29.4)	0.29	0.6
15 yrs an above	125 (73.1)	46 (26.9)		

Gender				
Boys	137 (75.3)	45 (24.7)	2.75	0.09
Girls	122 (67.4)	59 (32.6)		
Ethnicity				
Janjaties	177 (74.4)	61 (25.6)	2.85	0.24
Bahun/Chhetri	61 (70.9)	25 (29.1)		
Dalit	28 (62.2)	17 (37.8)		
Study grade				
Grade 10	148 (69.2)	66 (50.8)	1.97	0.16
Grade 9	119 (75.8)	30 (24.1)		

Almost equal number of students of both age group fewer than 15 yrs and ≥ 15 years had participated on communication about HIV/AIDS. However, age did not significantly associate with discuss about HIV/AIDS (p=0.6>.05). About three fifth of boys and three fourth of girls had talked about HIV/AIDS. Gender did not significantly relate with discussion with others about HIV/AIDS (p=0.09>.05). Students of ethnic groups like Bahun/Chhetri, Janajati and Dalit had discussed with others about HIV/AIDS in Table 7. However, ethnicity of students was insignificantly associated with discussion about HIV/AIDS (p=0.21>05). Further, almost same number of grade 10 and grade nine had discussed about HIV/AIDS. However, study grade didn't associate with interpersonal discussion about HIV/AIDS (p=0.16>05) in Table 7.

Adolescent students' participation on communication about HIV/AIDS also depends on parental variables such as parental education and occupation. The relation of parental education and occupation with students' communication behavior about HIV/AIDS has been presented in Table 8 as follows.

Almost equal number of students of illiterate and literate mothers had communicated about HIV/AIDS. Mothers' education status was insignificantly related with communication about HIV/AIDS (p=0.06>0.05). Students of agriculture (62.8%) and non-agriculture (43.8%) occupation holding mothers had discussed about HIV/AIDS. Mother's occupation did not significantly associate with students' communication/discsussion about HIV/AIDS. (p=0.75>0.05) in Table 8. The students of illiterate (66.7%) and literate (71.9%) fathers had discussed/communicated about HIV/AIDS. Fathers' education status did not significantly relate with communication/discussion about HIV/AIDS (p=0.68>0.05). Almost equal number of students of agriculture (71.1 %) and non-agriculture (72.7%) occupation holding fathers had involved in communication about HIV/AIDS. However, fathers' occupation insignificantly associated with students' communication about HIV/AIDS (p=0.75>.05) in Table 8.

Table 8. Relation of interpersonal variables of students with their discussion about HIV/AIDS.

Interpersonal variables	Discussion about HIV/AIDS		X^2	P
	Yes n (%)	No n (%)		
Mothers' education				
Illiterate	26 (86.7)	4 (13.3)	3.4	0.06
Literate	239 (70.9)	98 (29.1)		
Mother's occupation				
Agriculture	253 (71.5)	101 (28.5)	0.094	0.75
Non-agriculture	12 (75.0)	4 (25.0)		
Fathers' education				
Illiterate	8 (66.7)	4 (33.3)	0.155	0.68
Literate	258 (71.9)	101 (28.1)		
Fathers' occupation				
Agriculture	180 (71.1)	73 (28.9)	0.094	0.75
Non-agriculture	80 (72.7)	30 (27.3)		
Family talk on HIV/AIDS				

Yes	150 (78.5)	41 (21.5)	8.85	0.03
No	117 (64.6)	64 (35.4)		
Peers' discuss on HIV/AIDS				
Yes	211 (75.1)	70 (24.9)	6.91	0.009
No	54 (60.7)	35 (39.3)		

About four fifth of students who had talked about HIV/AIDS in family (78.5%) and three fifth of students who had not talked about HIV/AIDS in family (64.6%) had discussed about HIV/AIDS with others. Discussion about HIV/AIDS in family had significantly associated with students' discussion behavior about HIV/AIDS (P=0.03<0.05). About four fifth of students who had discussed with school peers (75.1%) and three fifth of students who had no discussion with school peers (60.7%) about HIV/AIDS had associated with students' discussion behavior about HIV/AIDS. Discussion about HIV/AIDS among school peers had significantly associated with students' discussion behavior about HIV/AIDS (P=0.009<0.05) in Table 8.

Relation of school activities with students' communication behavior about HIV/AIDS

Adolescent students' communication about HIV/AIDS also depends on school activities related to HIV/AIDS. The relation of curricular and extra-curricular activities against HIV/AIDS with students' communication behavior about HIV/AIDS has been presented in Table 9 as follows.

Almost same number of students who had and had not been taught about injecting drugs use had associated with students' discussion behavior about HIV/AIDS. Taught about injecting drugs use among school adolescents had insignificantly associated with students' discussion behavior about HIV/AIDS (P=0.77>0.05). Almost same number of students who had (71.7%) and had not (70.6%) been taught about HIV/AIDS had associated with students' discussion behavior about HIV/AIDS. Taught about HIV/AIDS among school had insignificantly associated with students' discussion behavior about HIV/AIDS (P=0.92>0.05) in Table 9.

