SEXUAL AND REPRODUCTIVE HEALTH OF ADOLESCENTS IN RURAL NEPAL: KNOWLEDGE, ATTITUDES AND BEHAVIOR

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Nepal has a relatively young and growing population, like most low-income countries. Recently, Nepal has accelerated its commitment to the International Conference on Population and Development (ICPD) Program of Action (1994) by introducing a program focusing on the sexual and reproductive health of adolescents. This paper aims to report the sexual health knowledge, attitudes and behavior of adolescents in rural Nepal. A survey was conducted in four districts of Nepal with representative sample among adolescents aged 15–19 years using pre-tested structured questionnaire in 2011. Questionnaire contents socio-demographic questions including knowledge, attitudes and behaviors related to reproductive and sexual health. The study was approved by the Nepal Health Research Council. A total 3041 adolescents (mean age 16.4 years, 49.4% male and 50.6% female) completed the questionnaire. The data indicated that HIV/AIDS and other reproductive and sexual health knowledge among the respondents was moderate. Male respondents have better knowledge on HIV/AIDS compare to female respondents. Similarly, male have better access to modern means of communications. Both male and female were equally likely to say that they had used a condom the last time they had sex. A small proportion of all respondents (9.3%) had acquired emergency contraception, two thirds of those were male (65%) and among total users of emergency contraceptives, 85 percent were unmarried. Both education and youth-friendly services, targeting to female adolescents are required to improve the sexual health status of adolescents. The findings have important implications for the (re)development sexual health interventions for adolescents in Nepal.

INTRODUCTION

Like many developing countries Nepal has a relatively young population, approximately one-third of the total population of 26,620,809 living in Nepal recorded in the 2011 Census consists of young people (10–24 year old) (Central Bureau of Statistics, 2011). This means every year a large number of young people become sexually active for the first time. The recent *Nepal Demographic and Health Survey 2011* (DHS) suggests a reduction in the adolescent fertility rate (AFR), an improvement in the use of(especially) condoms and in young people's use of modern methods of family planning (MOHP, New ERA & ICF International, 2012). However, the latter remains low for married adolescents and youth (14.4% and 23.8% respectively).

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Nepalese societies have many strong traditional norms and beliefs relating to sex and sexuality (Mahat & Scoloveno, 2001; Regmi, Simkhada & van Teijlingen, 2010a) and these issues are rarely discussed within the family environment. However, sexual activities start at fairly early age. The *Nepal Demographic and Health Survey 2011* showed that 4.6 percent of women aged 15-19 years reported having had sexual intercourse by the age of 15 year; a figure lower than reported in youth specific reports, which might be explained by the household survey methodology of DHS (MOHP, New ERA & ICF International, 2012). Also about 40 percent women aged 20-24 had sexual intercourse by age 18 and 58 percent by age 20. Young people do not have adequate access to appropriate information and services about sexual and reproductive health (SRH) issues (Acharya, van Teijlingen, & Simkhada, 2009). Little sex education is offered in schools and SRH are topics not openly discussed in families. Nepal is a fairly traditional patriarchal society which is only changing slowly in terms of developing more open attitudes towards sexual and reproductive health as highlighted by Regmi, Simkhada & van Teijlingen (2010b). Consequently, girls are more vulnerable because they have less access to formal institutional structures such as schools and health care systems than boys have and are unlikely to be incorporated into or receive accurate information through informal communication networks (Mathur et al., 2004). Discussing sex and sexual health issues is not just a 'difficult' issue in Nepal as it also seems to be a problem in other South Asian countries, e.g. Sri Lanka (Agampodi, Agampodi & UKD, 2008) and Pakistan (Ali, Bhatti, & Ushijima, 2004).

METHODS

The mixed-methods study reported here is part of a larger evaluation study of a government intervention targeting adolescents in Nepal. This paper comprises: (a) a population-based questionnaire study on SRH issues conducted with young people in four districts of Nepal (Doti, Dang, Banke and Dolakha); and (b) secondary analysis of data collected from health facilities that offer SRH services in these four districts. The latter set of data will not be presented here. The mixed-method design is applied to make best use of the strengths of each individual method (Tones & Tilford, 1994; Weston, 1998).

