

Correlates of Knowledge about Sexually Transmitted Diseases (STDs) among Youths in Nepal

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Abstract

Cross sectional and nationally representative sample drawn from Nepal Adolescent and Youth Survey 2011, this paper attempts to examine the correlates associated with knowledge about sexually transmitted diseases (STDs) among young population in Nepal. Univariate, bivariate and multivariate analyses have been used to examine the correlates associated with the knowledge about sexually transmitted diseases among youths. Bivariate analysis reveals that education, mass media exposure, mother's education, marital status, ecological belts and regions are significantly associated ($p < 0.001$). However, multivariate analysis shows that education and mass media exposure are the strong factors ($p < 0.001$) associated with knowledge of at least one STD among youths after controlling others variables in the model. A special attention should be given to girls' education particularly for the rural, remote and interior parts of the country. In addition, IEC through mass media may be an immediate action to improve the level of knowledge and awareness about STDs among youths in Nepal.

Key words: correlates, knowledge, Nepal, sexually transmitted diseases, youths

Introduction

Sexually transmitted diseases (STDs) (also known as sexually transmitted infections) are the diseases, which are transferred from one person to another through sexual contacts. STDs not only transmit through intercourse, but also through kissing, oral-genital contact and use of sex toys. In the beginning of twentieth century, least attention was paid about the incidence of STDs (Gonorrhoea and Syphilis) although an incidence was common in Europe, Africa, and Asia and Pacific regions, however, the study on STDs geared up especially after the emergence of HIV/AIDS during 1980 (Cates, 2001). This is because of the reason that the chance of acquiring HIV infection is manifold (between two to five times) higher among the persons living with any STDs (WHO, 2008). Annually it is estimated 448 millions of infections occur worldwide in adult aged 15-49 years and this does not include HIV and other STDs which severely affect the lives of people and communities (Workowski, 2010 & Hopwood, 2001).

Youth is the transitional stage of life cycle in which various changes such as, physiological, physical, psychological and social occur (Brown, Sadler, Tomkins, McGarrigle, LaMontagne, Goldberg, et al. 2004). Youths are more susceptible to STDs than adults because of poor knowledge about the outcomes of risky behavior, peer pressure and their biological vulnerability. The recent trend reveals that almost half of

the new cases of STDs occur among youths annually and the infection is one of the leading causes of morbidity and mortality at the global level. (Weinstock, Berman, Cates, 2004; Fageeh, 2008; Stone, Ingham, Simkhada, 2003). These evidences reveal that youths are at the center of acquiring STDs. A study made by Wasserheit (1992) has claimed that individuals who are infected with STDs are at least two to five times more likely than uninfected individuals to acquire HIV infection if they are exposed to the virus through sexual contacts. Knowledge is the first step of protecting people from the diseases and an adequate and proper knowledge about STDs may be an appropriate preventive measure. Several studies at the global level show that age, sex, ethnicity, place of residence and parental education are significantly related to the knowledge of STDs among youths (Stone, Ingham & Simkhada, 2003, MOPH; New ERA and IFC International, 2012; Upreti, Regmi, Pant & Simkhada, 2009; Samkange-Zeeb, Spallek & Zeeb, 2011). Although a large number of cross sectional KAP studies on STDs including HIV/AIDS has been conducted in the context of Nepal by taking sample for the specific areas, none of the studies are based on the nationally representative sample. Thus this study may be new one in terms of its coverage. This paper aims to examine the correlates associated with knowledge of STDs among young population of Nepal.

Data and Methods

Nepal is a predominantly agricultural country in which about 70.0 percent of total population (76.0 percent of household) rely on agriculture for their livelihood (CBS, 2011a). Topographically, the country is divided into three distinct belts: Mountain, Hill and Tarai and is further divided in five development regions (Eastern, Central, Western, mid Western and far Western), 14 zones and 75 districts administratively. The latest population census 2011 records 26.42 million population comprising 48.5 percent male and 51.5 percent female. More than 16.0 percent of the total population is between the age of 15 and 24 years. The census also records 83.0 percent (as compared with 17.0 percent urban) rural population. This figure is based on the government classification of 58 municipalities as urban areas and 3913 village development committees (VDCs) as rural (CBS, 2011b).

