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Original Article

Assessing Knowledge Attitudes and Preventive Practices on HIV/AIDS Among Adolescent Students of Community Schools: A Cross-Sectional Survey

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Abstract

Acquired immune deficiency syndrome (AIDS) is caused by human immunodeficiency virus (HIV). HIV/AIDS easily transmits through unsafe sex and inducing drug use. Adolescents have physical and behavioral changes along with their puberty. They become more curious about their sexual and reproductive health. Hence, they might have a high chance of facing risky behaviors such as unsafe sex and inducing drug use. These risky behaviors possibly lead them to HIV infection. The study aims to assess knowledge, attitudes, and practice (KAP) about HIV/AIDS and its association with their socio-demography. This cross-sectional survey was conducted among adolescents of grade 9 and 10 from community schools. Sample size was 381. The Pre-tested instrument was self-administered. Data were edited, coded and analyzed by descriptive and inferential statistics. Chi-square test and binary logistic regression were used. Adolescent students have high knowledge (51.3%), favorable attitudes (69.8%) and safe preventive practice (35.9%) about HIV/AIDS. Study grade, father's occupation significantly related with knowledge and ethnicity was significant with preventive practice about HIV/AIDS. Educational intervention from health and school education authority focusing study grade, father's occupation and ethnicity of students help to promote KAP about HIV/AIDS.

Keywords: Adolescents, HIV/AIDS, knowledge, attitude, practice

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Introduction

Acquired immune deficiency syndrome (AIDS) is an infectious disease caused by human immunodeficiency virus (HIV). The HIV/AIDS is a pandemic disease that has been threatening people of any age and gender but adolescents, young people are more at risk of contracting it (Thanavanh et al., 2013). The AIDS affects all body systems, mental health and social relationships of carriers and asymptomatic patients (Tavoosi et al., 2004).

Globally, in 2021, there were 1.5 million new HIV infections but children of 0 to 14 years accounted for 4% of all people living with HIV but for 15% of all HIV-related deaths (World Health Organization [WHO], 2023). The HIV/AIDS was firstly appeared in 1981in Nepal. As per annual report 2021/22 of department of health services, the estimated people living with HIV/AIDS (PLHAs) is 30,000 and 4% out of total estimate is up to 14 years children living with HIV in Nepal (department of health services ([DoHS], 2019/20). Further, the HIV/AIDS primarily transmits heterosexual way in Nepal. However, the HIV/AID epidemic has concentrated among men who have sex with men, male sex workers, transgender people, people who inject drugs, female sex workers and their clients, migrants and prisoners. Additionally, ministry of health and education have recognized importance and prioritized HIV prevention programs. National HIV strategic plan 2021-2026 aims to achieve 95% of all people living with HIV (PLHIV) know their HIV status, 95% of all people with diagnosed HIV infection will receive sustained antiretroviral therapy (ART), and 95% of all people receiving ART will have viral suppression (National Centre for AIDS and STD Control, 2022). Nepal demography and health survey (2022) shows a majority of girls and boys from 15-19 years have heard about HIV/AIDS but a few of them had knowledge about HIV prevention. They also have discriminatory attitude towards people living with HIV/AIDS. Additionally, they have premarital sex and multiple sex partners and high risk sexual behaviors such as sexual intercourse without condom in the last 12 months with a person who was neither their wife nor lived with them.

Adolescents are more prone to high-risk behaviors including the first sex experience and drug injection as compared to other age groups and other reasons such as curiosity, peer pressure, low awareness about HIV infection and lack the essential sex education

which leads to more unsafe sexual relationships (Dadipoor et al., 2019, Thanavanh et al., 2013). Adolescents are predominantly susceptible to HIV infection due to their social, physical, economical and psychological attributes which cumulate to increase HIV risk behaviors (Adeboye et al., 2017). Moreover, adolescents are vulnerable to HIV infection because of their risky sexual behavior, inducing drug use, poor access to HIV information and prevention services.