About four fifth of students who had and had not participated in condom debate associated with students' communication behavior about HIV/AIDS. Students' participation on condom debate had significantly associated with students' discussion behavior about HIV/AIDS (P=0.01<0.05). Almost same number of students who had and had not participated on quiz competition about HIV/AIDS associated with students' communication behavior about HIV/AIDS. Students' participation on quiz competition about HIV/AIDS had insignificantly associated with students' discussion behavior about HIV/AIDS (P=0.77>0.05). Almost same number of students who had (70.6%) and had not (71.4%) participated on health behavior counseling service on HIV/AIDS in school associated with their discussion behavior about HIV/AIDS. The participation of health behavior counseling in school was insignificantly associated with students' communication behavior about HIV/AIDS (P=0.86>0.05) in Table 9.

Table 9. Relation of school activities with students' communication behavior about HIV/AIDS.

Item-statements of health activities in school	Discussion about HIV/ADS		X^2	P
	Yes n (%)	No n (%)		
Taught about injecting drugs use				
Yes	224 (72.0)	87 (28.0)	0.08	0.77
No	40 (70.2)	17 (29.8)		
Taught about HIV/AIDS				
Yes	251 (71.7)	99 (28.3)	0.01	0.92
No	12 (70.6)	5 (29.4)		
Conduction of condom debate				
Yes	68 (81.9)	15 (18.1)	5.75	0.01
No	195 (68.4)	90 (31.6)		
Quiz competition about HIV/AIDS				
Yes	43 (78.2)	12 (12.8)	1.28	0.25
No	220 (70.7)	91 (29.3)		
Health behavior counseling				
Yes	151 (70.6)	63 (29.4)	0.03	0.86

No	95 (71.4)	38 (28.6)

Community/society related variables with students' communication about HIV/AIDS

Adolescent students' communication behavior about HIV/AIDS also depends on various activities related to HIV/AIDS of communities/societies. The relation of access of information, health awareness activities against and for HIV/AIDS and drug abuse with students' communication behavior about HIV/AIDS has been presented in Table 10 as follows.

About four fifth of students had and two fifth of students had not informed about HIV/AIDS associated with their discussion behavior about HIV/AIDS. Students' access to information about HIV/AIDS had significantly associated with their discussion behavior about HIV/AIDS (P=0.00<0.05) in Table 10. About three fourth of students who had and had not observed HIV/AIDS day associated with their communication behavior about HIV/AIDS. However, students' participation on observation of HIV/AIDS day had insignificantly associated with students' discussion behavior about HIV/AIDS (P=0.67>0.05).

About three-fifth of students who had and had not participated in discussion about drugs use and its effects associated with students' communication behavior about HIV/AIDS. Students' participation on drugs use and its effects had significantly associated with students' discussion behavior about HIV/AIDS (P=0.004<0.05) in Table 10.

Table 10. Community/society related variables with students' discussion behavior about HIV/AIDS.

Item-statements	Discussion on HIV/AIDS		X^2	P
	Yes n (%)	No n (%)		
Information about HIV/AIDS				
Yes	258 (74.2)	90 (25.8)	16.5	0
No	8 (34.3)	15 (65.2)		
Observation of HIV/AIDS day				
Yes	60 (73.2)	22 (26.8)	0.82	0.67
No	191 (70.7)	79 (29.3)		
Discussion of drugs use and its effects				
Yes	169 (77.2)	50 (22.8)	8.35	0.004
No	93 (63.3)	54 (36.7)		

Effect of interpersonal, institutional and community on communication about HIV/AIDS

The effect of students' age, gender, ethnicity, parental variables (education, occupation) on communication/discussion about HIV/AIDS was assessed binary logistic regression analysis. Table 11 depicts the binary logistic regression analysis of age, ethnicity, gender, fathers' occupation, and mothers' education on communication about HIV/AIDS.

Table 11. Effect of interpersonal, institutional and community based variables on students' discussion about HIV/AIDS.

Variables	B	S.E	Wald	Sig	Exp (B)
Information about HIV/AIDS Yes versus No	1.26	.47	7.12	.008	3.54
Peers' discussion about HIV/AIDS Yes versus No	.25	.3	0.70	.40	1.28
Family talk about HIV/AIDS Yes versus No	.4	.27	2.14	.14	1.49
Condom debate in school Yes versus No	.54	.31	2.8	.09	1.71
Constant	-.74	.45	2.7	.10	.47

Students who had information about HIV/AIDS were 3.54 times more likely to have their participation on discussion about HIV/AIDS with others (Wald's *chi-square* value=7.15 and p=0.008<0.05) in Table 11. Students who had discussion with peers about HIV/AIDS in school were 1.28 times more likely to have involved in discussion with others. Moreover, students who had discussion about HIV/AIDS were 1.49 times more likely to have participated in discussion about HIV/AIDS. Condom debate in schools 1.71 times enhances students to adopt discuss behavior about HIV/AIDS in Table 11.

