

Original Article

Sexual health behaviors of adolescents in Pokhara, NepalNiranjan S¹, Prasad PD², Kalpana J³¹MSc (Biostatistics), ²MPH (Public health), School of Health and Allied Sciences, Lekhnath – 12, Kaski, ³MPH (Reproductive Health),³Community based health and development project. Health Service Department, Nepal Red Cross Society, National Headquarter, Kathmandu, Nepal.**ABSTRACT**

BACKGROUND: Adolescent (10–19 years) is a transition of age during which hazardous sexual health behaviors may be adopted; increasing vulnerability to several kinds of behavioral disorders like drug use, unsafe sexual act leading to reproductive ill health. Objective of the study was to assess sexual health behaviors of adolescents in Pokhara, Nepal.

METHODS: An institution based cross-sectional study was conducted among 15–19 years adolescents studying in grades 11 and 12. Probability sampling techniques were applied. A structured, pretested, envelope sealed self administered questionnaire was distributed among all (1584) adolescents of the 11 and 12 grades of selected institutions. Data were analyzed using Statistical Package for Social Sciences (16 versions). Descriptive and inferential statistics were applied.

RESULTS: About 19.37% adolescents had sexual contact and male participation was higher than females ($P < 0.05$). Nearly one fifth of unmarried were found to be involved in sexual activities and most of them had first sex between 15–19 years age (median age 15.26 years). Of those who had sex, 6.91% had adopted all the three: vaginal, oral and anal sexes and majority had single followed by 2–5 sex partners in their sexual intercourse in the last one year and last month. About 13.93% adolescents were found to be indulged in group sex. Most of them had sex with regular partners and commercial sex workers. More than eight out of every ten who had sex had used contraceptive methods and condom was method of choice (94.77%).

CONCLUSIONS: Premarital sexual involvement was prevalent among adolescents; sex with commercial sex workers and non commercial sex partners was perceived to be risk. Behavior change intervention strategies need to be formulated and implemented to promote adolescent reproductive and sexual health.

Keywords: Adolescents, Sexual Health, Sexual behavior, Adolescent Sex

Introduction:

World Health Organization (WHO) defines adolescents as individuals in the age group 10 – 19 years. It is a phase of development of any fronts: from the appearance of secondary sex characteristics to sexual and reproductive maturity; the development of mental processes and adult identity and the transition from total socio-economic and emotional dependence to relative independence as they provide a basic framework to understand adolescent development¹.

Adolescents account nearly one fourth (23.6%) of total population in Nepal which tends to be similar in Kaski (24.65%)². Sexually transmitted infections (STIs) along with HIV/AIDS are now progressing at a rapid pace among young people due to risky sexual behaviors. Youths are much more prone to STIs and HIV infection owing to a lack of access to adequate reproductive health services and correct health information and adolescents who are single may be likely to engage in high risk behaviors³. Study

among students from Pokhara revealed that more than 11% have had sex. The gender difference was noticeable with 30% male students and 2.3% female students reported to have sexual contact⁴. Age at marriage is often used as a proxy for first exposure to intercourse and risk of pregnancy. Nepal Demographic and Health Survey (2006) revealed that less than 50 percent of respondents had sexual intercourse for the first time before reaching the beginning of the age group 15 – 19 years. The median age at first sexual intercourse has increased over the last two decades from 16.5 years to 18.0 years for women and it was two and a half years more for men. About 21.1% men and 32.4% women in the age group 15 – 19 were found to be involved in recent sexual activity.⁴ Similar study from Kathmandu revealed, 64.4% of teenagers were sexually exposed and mean age of first sexual contact was 13.1 years and 43% had experienced risky sexual behavior, 41% had never used condom during sex and 67.7% had sex with commercial sex workers⁵.

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Existing evidences suggest that adolescents have early and risky sexual behaviors. Understanding of safe sex, sexual practices and related behaviors are useful to lead prevention of sexual and reproductive health problems. The objective of study was to identify the sexual behaviors of adolescents (15–19 years) in Pokhara Sub-Metropolitan City, Kaski district of Nepal.