Understanding knowledge, attitudes and practices (KAP) towards HIV/AIDS is important to fight against stigma, discrimination, disclosure of infection, social isolation, access to antiretroviral therapy and psychological support to people living with HIV/AIDS (Diesel et al., 2012; Youssef et al., 2021). Inadequate knowledge, negative attitudes and risky practices are major hindrances to preventing the spread of HIV (Dzah et al., 2019). Making aware about stigma and discrimination associated with HIV/AIDS, modes of transmission of HIV/AIDS, it helps students to acquire necessary life skills to avoid risky situations and to develop healthy and responsible sexual behavior (Hebib et al., 2024) Based on these evidences, school is a suitable place to promote KAP about HIV/AIDS from early stage because almost adolescents involve in schools. hes and help them achieve a healthy attitude and responsible behaviour towards HIV/AIDS. Therefore, this study aims to measure knowledge, attitude, and preventive practices about HIV/AIDS and its association with background characteristics of students.

Methodology

This cross-sectional study was conducted at community schools of Dedh Gaun resource center of Nawalparasi (now Nawalpur). Study population was adolescent students of grades nine and ten. Total number of students (740) from grades 9 and 10 of school A, school B, school, school D, and school E were correspondingly 225, 114,143, 91, and 167. Yamane formula (1967) was used to calculate sample size (n) = $N/1+ Ne^2$ Where, N= 740 & e= 0.05, (n) =254. Moreover, design effect (1.5) was estimated to address intra cluster heterogeneity. Ultimately, sample size (n) =254×1.5 =381. Sample size of students from every school was proportionately calculated by (n) = Y×X÷Z formula. Where, Y= total students of every school, X= ultimate sample size (381), and Z= total number of students of resource center (740). For example,

proportionate sample size of school A (n) = 225×381÷740, where, Y= 225, X=381 and Z=740, n= 116. Likewise, proportionate sample size of students from each school was for school A =116, school B=59, school=73, school D=47, and school E=86. Simple random sampling was used to select students. The selected students were requested to stay in their class in leisure period of data collection day. It was followed in every school.

Item statements about HIV/AIDS were developed from extant literature. Questionnaire was firstly developed English and translated into Nepali. Questionnaire had four parts. Part A consisted of the background variables of respondents such as age, sex, ethnicity, study grade, parental education and parental occupation. Part B had ten knowledge item statements of knowledge about HIV/AIDS with 'true' and 'false' response options. Item statements were based on cause, mode of transmission, symptoms and ways of prevention, Part C had seven item statements of attitude about HIV/AIDS and people living with HIV/AIDS with five options which were "strongly agree", "agree", "neutral", "disagree" and "strongly disagree". They were scored respectively with five to one integer. Part D had item statements of preventive practices about HIV/AIDS with 'yes and no' responses.

Questionnaire was piloted among 35 students outside of study site. The reliability coefficient (0.7 and above) of instrument was maintained. Likewise, English instrument was translated into Nepali and retranslated into English by language experts. Finally, the instrument was administered in Nepali language. Further, content validity was ensured by adapting content of HIV/AIDS questionnaire, piloting, using expert views, and contextualizing tool. Construct validity was ensured by connecting research problems, theories, research questions, and hypotheses as well. Criterion validity in study was ensured by comparing and contrasting similar studies of different context. During analysis, 'Yes' and 'no' responses were correspondingly coded by '1' and '0'. The score mean and above the mean was categorized into safe and below the mean into unsafe preventive practices on HIV/AIDS.

Data was edited, coded and analyzed in statistical package of package of version 21using descriptive and inferential statistical analysis tool. Item statements of knowledge about HIV/AIDS with 'true' and 'false' response options were coded by 1

and 0. The summative score was divided into mean and above the mean and below the mean score was correspondingly categorized into high and low level of knowledge. Likewise, attitudinal statements with five options "strongly agree", "agree", "neutral", "disagree" and "strongly disagree" were coded with five to one integer. During analysis, strongly agree and strongly disagree correspondingly changed into agree/ favorable and disagree/unfavorable. Then, all statements were summed up. The mean and above the mean score and below mean score were correspondingly categorized into favorable and unfavorable attitude. Additionally, preventive practical statements with 'yes' and 'no' responses were correspondingly coded by '1' and '0'. The summative score of practices about COVID-19 was categorized into safe by mean and above the mean and unsafe below the mean.