This paper uses the cross sectional data drawn from a nationally representative sample of Nepal Adolescent and Youth Survey (NAYS) 2010/11 conducted by Ministry of Population and Health (MOPH) Nepal. The study was initiated in early 2010 and the data collection was carried out between September and December 2010. The main purpose of the survey was to generate specific data for formulating the policies and programs on various issues of adolescent and youth. For sampling design, this survey uses two stages stratified sampling techniques in which 300 EAs (enumeration areas or clusters) were selected using probability proportion to size comprising rural and urban samples (237 rural and remaining 63 urban clusters) at the first stage. In the second stage, 30 households from each clusters were selected using systematic random sampling. Finally, a total of 8155 adolescent and youth (3663 boys and 4492 girls) aged 15-24 year from 9000 households were chosen.

The survey had administered household and individual questionnaires. Household questionnaire collected information on basic household and individual characteristics

and individual questionnaire collected information on various issues (attitudes, perception and practices towards marriage, fertility, health behavior, sexuality and etc.) associated with adolescent and youth . The individual questionnaires were administered to all young people of age 10-24 years through direct interviewed by the trained interviewer.

Data analyses have been performed in three stages. First, univariate analysis (percentages) has been used. Secondly, bivariate (Chi square test for independence) and finally multivariate analyses (binary logistic regression) have been used to explore the joint effect of explanatory variables on knowledge and perception about STDs. The binary logistic regression model has been used as a multivariate technique due to dichotomous (yes or no) nature of response variable. Those associations having p-values less or equal to 5.0 percent are regarded as statistically significant. SPSS version 16.0 has been used to analyze the data.

Measurement of variables

Dependent variable

The main response variable for the present study is the knowledge of at least one STD. To measure this variable, the respondents were asked whether they heard about any type of STDs. The outcome of this variables is dichotomous: yes or no.

Explanatory variable

The main explanatory variables are age, education, sex, marital status, mass media exposure, household economic status, parental (father's and mother's) education, development regions, ecological belts and place of residence. Although the country comprises five development regions, this study assumes Kathmandu valley as an additional development region. Therefore, the analysis is based on six development regions. The rationale of selecting these variables as explanatory is explained previously.

Results

Table 1 shows the percent of youths classified according to selected background characteristics. About six in ten respondents are under the age of 20 years. In terms of educational status, 45.0 percent followed by 41.6 percent and 13.3 percent have acquired secondary, SLC and above and primary level education respectively. Majority of respondents are girls (55.1 percent against 44.9 percent) and unmarried (71.8 percent). More than 13.0 percent of youths have low exposure to mass media. About 40.0 percent of youths are from the household with poor economic condition. An overwhelming proportion of parents (77.0 percent mothers and 42.0 percent fathers) are illiterate. About one in every two youths are from hill region as compared with 44.0 percent from Tarai and 8.3 percent from Mountain.

Table 1: Percent of respondents classified according to selected background characteristics, Nepal, 2011

Characteristic	Percent n (%)	Characteristic	Percent n (%)
Age		Primary	642 (9.3)
15-19	4882 (59.9)	Secondary	629 (9.1)
20-24	3273 (40.1)	SLC and above	320 (4.6)
Education †		Father's education #	
Primary	964 (13.3)	Illiterate	2879 (42.0)
Secondary	3274 (45.1)	Primary	1306 (19.0)
SLC and above	3014 (41.6)	Secondary	1594 (23.2)
Sex		SLC and above	1077 (15.7)
Boy	3663 (44.9)	Regions	
Girl	4490 (55.1)	Eastern	1802 (22.1)
Marital status		Central	2019 (24.8)
Never married	5853 (71.8)	Western	1656 (20.3)
Married	2302 (28.2)	Mid-western	1000 (12.2)
Mass media exposure*		Far-western	795 (9.7)
Low	1032 (13.4)	Kathmandu	883 (10.8)
Moderate	4798 (62.2)	Ecological belts	
High	1885 (24.4)	Mountain	673 (8.3)
HH economic condition		Hill	3892 (47.7)
Poor	3232 (39.6)	Tarai	3590 (44.0)
Medium	3400 (41.7)	Place of residence	
Rich	1532 (18.7)	Rural	6497 (79.7)
Mother's education !		Urban	1658 (20.3)
Illiterate	5324 (77.0)	N	8155
† 903 cases are missing due to non response			
* 440 cases are missing due to non response			
# 1299 cases are missing due to the exclusion of literate category			
! 1240 cases are missing due to the exclusion of literate category			

Bivariate Analysis

For bivariate analysis, Chi Square test for independence has been used and only the associations that have p values less or equal to 0.05 have been explained. Table 2 reveals that percent distribution of youths who have heard at least one STD by selected background characteristics. Education, marital status, mass media exposure, mother's education, regions, and ecological belts have a strong association with knowledge of STDs. For example, a higher proportion of youths with better education, high exposure

to mass media know about any STDs. Youths whose mothers acquire SLC and above are more likely to know about any STDs as compared with illiterate mothers. Among the development regions, a higher percent of youths from Kathmandu and eastern development region know about any STDs than youths from other regions.