The questionnaire has been largely constructed from existing validated ones, such as the DHS, GFA and GIZ questionnaires. Further these newly constructed questionnaire were pilot tested (van Teijlingen & Hundley, 2001) with nine young people (male=5, female=4) some at school and some out of school outside the research area. Literate respondents were given a structured questionnaire (self administrated) to complete themselves. Respondents had an opportunity to ask any unclear questions to the researchers. Illiterate respondents were interviewed face-to-face using the same structured questionnaire.

Our sample consists of adolescents aged 15 to 19 year old and currently living in these four districts. A stratified random sample method was applied, with the sample stratified by district and school attendance. The sample-size calculations based on the wider evaluation questions of a large-scale intervention suggested that 2,970 young people overall were to be surveyed, half of the respondents were to be male and half female, and a simple random sample was chosen from each of the four districts separately.

We reached a total of 30 primary and secondary health facilities including one zonal hospital (Bheri) and one sub-regional hospital (Ghorahi) in the four survey districts. For the study of records of health facilities we designed a short form to capture the relevant information on young people's service use. The questionnaire data were entered in an electronic database (SPSS 19.0), and coded by number not by the name to maintain confidentiality. Data were

analysed using descriptive statistics. Sexual health service usage data were entered in both SPSS and Microsoft Excel for ease of analysis. Copies of the questionnaire and short form for collecting service data are available from the first author (PS). Ethical approval for our study was granted by the Nepal Health Research Council (NHRC).

FINDINGS

Descriptions of the Sample

The number of survey participants was 3,041.Young men represented just under half (49.3%) of the total sample, and 15-year olds made up the largest sub-group and 19-year olds the smallest. Nine out of ten respondents identified themselves as being Hindu. Nearly 99 percent of all respondents were literate. Just under half of all survey participants were currently at school and between one in five to one in four respondents had left school by Grade 6. Some six percent of adolescents were married (n=174) and of those married young people 35.1 percent were male and 64.9 percent were female (Table 1). Not all respondents answered all questions, for example, 30 people did not list their age. The most likely explanation is these are respondents who self-completed the questionnaire in school and handed it in afterwards to the researchers. Therefore they are likely within the age range, and a reason for leaving them in the study. The out-of-school questionnaires were much more likely to be completed one-to-one, or even by the researcher for those with poor language skills, and hence less likely to miss out basic information on age.

Table 1: Percentage distribution of respondents by selected demographic characteristics

Socio-demographic variables	Categories	Number	%
Gender (n=3,041)	Male	1,503	49.4
	Female	1,538	50.6
Age (n=3,011)	15 years	1,044	34.7
	16 years	761	25.3
	17 years	480	15.9
	18 years	487	16.2
	19 years	239	7.9
Ethnicity (n=2,982)	Upper caste	1,559	52.3
	Janjatis	1,057	35.4
	Dalits	259	8.7
	Religious minorities/others	107	3.6
District (n=3,041)	Doti	486	16.0
	Banke	914	30.1
	Dang	1,142	37.6
	Dolakha	499	16.4
Religion (n=3,036)	Hindu	2,752	90.6
	Buddhist	128	4.2
	Muslim	97	3.2
	Christian	55	1.8
	Others	4	0.1
Marital status (n=3,037)	Unmarried	2,859	94.1
	Married	174	5.7
	Other (separated/divorced/widow)	4	0.1
Educational status (n=3,034)	Literate	2,992	98.6
	Literate(NFE)	24	0.8
	Illiterate	18	0.6

Access to Modern Means of Communication and Mobility

Gender plays a significant role when it comes to access to modern technologies and means to enhance a person's mobility. Overall, the majority of adolescents had no personal mobile phone, with less than one third (32.0%) of all female respondents possessing a mobile phone, but more than half of all male respondents (57.3%) having one. Most respondents did not have a laptop/computer, internet access or a motorbike. Overall, males were more likely to report having a laptop or PC (personal computer) in the house than females (11.0% versus 7.8%). Although overall internet access at home was low, men were twice as likely to have such access (male 8.6%; female 3.7%). Slightly, more men than women had a motorcycle (male 7.5% versus female 6.1%). Just over four out of ten adolescents had a bicycle. However, there was a considerable gender difference with more than half of the males (52.4%) having a pedal bike and only just over one-third (36.1%) of the females.