Pearson's correlation using chi-square test and binary logistic regression was used. During binary logistic regression analysis, unfavorable and favorable attitudes were coded by zero and one as dependent variables. High knowledge, good preventive practices, Bahun/Chhetri, Janjatis, Dalit, female, father's agricultural occupation, literate mother were coded by one whereas low knowledge, unsafe preventive practices, Dalit, male, non-agricultural occupation of father, illiterate mother were coded by zero as references. Logistic regression analysis was made by enter method (Foster et al., 2006).

Ethical approved was taken from Kathmandu University, school of education (KUSOED). Research Ethics such as beneficence, confidentially, respect environment of research site, autonomy and justice were maintained in entire research process.

Results

Table 1 shows 54.6% of students were below 15 years and 45.4% were fifteen and above years of age. Male students were slightly lower (49.7%) than female students (50.3%). A majority of students was Janajati (68.1%) followed by Bahun/ Chhetri (19.1%) and Dalit (12.8%). Participating students were higher from grade ten (57.2%) than grade nine (42.8 %). Almost students had literate (91.9 %) mother and mothers' occupation was agriculture (95.8%). Likewise, almost students had fathers were literate (96.8%) and illiterate (3.2%). A majority of students' fathers had agriculture (70.1%) and non-agriculture occupations (29.9%) in Table 1.

Table 1
Background Characteristics of Respondents (n=381)

Background	Attributes	Frequency	Percentage
Age Group	Below 15yrs	208	54.6
	15yrs and above	173	45.4
Gender	Boys	184	49.6
	Girls	187	50.4
Ethnicity	Bahun/Chhetri	72	19.1
	Janajatis	258	68.1
	Dalits	49	12.8
Study Grade	Grade 9	163	42.8
	Grade 10	218	57.2
Mothers' Education	Illiterate	30	8.1
	Literate	346	91.9
Fathers' Education	Illiterate	12	3.2
	Literate	368	96.8
Mothers' Occupation	Agriculture	363	95.8
	Non-agriculture	16	4.2
Fathers' Occupation	Agriculture	260	70.1
	Non-agriculture	111	29.9

Knowledge of HIV/AIDS

Results in table 2 show that a majority of students were aware about HIV affects human immune system (78.5%), HIV infected person looks healthy during 6-12 weeks of infection (70.9%), HIV can't transmit by mosquito bites (77.7%), eating on same plate of patients living with AIDS (68.8 %), kissing an AIDS patient (68.6%) and the use of AIDS patients' clothes (64.1%). Regarding symptoms of HIV/AIDS, participants had different knowledge about HIV/AIDS such as patient suffers from chronic diarrhea (59.9%), AIDS patient loses at least 5 % of the body weight (8.1%), testing medium of HIV infection is blood (79.0%) and anti-retroviral therapy service is free in specified health facilities in Nepal (35.7%).

Table 2
Item Statements on Knowledge of HIV/AIDS (n= 381)

Items	True n (%)	False n (%)
HIV affects the human immune system.	300(78.5)	81 (21.5)
HIV-infected persons look healthy up to 6-12 weeks.	269(70.8)	111(29.2)
HIV can't transmit through a mosquito bite.	296(77.7)	85 (22.3)
HIV can't transmit through kissing AIDS patients.	119(31.4)	260(68.6)
HIV can't transmit through eating on the same plate of AIDS patient.	119(31.2)	262(68.8)
HIV can't transmit through the use of AIDS patients' clothes.	136(35.9)	245(64.1)
AIDS patient suffers from chronic diarrhea.	227(59.9)	152(40.1)
AIDS patients lose at least 5 % of their body weight.	31 (8.2)	348(91.8)
HIV positive screening test medium is human blood.	301(79.0)	80 (21.0)
Anti-retroviral therapy service is freely available in health facilities.	136(35.7)	245(64.3)

Attitudes Towards HIV/AIDS

Regarding participants' attitude towards HIV/AIDS and people living with HIV/AIDS, table 3 shows a majority of participants had favorable attitude towards school should generally teach about HIV/AIDS prevention practice (94.5%), children living with HIV/AIDS should be allowed to attend in school (83.7%), teachers living with HIV/AIDS should be continued teaching in school (79.8%), and HIV positive students should be continue to study in schools (80.1%). Moreover, participants also showed social responsible attitude. A majority of participants agreed that they should live in same community of people living with HIV/AIDS (70.6 %), they should disclose of HIV infection of a family member (76.5%), and they should buy food items/vegetables from shopkeepers living with HIV/AIDS (78.1%).