Discussion

HIV/AIDS is as a public health problem in developing countries like Nepal. The most affected age-group are young people aged 15-24. Adolescent students (10-19 yrs.) include initial stage of the sexually active age that keeps them at risk of HIV infection. This study showed that a majority of students get information about HIV/AIDS from school teachers followed by radio, health workers and friends. School teachers were key informants for students. Moreover, students scantly get information about HIV/AIDS from family and relatives. Internet consuming students were quite lowest in number in study site [5]. However, electronic media (radio and television) are common but not most credible sources of information about HIV/AIDS whereas newspapers and magazines associate with most accurate knowledge about HIV/AIDS. Generally, most media have done little to change existing cultural values and prejudice about sexuality and the situation of people who are living with HIV or AIDS. Media are good to educate people about HIV/AIDS but they seldom give in-depth information. Hence, electronic and print media should apply HIV/AIDS message as per physical and social context of students.

However, nowadays, the electronic media are source of information about HIV/AIDS among educated people. Sometimes, electronic media unfortunately promotes sexual activity among the adolescents. Hence, the communication between parents and children about HIV help to decrease the likelihood of adolescents' engagement in risky behavior sexual behavior, while communication with peers tends to increase that likelihood [6]. Government of Nepal has focused on efforts and messages towards behavioral change, so that reproductive active people can adopt healthy sexual behavior such as abstinence, consistent condom use and sex with single faithful uninfected partner. Furthermore, diverse culture, custom or tradition, certain ethic groups, inadequate in availability of condoms in local level can cause indiscrimination and unsafe sex practices in our society. It indicates sexual activities are socio-culture phenomenon as well. Hence, social control or intervention helps to make society zero HIV infection or to promote healthy sexual behavior.

This study showed that getting information about HIV/AIDS differentiates students' discussion behavior about HIV/AIDS with others. However, getting information or communication gives desired effects (increase awareness, increase risk perception, beliefs, attitudes, intentions aligned to desired behaviors, positive emotional response and trust) and adverse effects (stigmatization, stereotyping, victim blaming, beliefs, attitudes, intentions aligned to undesired behaviors (bloomerang effects), negative emotional effect and mistrust. Moreover, adoption of discussion behavior of students depends on interaction of self, family, institution, and society/community. However, in this study, students get information about sex matter HIV/AIDS by parents, teachers, health care workers, socio-cultural practices, friends and IEC materials. Adoption of preventive and discussion behaviors starts along with socialization of children/adolescents. Social influences enhance to shape openness and discussion behaviors. Furthermore, it is supported by social structures (schools, family, culture norms, values, and folk ways) and social functions (customs, tradition).

The family is a primary agent of socialization and can exert a strong influence on adolescent sexual behavior but in a situation where most secondary school students as in this study get more information from the electronic media, the family, therefore, may be exerting little or no influence on their sexual behavior. Culture is known to play a vital role in determining the health of the individual and the family. Positive communication between parents and children helps young people to establish individual values and make sexually healthy decisions. Although most adults want youth to know about abstinence, contraception, and how to prevent HIV and STIs, parents have often difficult in communication about sex. Communication about transmission and ways of prevention HIV/AIDS, its counseling, testing and treatment is essential to overcome from misconceptions and adoption of prevention, treatment, and care.

Health communication/discussion plays a key role to raise awareness among audiences about their risk for getting or transmitting HIV and inducing attitudes, beliefs, and behaviors. Although, communicating about health disparities can also result in unintended, adverse consequences [7]. However, formal, informal and interpersonal communication about HIV/AIDS from early stage of life (adolescents) can change in HIV knowledge, stigma and even risk behaviors. Discussion behavior about HIV/AIDS since early stage of adolescents provides them the skills they need to reduce their risk, make healthy decisions, and get treatment and care if needed. Schools play a critical role in promoting the health and safety of adolescents. The schools can provide an opportunity for students to learn about the dangers of unhealthy behaviors and to practice skills that promote a healthy lifestyle. Schools are in unique position to help adolescents adopt behaviors that reduce their risk for HIV, STDs, pregnancy and other related problems. Hence, adolescent friendly activities considering socio-cultural practices of ethnics contextualizing them in local cultural practices, vernacular languages, folk songs help them to boost preventive practice on HIV/AIDS [8,9].

Conclusion

Individual, family, institutional and community/societal activities have differentiated behavior of communication about HIV/AIDS among students. Hence, adolescent-friendly health education interventions about HIV/AIDS at individual, family, school and community/society. Different approaches like educational/counseling approach, services approach help adolescent students to lower HIV infection and stigma. Further, accessibility (physically, socially and economically) and inclusiveness in services from family, school and community/society support adolescents to prepare against unsafe sexual behavior, and to communicate about risk of HIV infection and stigma.

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Conflicts of Interest

The author declares that there is no conflict of interest.

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