Table 2: Percent of respondents who have heard of at least one STD (Gonorrhoea, Syphilis, HIV/AIDS and Others) by selected characteristics, Nepal, 2011

Characteristic	Percent n (%)	Characteristic	Percent n (%)
Age		Primary	521 (81.9)
15-19	3737 (77.2)	Secondary	542 (86.3)
20-24	2501 (76.9)	SLC and above	274 (86.4)
Education ***		Father's education**	
Primary	689 (71.8)	Illiterate	1985 (69.5)
Secondary	2537 (78.1)	Primary	1030 (79.6)
SLC and above	2495 (83.5)	Secondary	1279 (80.9)
Sex		SLC and above	898 (83.9)
Boy	2802 (77.1)	Regions***	
Girl	3434 (77.0)	Eastern	1457 (81.0)
Marital status***		Central	1441 (72.0)
Never married	4593 (79.0)	Western	1318 (80.3)
Married	1645 (72.0)	Mid-western	648 (65.0)
Mass media exposure***		Far-western	599 (77.4)
Low	682 (66.3)	Kathmandu	775 (87.8)
Moderate	3669 (77.1)	Ecological belts***	
High	1587 (84.5)	Mountain	479 (72.8)
HH economic condition		Hill	3101 (80.0)
Poor	2491 (77.6)	Tarai	2658 (74.7)
Medium	2592 (76.9)	Place of residence	
Rich	1155 (76.3)	Rural	4965 (77.0)
Mother's education***		Urban	1273 (77.4)
Illiterate	3889 (73.6)	N	6238

*p<0.05, **p<0.01 and ***p<0.001 (based on Chi Square test)

Notes: Data in table excludes missing responses

Although Chi Square test uses both responses (yes or no), the table only provides positive response (yes).

Multivariate Analysis

Table 3 shows the odds ratio from logistic regression model of knowledge of STDs

among youths by selected background characteristics. Table 3 includes three models: model 1, model 2 and model 3. In model 1, only the demographic factors have been included for binary logistic analysis. The analysis reveals that education, sex, and marital status of young people are strongly related to knowledge of at least one STD. For example, education is positively related to knowledge of at least one STD (the odds of knowing about is more than 5.0 times (CI, 4.98, 5.76) among youths having SLC and above education as compared with youths acquiring primary education). Married youths are more likely to know about STD than their unmarried counterparts.

Model 2 comprises two factors: demographic and household factors in which education, sex, marital status, mass media exposure are significantly associated with knowledge of STDs. Youths having SLC and above education are 2.8 (CI, 2.61, 3.45) times more likely to know about STDs than youths having primary level education after controlling remaining variables in the model. Girls are less likely to know (odds ratio 0.81 (CI, 0.70, 0.93) for girls) about any STDs than boys. Mass media exposure also appears as a strong predictor of knowledge of STDs among youths. The odds of knowing STDs is 4.56 (CI, 4.19, 5.21) times among youths having high exposure to media as compared to low exposure after controlling the remaining variables in the model.

Model 3 contains all the explanatory variables (demographic, household and spatial). Education, mass media exposure, and regions (central and mid western) are strongly related with knowledge of STDs among youths after controlling other variables in the model and these factors have more of less similar association as in model 2.

Table3: Adjusted odds ratio from logistic regression models of knowledge of at least one STD (Gonorrhoea, Syphilis, HIV/AIDS and Others) among youths by selected background characteristics, Nepal, 2011

Characteristic	Model 1		Model 2		Model 3	
	Coef.	Adjusted Odds Ratio (95.0 % CI)	Coef.	Odds ratio (95.0 % CI)	Coef.	Adjusted Odds Ratio (95.0 % CI)
Demographic factor						
Age						
15-19 (r)		1		1		1
20-24	-0.18	0.83 (0.72, 0.96)	-0.19	0.82 (0.71, 0.98)	-0.15	0.86 (0.73, 1.02)
Education						
Primary (r)		1		1		1
Secondary	0.32	1.72 (1.61, 2.13)***	0.10	1.9 2 (1.74,2.10)**	0.12	1.89 (1.72, 2.98)***
SLC and above	0.44	5.24 (4.98, 5.76)***	0.25	2.81 (2.61,3.45)***	0.22	2.80 (2.63, 3.11)***
Sex						
Boy (r)		1		1		1
Girl	-0.21	0.81 (0.73, 0.91)***	-0.21	0.81 (0.70,0.93)***	-0.18	0.83 (0.73, 0.97)*
Marital status						