Table 3
Statements of Attitude Towards HIV/AIDS (n=381)

Items	Favorable n (%)	Neutral n (%)	Unfavorable n (%)
Schools should teach general HIV/AIDS prevention practices.	361(94.5)	6 (1.8)	14 (3.7)
Children with HIV/AIDS should be allowed to attend schools.	319(83.7)	27(7.1)	35 (9.2)
HIV positive teachers should be allowed to continue teaching in school.	305(79.8)	22(6.1)	54(14.1)
HIV positive students should be allowed to continue studying in schools.	306(80.1)	27(7.3)	48(12.6)
We live in the same community of people with HIV/AIDS.	267(70.6)	30(7.9)	81(21.5)
We should not keep a secret about HIV infection of family members.	286(76.5)	22(5.9)	66(17.6)
We should buy food items from shopkeepers with HIV/AIDS.	297(78.1)	28(7.4)	55(14.5)

Preventive Practices of HIV/AIDS

Table 4 shows that 4.6% of students had sex experience but only 62.5% of students had used condoms in their last sexual intercourse. Further, 12.8% of students reported about their multiple sex partners. Additionally, 62.7% of adolescent students had commitment to condom use. However, 45.9% of students had shyness on purchasing condoms and 4.4% students used injecting drugs use.

Table 4
Statements of Preventive Practice on HIV/AIDS (n=381)

Items	Yes n (%)	No n (%)
I never have sex experience	16 (4.6)	365(95.4)
I have used condom during first time sex	10 (62.5)	6(37.5)
I do not have multiple sex partners.	47 (12.8)	321(87.2)
I commit to consistent condom use.	215(62.7)	128(37.3)
I do not have shyness on purchasing condom	156(45.9)	184(54.1)
I have never used injecting Drugs (IDU)	16 (4.4)	347(95.6)

Level of Knowledge, Attitude and Practices of HIV/AIDS

Results showed that about one of two adolescent students (51.3%) had high level of knowledge on HIV/AIDS, about two third of students (69.8%) had favorable attitude towards HIV/AIDS and only about two fifth of students (35.9%) had safe preventive practices on HIV/AIDS in table 5,

Table 5
Level of Adolescent Students' Knowledge, Attitude and preventive Practice of HIVAIDS

Level of knowledge n (%)		Level of attitude n (%)		Level of practice n (%)	
High	196 (51.3)	Favorable	257 (69.8)	Safe	136 (35.9)
Low	181(48.7)	Unfavorable	111(30.2)	Unsafe	245 (64.1)

Association of Knowledge About HIV/AIDS With Background Characteristics

Table 6 shows that almost same number of adolescents of below fifteen years (50.0 %) and fifteen years and above (53.2%) had high knowledge about HIV/AIDS. However, age was insignificantly associated with knowledge about HIV/AIDS (p= 0.53). Likewise, equal number of boys (51.9%) and girls (51.9%) had high level of knowledge about HIV/AIDS. Gender was insignificant relation with students' knowledge about HIV/ AIDS (p= 0.99). A majority of Janajaties (52.5%) followed by Dalit (51.0%) and Bahun /Chhetri (45.2%) students had high knowledge about

HIV/AIDS. However, ethnicity was insignificantly related with students' knowledge about HIV/AIDS (p= 0.76). Students of grade 10 (65.1%) had higher knowledge about HIV/AIDS than grade 9 (33.1%) students. Study grade was significant with students' knowledge about HIV/AIDS (p= 0.00). Nearly same number of students with illiterate (56.7%) and literate (51.4 %) mothers had high knowledge about HIV/AIDS. Educational status of mothers was insignificantly associated with students' knowledge about HIV/AIDS (p= 0.58). Similarly, mother's occupation was insignificantly associated with students' knowledge about HIV/AIDS (p= 0.67). Almost equal number of students with illiterate (50.0%) and literate (51.6 %) fathers had high knowledge about HIV/AIDS. Education status of father was insignificantly associated with students' knowledge about HIV/AIDS (p= 0.91). However, fathers' occupation was significantly associated with knowledge about HIV/AIDS (p= 0.04) in table 6.