Methods:

Study Settings: Study was conducted in Proficiency level academic institutions of Sub-metropolitan city, Pokhara, Nepal. Proficiency level academic (11 and 12 grade) institutions are higher secondary schools and some campuses in Pokhara. Academic courses are Science, Education, Humanities and Management. These are either government or private or community funded. These institutions bridge the educational gap between secondary level educations to the higher level education.

Study Duration: September to December 2010.

Study Design and Method: Institution based cross sectional study.

Sample Size: On the basis of 50% probability proportion and tolerable error of 5%, the desired sample size was calculated as 384. It was multiplied by 2 to eliminate design effects. Thus, minimum needed samples were 770. In similar behavioral studies, non response rates were reported up to 44%. Hence, all (1584) adolescents of the 11 and 12 grades were selected to ensure validity.

Sampling Technique: Three stage probability sampling method was followed. First, 16 academic institutions running proficiency level courses (10+2) were selected randomly from alphabetically arranged list of 49 Institutions. Second, all selected institutions were classified into government,

private and community funded institutions. Third, from the selected academic institutions, all adolescents studying Management, Science and Technology, Humanities and Social Sciences and Education stream were selected.

Tools and Techniques of Data Collection: Pretested and structured questionnaire was distributed among all consenting (1584) adolescents of aforementioned grades in a sealed envelope. They were also instructed to return their responses in a sealed envelope without any identity. Instructions were given at the time of dispatch of envelope containing questionnaire and they were assured for the confidentiality of information. Male investigators instructed and collected information from male and the female investigator did so for female adolescents. Thus, filled questionnaires were collected on the next two consecutive days. Data were analyzed by using Statistical Package for Social Sciences (16 version) and appropriate descriptive and Chi square were applied wherever required.

Results:

Of total 1584 (one questionnaire/ participant) questionnaires distributed, only 857(54.10%) had returned their responses. Some of them also had specific question related non responses. About 58.8% male and 41.2% female adolescents participated in the study.

Majority of the adolescents were from privates (34.54%) followed by community (34.07%) and governments (31.38%) institutions. Similarly, almost altogether three quarters of them were from Faculty of Science and Technology (36.29%) and Management (36.17%) while remaining were studying in Humanities and Social Sciences (13.65%) and Education (13.89%). None of the adolescents were studying Humanities and Social Sciences and Education courses in private institutions as shown in table 1.

Table 1: Respondents by type of Academic Institution and Academic Disciplines

Discipline	Type of Academic Institutions			Total
	Government	Private	Community	
Science and Technology	100 (11.67)	150 (17.50)	61 (7.12)	311 (36.29)
Management	59 (6.88)	146 (17.04)	105 (12.25)	310 (36.17)
Humanities and Social Sciences	49 (5.72)	0 (0.00)	68 (7.93)	117 (13.65)
Education	61 (7.12)	0 (0.00)	58 (6.77)	119 (13.89)
Total	269 (31.38)	296 (34.54)	292 (34.07)	857 (100.00)

Figures inside the parentheses indicate percentage

This study observed gender, marital status and age as predicting variables and type of sexual activities adopted, numbers of partners involved in sex, pattern of involvement in group sex and contraceptive usage as the behavioral parameters of the study.

Only 852 adolescents responded on the status of sexual intercourse. Almost one fifth of the adolescents were found to be indulged in sexual activity where male participation was multifold higher than female. Out of every ten male,

more than three had sexual intercourse whereas less than one out of every twenty female had kept sexual relation. Nearly one fifth (18.76%) unmarried adolescents had kept sexual relation. Surprisingly, 3 married respondents reported that they did not have kept the sexual relationship as shown in table 2. Chi Square have shown that male involvement in sexual intercourse was significantly higher than counterpart female. Similarly, involvement of unmarried male was also significantly high.