Never married (r)		1		1		1
Married	0.27	1.31 (1.12, 1.54)***	0.27	1.45 (1.28,1.88)***	0.20	1.22 (1.02,1.08)***
Household factor						
MME						
Low (r)				1		1
Moderate			0.46	2.56 (2.41,2.84)***	0.47	2.63 (2.51, 2.71)***
High			0.68	4.56 (4.19,5.21)***	0.70	3.50 (3.39,3.65)***
HH eco. condition						
Poor (r)				1		1
Medium			0.03	1.03 (0.97,1.20)	0.06	1.06 (0.91, 1.24)
Rich			0.14	1.42 (1.25,1.89)	0.14	1.15 (0.92, 1.44)
Mother's education						
Illiterate (r)				1		1
Primary			-0.11	0.89 (0.70,1.18)	-0.07	0.93 (0.73, 1.19)
Secondary			-0.43	0.65 (0.49,0.86)**	-0.36	0.70 (0.53, 0.94)
SLC and above			-0.48	0.68 (0.43,1.12)*	-0.26	0.77 (0.53, 1.14)
Father's education						
Illiterate (r)				1		1
Primary			-0.25	0.78 (0.65,0.95)	-0.25	0.77 (0.64, 0.94)
Secondary			-0.16	0.86 (0.71,1.13)	-0.13	0.87 (0.71, 1.07)
SLC and above			-0.18	0.85 (0.70,1.12)	-0.18	0.84 (0.64, 1.09)
Spatial factor						
Regions						
Eastern (r)						1
Central					0.56	1.73 (1.40, 2.13)***
Western					0.23	1.25 (0.99, 1.58)
Mid-western					0.89	2.45 (1.94, 3.09)***
Far-western					0.15	1.17 (0.88, 1.56)
Kathmandu					0.02	1.01 (0.72, 1.39)
Ecological belts						
Mountain (r)						1
Hill					-0.17	0.85 (0.65, 1.11)
Tarai					0.03	1.03 (0.79 (1.39)
Place of residence						
Rural (r)						1
Urban					-0.09	0.91 (0.74, 1.11)
Constant	-0.86	0.43***	-0.41	0.66***	-0.73	0.48***
Chi Square		28.61**		24.13**		21.43**
*p<0.05, **p<0.01 and ***p<0.001 (based on logistic regression analysis)						
Notes: MME= mass media exposure, CI = Confidence Interval, r = Reference category						

Discussion

In bivariate analysis without controlling the influence of other variables, education,

mass media exposure, marital status, mother's education, regions and ecological belts appear as significant factors. However, in the final model of multivariate analysis after controlling the effect of other variables, education and mass media exposure are strong factors associated with knowledge of at least one STD among youths. As expected, education is one of the important factors that enables adolescents and youths to know more about any STDs and their preventive measures. The finding of this study is also supported by a large number of studies at the global level (Sekirime, Tamale, Lule & Wabwire-Mangen, 2001; Svenson, Varnhagen, Godin & Salmon, 1992; Tyden, 1991; Fageeh, 2008).

This study also shows that mass media exposure is also a strong positive predictor of knowledge of STDs among youths. It is obvious that mass media (especially radio, TV and newspaper) facilitates to learn more about diseases. Various studies at global level also confirm this finding (Li, Wu, Lin, Guan, Rotheram-Borus & Lu, 2009; Gruber & Grube, 2009).

There is a significant regional variation in knowledge of STDs indicating that youths in central development region are more likely to know about any STDs than the youths from eastern development region after controlling remaining variables in the model. This result is as anticipated because of the reason that youths from central development region are more empowered in terms of mass media and other intervention programs related to HIV/AIDS awareness. Although youths in mid western development region are less empowered in terms of education and intervention programs related to mass media, the odds of STDs knowledge is higher than eastern development region. Therefore, further research may be the better option for drawing a firm conclusion.

Conclusion

The finding of this study is conclusive that educational attainment and mass media exposure are the strong factors associated with the knowledge of STDs among youths in Nepal. First, a priority is to be given for youths' education (particularly for the girls from interior, rural and remote parts of the country). Education not only provides knowledge about STDs but also teaches several dimensions of living health life among young population. Secondly, mass media (especially FM radio and TV) are one of the important sources of generating awareness toward the diseases and their prevention. Therefore, information, education and communication through radio and TV may an immediate actions for improving current level of knowledge among youths and general population as well.

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