Table 6

Relation of Background Characteristics With Level of Knowledge About HIV/AIDS

Backgrounds	**Attributes**	**Low n (%)**	**High n (%)**	X^2	***P***
Age group	Below 15yrs	104(50.0)	104(50.0)	0.44	.53
	15yrs and above	81 (46.8)	92(53.2)		
Gender	Boys	89 (48.1)	96(51.9)	0.00	.99
	Girls	90 (48.1)	97 (51.9)		
Ethnicity	Janjaties	144(47.5)	126(52.5)	0.58	.76
	Bahun/Chhetri	39 (54.2)	33 (45.8)		
	Dalit	24 (49.0)	25 (51.0)		
Study Grade	Grade 10	76 (34.9)	142(65.1)	38.25	.00
	Grade 9	109(66.9)	54 (33.1)		
Mothers' Education	Illiterate	13 (43.3)	17(56.7)	0.30	.58
	Literate	168(47.5)	178(51.4)		
Mothers' Occupation	Agriculture	178(49.0)	185(51.0)	0.17	.67
	Non-agriculture	7 (43.8)	9 (56.2)		
Fathers' Education	Illiterate	6 (50.0)	6 (50.0)	0.01	.91
	Literate	178(48.4)	190(51.6)		
Fathers' Occupation	Agriculture	118(45.4)	142(54.6)	4.02	.04
	Non-agriculture	63 (56.8)	48(43.2)		

Association of Attitude With Background Characteristics

Table 7 shows that nearly same number of students from below 15 years (52.2%) and 15 years and above (56.1%) had an unfavorable attitude towards people living with HIV/AIDS (PLHAs). The age was insignificantly associated with attitude towards (PLHAs) (p= 0.44). Almost same number of boys (55.7%) and girls (51.9%) had an unfavorable attitude towards PLHAs. Gender insignificantly associates with attitude towards PLHAs (p= 0.46). Almost equal number of Janajatis (50.8%), Bahun/Chhetri (60.0%) and Dalit (59.2%) students had unfavorable attitudes to PLHAs. Ethnicity was insignificantly associated with attitude towards PLHAs (p= 0.24). Students of grade ten (50%) and grade nine (58.9 %) had unfavorable attitude. However, study grade was insignificantly associated with their attitude towards PLHAs (p= 0.08). Almost equal number of students having illiterate (43.3%) and literate (46.2%) mothers had favorable attitude towards HIV/AIDS. Mothers' educational status was insignificant with students' attitude towards PLHAs (p= 0.75). Likewise, mothers' occupations were insignificant with students' attitude towards PLHAs (p= 0.42). Moreover, nearly same number of students with illiterate (41.7%) and literate (39.9%) fathers had favorable attitude towards PLHAs. Fathers' education status was insignificant with students' attitude towards PLHAs (p= 0.91). However, fathers' occupations insignificantly related with students' attitude towards HIV/AIDS (p= 0.88).

Table 7

Association of Background Characteristics of Students With Level of Attitude Towards HIV/AIDS

Background	Attributes	Unfavorable n (%)	Favorable n (%)	χ^2	P
Age	Below 15yrs	108 (52.9)	100 (47.1)	0.58	0.44
	15 yrs and above	97 (56.1)	76 (43.9)		
Gender	Boys	103 (55.7)	82 (44.3)	0.54	0.46
	Girls	97 (51.9)	90 (48.1)		
Ethnicity	Janjaties	122 (50.8)	118 (49.2)	2.80	0.24
	Bahun /Chhetri	54 (60.0)	36 (40.0)		
	Dalit	29 (59.2)	20 (40.8)		
Study grade	Grade 10	109 (50.0)	109 (50.0)	2.96	0.08

	Grade 9	96 (58.9)	67 (41.1)		
Mothers' education	Illiterate	17 (56.7)	13 (43.3)	0.09	0.75
	Literate	186(53.8)	160(46.2)		
Mothers' occupation	Agriculture	235(62.8)	128(35.3)	2.90	0.08
	Non-agriculture	7(43.8)	9 (56.2)		
Fathers' education	Illiterate	7(58.3)	5 (41.7)	0.16	0.68
	Literate	236 (64.1)	132(39.9)		
Fathers' occupation	Agriculture	166(63.8)	94(36.2)	0.02	0.88
	Non agriculture	70(63.1)	41(36.9)		