Table 2: Participants by their Involvement in Sexual Intercourse

Characteristics		Sexual Intercourse		Total	statistical Values
		Yes	No		
Gender	Male	152 (30.33)	349 (69.67)	501 (100.00)	$\chi^2=93.77$, df=1, P<0.001
	Female	13 (3.70)	338 (96.29)	351 (100.00)	
	Total	165 (19.37)	687 (80.63)	852 (100.00)	
Marital status	Unmarried	158 (18.76)	684 (81.23)	842 (100.00)	$\chi^2=13.49$, df=1, P<0.001, Yate's correction applied
	Married	07 (70.00)	03 (30.00)	10 (100.00)	
	Total	165 (19.37)	687 (80.63)	852 (100.00)	

Figures inside the parentheses indicate percentage.

Of 165 who had sex, four did not report their age at first sex and nearly one out of every twenty reported that they did not have idea of the age at first sex. Most of them had their first sexual contact when they were in the age between 15-19 years (Median age 15.35 years). Amazingly, 1.86% was found to have first sex before 10 years age as depicted in table 3.

Table 3: Participants by their Age at First Sexual Intercourse

Age (years)	Numbers of Respondents	Percent
< 10	3	1.86
10 – 14	14	8.70
15 – 19	137	85.09
Don't know	7	4.35
Total	161	100

(Median age at first sexual intercourse: male: 15.24, female: 15.46 years)

Of 159 who responded about the types of sex that they had, majority had vaginal sex (86.79%) while substantial numbers (oral: 24.52%, Anal: 19.49%) had other modes of sex including vaginal, oral and anal contact where first one is natural and next two are non natural carrying additional risks of reproductive ill health. About 6.91% adolescent had adopted

all the three (vaginal, oral and anal) routes for sex while 68.55% followed by 4.40% and 3.14% had only vaginal, oral and anal sex respectively. Similarly, 7.54 % followed by 5.66% and 3.77% had sexual contact by oral and vaginal, oral and anal, and vaginal and anal routes only as depicted in figure 1.