Table 2: Access to modern means of communication by gender

Access to modern communication	Male	Female	p value
Personal mobile phone	860 (57.3%)	491 (32.0%)	p<0.000
Laptop or computer in house	163 (11.0%)	119 (7.8%)	p=0.002
Internet access	126 (8.6%)	56 (3.7%)	p<0.000
Electricity at home	1227 (82.3%)	1258 (82.4%)	p=0.949
Radio	1247 (83.5%)	1226 (80.3%)	p=0.023
Television	852 (57.0%)	934 (60.9%)	p=0.028

P<0.05 is significant and P<0.001 highly significant.

Source of Information on Sexual and Reproductive Health

Just over half of adolescents (53.2%) had received some information about puberty and bodily changes from their parents; 760 males (50.8%) and slightly more females (n=851/55.4%). However just under half 1408 (46.5%) also received 'some' of such information from friends and/or peers; more so among the young women (51.1%) than among the men (41.8%). Additionally nearly half of all respondents (47.4%) received 'some' information on puberty and bodily changes from school books; more males (50.6%) than females (44.2%) reported getting 'some' information from books. Overall (46.1%) received 'some' information from school teachers and there was no gender difference. Nearly all adolescents (92.9%) also reported that television/cinema/radio provided some information on puberty and bodily changes and there was no gender difference among those who reported not receiving such information through the electronic media.

According to most participants telephone hotlines, the internet, leaflets/brochures and older relatives were not a common source of information on STIs (sexually transmitted infections) and HIV/AIDS.

Knowledge on Aspects of Sexual and Reproductive Health

Nearly all had heard of contraceptives, female respondents were more likely than men to say that they had not heard of any contraceptives, but the numbers are very small (males 10 out of 1,498 & females 27/1,538). In total 2,535 respondents claimed they knew how to use condoms, more males did claim to know than females. In a question 'if used properly condom can protect against HIV transmission?' an overwhelming majority of adolescents agreed but there was a gender imbalance with 95.0 percent of the males agreeing and 'only' 86.2 percent of the females.

Table 3 shows the differences between males and females for the 'true'/'false' answers to seven knowledge questions on HIV transmission and prevention. Interestingly, there is significant difference on HIV knowledge among male and female. Male respondents have more comprehensive knowledge regarding HIV/AIDS than females.

Table 3: Correct answers to seven HIV questions by gender

Knowledge Statement	Male**	Female	p value
Condom can be used more than once (correct answer = False*)	1287 (85.8%)	1160 (75.6%)	p<0.000
If used properly condoms can protect against HIV transmission (T)	1422 (95.0%)	1325 (86.2%)	p<0000
Person looks strong & healthy can have HIV (T)	984 (65.8%)	956 (62.2%)	p=0.041
Person can get AIDS through mosquito, flea, or bedbug bite (F)	1019 (68.7%)	859 (56.1%)	p<0.000
Person can get AIDS by sharing food with a person who has AIDS (F)	1219 (81.9%)	1225 (80.0%)	p=0.179
Person can get AIDS by touching with a person who has AIDS (F)	1331 (89.1%)	1315 (85.9%)	p=0.008
Condom use reduces the chance of getting AIDS (T)	1162 (77.8%)	1101 (71.8%)	p<0.000
Comprehensive Knowledge (who answered the all 7 questions correctly)	460 (31.5%)	381 (25.2%)	p<0.000

Notes: * T=True, F=False; ** those who answered correctly out of all men or women respectively.
P<0.05 is significant and P<0.001 highly significant.