Association of Preventive Practices about HIV/AIDS with Background Characteristics

Table 8 shows that nearly two-fifth of students from below 15 years (34.9%) and 15 and above years (37.0%) age have unsafe preventive practices about HIV/AIDS. However, age was insignificant association with students' preventive practices (p= 0.67). Almost same number of boys (35.7%) and girls (36.9%) students has unsafe preventive practices. Gender was insignificantly related with adolescents' preventive practices (p= 0.8). About two fifth of students from Janajati (46.9%), Bahun/Chhetri (31.0%), and Dalit (36.2%) had unsafe preventive practices. Ethnicity was significantly associated with preventive practices about HIV/AIDS (p= 0.03). Moreover, 38.1% of students from ten and 32.5 % from nine grades had unsafe preventive practices. Study grade was insignificantly associated with students' preventive practices (p= 0.26). Moreover, 46.7% of Students with illiterate and 35.3 % of literate mothers had unsafe preventive practices. Mothers' education insignificantly associated with preventive practices (p= 0.45). Likewise, mothers' occupation insignificantly associated with students' preventive practices (p= 0.08). Additionally, students having illiterate (41.7%) and literate (39.9%) fathers had unsafe preventive practices. Fathers' education status was insignificant with students' preventive practices (p= 0.68). Similarly, fathers' occupation was insignificant with students' preventive practices about HIV/AIDS (p = 0.88).

Table 8

Association of Background Characteristics With Level of Preventive Practice About HIV/AIDS

Background	**Attributes**	**Safe n (%)**	**Unsafe n (%)**	χ^2	***P***
Age	Below 15yrs	136(65.1)	73 (34.9)	0.17	0.67
	15yrs and above	169(63.0)	63 (37.0)		
Gender	Boys	119(64.3)	66 (35.7)	0.06	0.80
	Girls	78 (63.1)	69 (36.9)		
Ethnicity	Janjaties	113(53.1)	100(46.9)	7.00	0.03
	Bahun/Chhetri	58 (69.0)	26 (31.0)		
	Dalit	30 (63.8)	17 (36.2)		
Study grade	Grade 10	135(61.9)	83 (38.1)	1.25	0.26
	Grade 9	110(67.5)	53 (32.5)		
Mothers' Education	Illiterate	16(53.3)	14(46.7)	1.55	0.45
	Literate	224(64.7)	122(35.5)		
Mothers'Occupation	Agriculture	235(62.8)	128(35.3)	2.90	0.08
	Non-agriculture	7 (43.8)	9(56.2)		
Fathers' Education	Illiterate	7 (58.3)	5 (41.7)	0.16	0.68
	Literate	236(64.1)	132(39.9)		
Fathers' Occupation	Agriculture	166(63.8)	94(36.2)	0.02	0.88
	Non-agriculture	70 (63.1)	41(36.9)		

Effect of Grade, Ethnicity, Fathers' Occupation, Mothers' Education, Knowledge and Practice and Attitude Towards HIV/AIDS

Table 9 shows that adolescent students with high level of knowledge about HIV/AIDS were 1.78 times more likely to have favorable attitude towards HIV/AIDS (B =0.58 and p = 0.01). Bahun /Chhetri students were 1.41 times and Janajti students were 1.04 times more likely to have favorable attitudes to people living with HIV/AIDS (PLHAs) than Dalit students. Moreover, adolescent girls are 1.72 times more likely to have favorable attitude towards the PLHAs (B= .54 and p = .03). Students who have non-agriculture occupation holding fathers were 1.09 times more likely to have favorable attitude towards the PLHAs (B= .08 and p = .74). Likewise, students who have literate mothers 2.07 times more likely to develop favorable attitude towards the PLHAs (B =.73 and P =0.07).