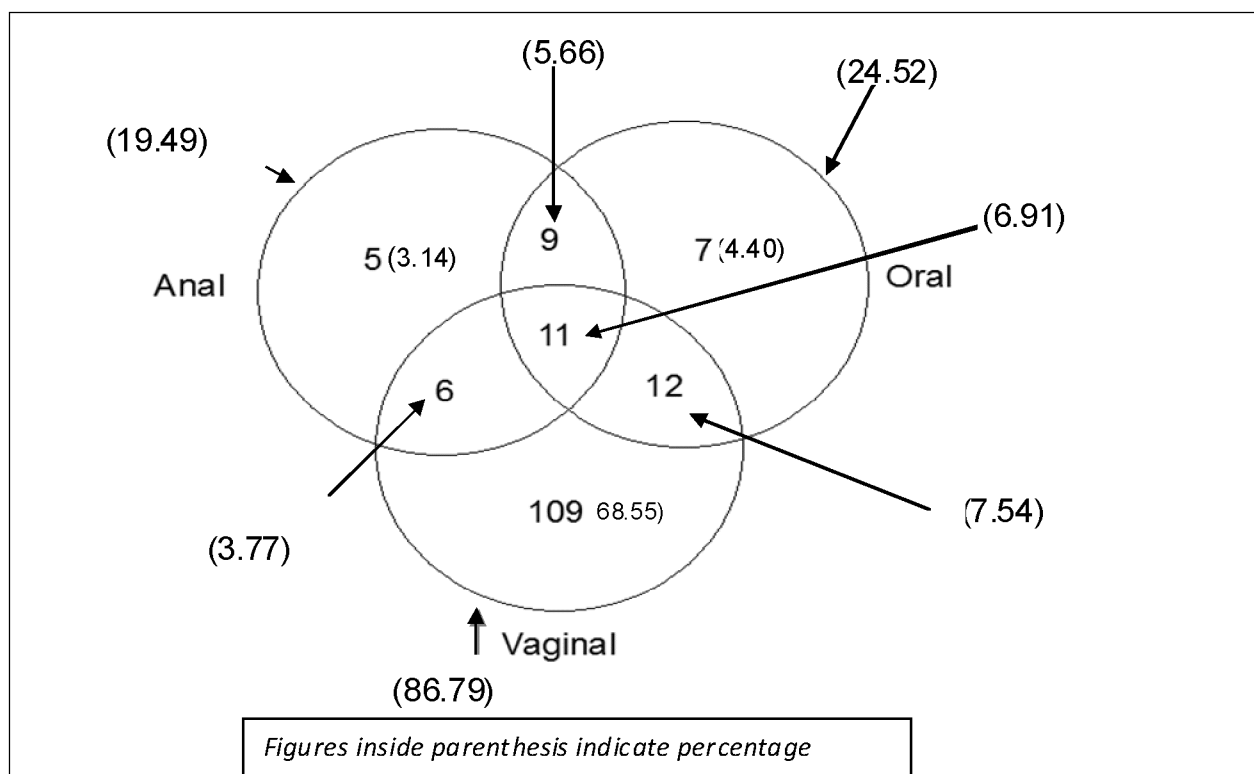


Figure 1: Venn-diagram showing type of sexual activities adopted.

Of 165 who had sexual experiences, 114(69.09%) had sex in the last one year; of them majority were male (64.84%). In the same way, 113(68.48%) had sexual contact in the last one month where male participation remained as equal as it was reported in the past one year. Of those 114 who had sex in the last one year, 46.49% had sexual contact with single partner followed by 40.35% had 2-5 sex partners. Similarly, majority of the male had single partner followed by 2-5 and proportions of male having 6-10 or more partners were equal (6.54%). Likewise, 57.14% female had single partner followed by 28.57% had 2-5 and 14.28% had >10 sexual partners.

More than half (56.63%) had sex with single partner followed by slightly more than a quarter had sex with 2-5 partners in the last month. Almost similar observations were made for male while more than eight out of every ten female had sexual contact with single partner. Proportionately, male had higher numbers of partners than female during their sexual intercourse in the last one year and last month as shown in table 4.

Table 4. Participants by numbers of sexual partners (last one year and last month)

Time	Gender	Numbers of Sexual Partners				
		1	2-5	6-10	> 10	Total
Last one year	Male	49(45.79)	44(41.12)	7(6.54)	7(6.54)	107(100)
	Female	4(57.14)	2(28.57)	0(0.00)	1(14.28)	7(100)
	Total	53(46.49)	46(40.35)	7(6.14)	8(7.01)	114(100)
Last month	Male	59(55.14)	30(28.03)	8(7.47)	4(3.73)	107(100)
	Female	5(83.33)	0(0.00)	0(0.00)	1(16.17)	6(100)
	Total	64(56.63)	30(26.54)	8(7.07)	5(4.42)	113(100)

Figures inside parenthesis indicate percentage

Out of 165 respondents who were involved in sexual activity, 148(89.69%) responded about their involvement in group sex. About 13.93% adolescents had group sex and male involvement was higher than female however, differences

were statistically insignificant. Proportionately, a quarter of female and 14.70% male from respective strata had group sex.

Table 5: Participants by their Involvement in Group Sex

Gender	Involvement in group sex		Total	Statistical Values
	Yes	No		
Male	20 (14.70)	116 (82.29)	136 (100.00)	$\chi^2 = 0.27$, $df=1$, $P>0.05$ (Yate's correction applied)
Female	3 (25.00)	9 (75.00)	12 (100.00)	
Total	23 (15.54)	125 (84.46)	148 (100.00)	

Figures inside the parentheses indicate percentage.

Majority (63.63%) of the adolescents had kept sexual relation with regular partners followed by commercial sex workers (CSW, 45.45%) and non commercial sex partners. Interestingly, adolescents who had sex with these partners all reported that sex with CSWs and non CSWs carry a risk for sexual ill health.

Of those who had sex, 5.45% did not response about the contraceptives usage while 134 (81.21%) had used

contraceptive devices during their sexual contacts. Of the users, 81.41% opted for condoms and few had oral contraceptive pills. Non availability of contraceptives and partner's dislike were reported as predictors of contraceptive uses.