Table 9

Binary Logistic Regression Analysis of Favorable Attitude With Participants' Characteristics

Variables	B	Sig.	Exp(B)
Level of Knowledge (*High versus low*)	0.58	0.01*	1.78
Level of Practices*(Good versus poor)*	0.17	0.48	0.83
Gender *(Girls versus boys)*	0.54	0.03*	1.72
Ethnicity *(Bahun/Chhetri versus Dalit)*	0.34	0.38	1.41
(Janjati versus Dalit)	0.04	0.87	1.04
Father's occupation *(Non-agriculture versus agriculture*)	0.08	0.74	1.09
Mother's education*(Literate versus illiterate)*	0.73	0.07	2.07
Constant	1.3	0.01	0.26

Discussion

This study was carried out to assess knowledge, attitude and preventive practice about HIV/AIDS among adolescent students in community school. This study shows that 51.3% of students have high knowledge about HIV/AIDS. Similarly, low and inconsistent level of AIDS knowledge was among secondary school students in China (Zhao et al., 2010). Likewise, Wondemagegn and Mulat (2014) shows one in two students have good knowledge about HIV/AIDS in Ethiopia. Gemeda et al. (2017) found low knowledge among university student of Ethiopia. Bamise et al. (2022) finds about half of school students have poor knowledge about HIV/AIDS in Osun, state of Nigeria. Likewise, basic health providers have good knowledge about HIV/AIDS (Timilshina & Ansari, 2013). HIV epidemic affects health of individuals, households, communities, and development and economic growth of nations (Alhasawi et al., 2019). Nepal Demographic Health Survey (2022) shows late adolescents have higher knowledge about HIV/AIDS than that of this study. It might be difference in content/construct of questionnaire and residence (urban/rural), socioeconomic status, and age of respondents.

This study shows that study grade ($p=0.00$), and fathers' occupation ($p=0.04$) significantly related knowledge about HIV/AIDS. Students of grade ten had better knowledge about HIV/AIDS than those ninth-grade students due to access as well as exposure to information education and communication about HIV/AIDS and maturity of students (Nazmul & Asm, 2013). Similarly, adolescent students of grade seven, eight, and nine have less correct knowledge about HIV transmission and prevention in Botswana (Majelantle et al., 2014). Likewise, high school students of South Africa hav knowledge about HIV/AIDS but they have misconception and negative attitude and risk sex practices (Adeboye et al., 2017).

This study shows 69.8% of students have favorable attitude towards PLHAs. About half of respondents were likely to express accepting attitude towards people living with HIV/AIDS (NDHS, 2022). Likewise, only less than two fifth of basic health providers had positive attitude people with HIV/AIDS (Timilshina & Ansari, 2013). The difference in results can be caused by modifiable variables such as education status, economic status, marital status, and place of residence and non-modifiable variables

like age and acquired intelligence quotient of students. Despite incorporating HIV/AIDS in the school curriculum of grades 9 and 10 in Nepal, this study showed that students still have an unfavorable or discriminatory attitude towards PLHA. HIV positive people themselves generate anxiety, prejudice and stigma in HIV infection due to social causes, gender, exposure to mass media (Movahed & Shoaa, 2010). These societal attitudes adversely affect people's willingness to test HIV suspects, initiation and adherence to anti-retroviral therapy services. Hence, it supports the persistence of discrimination against PLHA in society. Students from different social backgrounds such as rich /poor, social elite /peasants, and different ethnic groups reflect acquiring knowledge and developing attitudes towards any matters. Hence, students can show different attitudes towards PLHA. Schools can enhance students' knowledge and attitude as agencies of social change (Lemessa et al., 2014).

This study shows 35.9% of students have safe preventive practices about HIV/AIDS. In Nepali society, unsafe sexual practices such as pre- and extra-marital sex and multiple sex partners, and low condom observed (NDHS, 2022). Similarly, this study also shows that adolescent students have sex experiences, multiple sex partners and inducing drugs use. Additionally, diverse cultures, traditional value, certain ethnic groups, and unavailability of condoms at the local level might cause indiscrimination and unsafe sex practices in society. Further, sexual health activities are a socio-culture phenomenon as well. Hence, social control or cognitive intervention makes society free of HIV infection or promote healthy sexual behavior. It promotes preventive practices on HIV/AIDs such as condom use, abstinence, and sex with single uninfected sex partners among adolescents. The HIV/AIDS pandemic impacts people which is complicated by fear, prejudice, and stigma (Diesel et al., 2013).