Table 6: Types of Sex partners and Contraceptive use during sex

Practices		Numbers	Percent
Type of sexual partners (n=165)*	Commercial sex workers	75	45.45
	Non commercial partners	71	43.03
	Regular partners	105	63.63
Contraceptive use (n=165)	yes	134	81.12
	No	22	13.33
	No response	9	5.45
Methods of contraceptive used (n=134)	Condom	127	81.41
	Oral contraceptive Pills (OCP)	3	1.92
	Condom and pills (both)	4	2.98

*Multiple responses

Discussion:

This study assessed sexual health behaviors of the adolescents studying in proficiency level courses in four distinct disciplines. Results showed that large numbers of male were found to be indulged in sex as compared to counterpart female (Proportion of male Vs Female: 30.33% Vs 3.70%). Limbu reported that 30 percent of college going male and 2.3 percent female reported sexual contact.³ Similarly, Nepal Adolescent and Young Adult Survey (2000) reported that premarital sex was very low among female youths.⁶

Nearly one fifth (18.76%) of the unmarried were found to be indulged in sex. Except a quintile of the adolescents who did not have exact idea of the age at first sex, more than eight out of every ten had experienced first sexual intercourse between the ages 15-19 years. Adhikari and Tamang reported that the time for first sexual contact was 10-25 years⁷ and average age at first sexual intercourse for male 18.5 (16.5–21.5) and female 21.9 (19.6–24.1) was reported in Nepal (Wellings et al).⁸ Likewise, Nepal Demographic and Health Survey (NDHS, 2006) reported, median age at first intercourse: 19.7 and 17.2 years for male and female respectively.⁴ Similarly, a study from Kathmandu showed, a great majority (64.4%) of teenagers were sexually exposed and mean age at first sexual contact was reported to be 13.13 years for male and 11.16 years for female.⁵ Lee et al

reported the mean age at first sexual intercourse 15 years.⁹ Findings of this study are somehow consistent with Limbu's study but lesser than NDHS findings.

About 6.91 percent had adopted all three (vaginal, oral and anal) routes for sex. Sex via anal and oral contact was perceived to have increased risk for STIs. Of those who had sex in last year and last month, majority had single sex partner followed by 2-5 partners. Nevertheless, proportions of male with 2 or more partners were higher than those of counterpart female in their respective groups and some of them had more than 10 sex partners. About 13.93 percent adolescents had group sex. Male involvement was statistically higher than female however, of all female who had sex, a quarter of them were found to be involved in group sex.

Majorities of them had sexual relation with regular partners followed by sex workers and frequent exposures were associated with increased risk of acquiring STIs including HIV infection leading to poor sexual health. Jaiswal et al (2005) reported that 4.2% had previous sexual intercourse, 64.2% had sexual intercourse with friends and 35.17% had sexual intercourse with commercial sex workers.¹⁰ Regmi, Simkhada and Teijlingen (2008) observed that the formation of sexual partnerships and decision making in relation to the risk of pregnancy, STIs/HIV and the feeling of

responsibility towards partnership were poorly understood among adolescents.^{11,12} This differentiation in knowledge might be due to exposures to reproductive health services and advertisements in public media.

Of the users of contraceptives, almost all used condoms which were acknowledged as safe behaviors. Of the non users; lack of devices and partner's dislike to use were the major reasons for non utilization of contraceptives. Regmi et al identified that use of condom during sexual intercourse was low and irregular. And unavailability, partners not ready to use, displeasure are main reasons for not using condoms among young people.¹¹ Use of condom among the students was inconsistent while engaging in sex with non-regular partner.^{10, 12} A study revealed that 43% had experienced risky sexual behavior and 41% had never used condom during sex.⁵ Practice of correct and consistent use of condoms in sexual relations with non-regular partners seems to be lower and the overall sexual behavior is unsafe.^{13, 14} Similar findings were reported on perception of risky behaviors and risk sexual partners.

Conclusion:

Premarital sexual involvement was prevalent among adolescents. They have sexual contact with various partners and most of them had regular partners where sexual relationship with commercial sex workers and non commercial sex partners were perceived to be risky sexual behaviors.

Behavior change intervention strategies are recommended for the adolescents to promote their reproductive health.

Acknowledgement: Authors are thankful to Ishwar Chandra Baniya, Dean Faculty of Science and Technology, Pokhara University for the financial and technical support and study participants.

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