In this study, father's occupation was significant predictor of students' knowledge about HIV/AIDS. Further, occupation of father differentiates in gaining knowledge about HIV/AIDS. Similar results were observed in Iran (Movahed & Shoaa, 2010). Here, students learn about HIV/AIDS through interacting with their father, observing their father's responsible behaviors, and following strict directions, particularly in sexual health behaviors. The connectivity exists among occupation, education, and economic status in everyday activities of every individual. Occupation of fathers is directly related socio-economic status of the family in society. Students' family

background is also reflected in students' academic school activities. Students from educated and prestigious families were more likely to perform better in school as they got much support to increase knowledge. Moreover, schools act as changing agencies to help and increase the level of knowledge. Father's constructive engagement can also maintain enabling learning environments in households and affordable learning materials that support increasing knowledge about HIV/AIDS. However, Mohammed et al. (2015) observed insignificant relation of fathers' occupation with students' knowledge about HIV/AIDS in Ethiopia. If fathers are far from the home and other culture causes might underweight father's influences. It might be difficult to care for, to support and to communicate with children about HIV/AIDS.

This study shows significant relation of high knowledge about HIV/AIDS with favorable attitude towards PLHAs. Students with high knowledge about HIV/AIDS were more likely to develop a favorable attitude towards HIV/AIDS (Dadipoor et al., 2019 and Qing et al., 2022). Similarly, knowledge develops favorable attitude towards HIV/AIDS (Wondemagegn & Mulat, 2014). Students who have knowledge about HIV/AIDS they can easily comprehend ways of prevention about HIV/AIDS and they show positive attitude. People with adequate knowledge about HIV/AIDS show empathy, careful and supportive behavior of students and teachers living with HIV/AIDS. Similarly, Tavoosi et al. (2004) showed that most students allowed entering those with HIV/AIDS into ordinary schools in Tehran city in Iran. Additionally, people with knowledge about mode of transmission and ways of prevention about HIV/AIDS show non-discriminatory values (Zhang et al., 2022) and norms of society to PLHA. Chinese female college students has positive attitude towards PLHA but they have emphasized to education intervention on preventive measures of HIV/AIDS to non-medical students (Qiu & Wu, 2022). These activities indicated genuine respect to teachers as per the socio-cultural value of education and education factors, familiarly of ways of transmission and prevention, development of de-stigmatization, and non-discriminatory attitude to students/other PLHA. Therefore, schools act as trustworthy cultural change agencies.

As future physicians, medical students represent a core group that should be targeted with focused knowledge and adequate training to provide patient care without prejudice (Sallam et al., 2022). This also enhances self-discrimination, endemic stage of

HIV/AIDS, and HIV infection as taboo in society. However, indiscriminate sex, a risky sexual practice, is still undergoing despite its unacceptability in our society (NDHS, 2022). However, Tavoosi et al. (2004) observed school students did not prefer to sit near an HIV-positive student in a class in Tehran city of Iran. Students' attitude to PLHA staggers due to stigmatization, practices of discrimination to PLHA, inadequacy facts about HIV/AIDS (Gupta et al., 2015) and lack of anti-discriminatory laws implementation in community. This study shows poor preventive practices might be lack of peer education, unaware about fatality of HIV/AIDS or no discrimination to PLHA, large gender difference in society and easily availability of anti-retroviral therapy in society. In particular, health education and support to adolescents can contribute to the delay in onset of sexual activity among adolescents. Peer education and support is an appropriate strategy to deal with HIV prevention, especially for secondary adolescents, because they discuss personal issues, have informal relationships and speak a common language (Visser, 2007). Generally, people with inadequate knowledge about HIV/AIDS, negative attitudes towards PLHIV and in risky practices might predispose them to HIV transmission (Dzah et al., 2019).

This study has some limitations. This study is cross-sectional survey. The questionnaire was used which has recall bias and social desirability in reporting. Therefore, it shows association but it needs some precaution to establish causal relation. Future researchers might employ longitudinal study, interview schedule to generalize the results.

Conclusion

This study shows that adolescent students have low knowledge (48.7%), unfavorable attitude (30.2%), and unsafe practices (64.1%) about HIV/AIDS. This study suggests that students have knowledge gaps about HIV/AIDS, negative attitudes, discrimination towards PLHAs, and risky sexual practices. Further, effective health educational intervention seems essence to address HIV/AIDS in school education to prevent spread HIV and stigma to PLHAS among students in community. Therefore, frequent interventions from authority of school education and health sectors focusing ethnicity, study grade, and fathers' occupation of students help to promote students' KAP about HIV/AIDS.

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