Safe Sex Behavior

Young men and young women were equally likely to say that they had used a condom the last time they had sex, 64.7 percent versus 65.3 percent respectively. There was very little difference between married and unmarried adolescents. Respondents still at school were slightly less likely to report that they had used a condom during their last intercourse than those who had left school, 68.1 percent versus 61.3 percent respectively.

About seven out of eight participants were currently not using any contraceptive method to delay or avoid pregnancy. The condom was by far the most preferred method of contraception; mentioned by over nine out of ten adolescents in our study, followed by a very low preference for oral pills of only approximately 4 percent.

Lifestyle

More than 90 percent of respondents reported that they had never smoked, and four out of five respondents visited a *Dohori* or club sometime. More than four out of five adolescent responded that they never consumed alcohol. Nearly all (around 98%) adolescents responded that they do not take narcotic drugs, whilst about 11 percent thought their friends had taken drugs.

Source of Contraceptives for Young People

A small proportion of all respondents (9.3%) had acquired emergency contraception, two thirds of those were male (65%) and among total users of emergency contraceptives, 85 percent were unmarried. Of those who had used emergency contraceptives, girls were more likely to be married than boys. Of those that had used emergency contraceptives males were slightly less likely to have acquired emergency contraceptives from government health facilities than females (67.1% versus 76.4%).

Access to and Satisfaction with Health Services

In both the groups still at school and those who had left school about one-third had ever been to the nearest government health facility for obtaining reproductive services, for those still at school the proportion was 33.8 percent and for those who had left school it was slightly higher at 35.4 percent.

DISCUSSION

Gender is an important variable for explaining differences in knowledge and behavior as well as access to modern means of communication and mobility. Interesting for respondents who had experienced sexual intercourse men reported that their first partner had been their girlfriend whilst women are far more likely to report this was their husband.

Just over half of young people in our study had received information from parents about SRH. Research suggests that the more parents discuss such issues with their children, the more likely young people are to delay their sexual debut and the safer their sexual behavior (Leland & Barth, 1993; Palatnik & Seidman, 2012).

As found in many sexual health studies aimed at young people across the world more young people in Nepal think that their peers have had sexual intercourse that is the case in reality. For example, youth people who are sexually active perceived that most of their friends are sexually active. Young people appear to get a great deal of information from their peers on issues that are sensitive or a cultural taboo. The lifestyle of the adolescents in this study on topics other than SRH, e.g. smoking and drinking, seems healthier than many of their counterparts in high-income countries.

Since less than ten percent of all study participants had internet access at home and just over half of the adolescents had a mobile phone (see above) and only one-third of young women possessed one. This suggests that there is little scope for gender-sensitive interventions such as using mobile phone communication to deliver SRH interventions in Nepal. Such methods have been used elsewhere in low-income countries and suggested as possible solution in a recent systematic review (Denno, Chandra-Mouli, & Osman, 2012).

A large proportion of young people were satisfied with the reproductive health services provided. High satisfaction levels are commonly reported across the globe for a range of health services. There is a notion that people value what they have (receive) and cannot really envisage what a different/better service would look like, this is often referred to as the phenomenon of ‘what is must be best’ (Porter & Macintyre, 1984).

CONCLUSION

About two-thirds of sexually active young people in survey reported that they had used condom during their last intercourse, suggesting a positive impact of condom promotion, affordability and availability in Nepal. The use of emergency contraceptives was relatively high. Interestingly, boys are more confident in accessing emergency contraception than girls, especially when they are unmarried.

As internet and mobile phone use is growing but still relatively low among young people in Nepal its potential use in sexual and reproductive health interventions is currently still low, and should they be introduced most likely will not reach the poor and rural boys and girls. Since

there is a great gender imbalance in mobile phone and PC ownership and internet access any intervention using modern methods of communication would automatically and systematically disadvantage rural young women.

Epidemiological lifestyle studies like this can help understand how gender from a very young age i.e. adolescence affects boys and girls differently in terms of their knowledge and behavior and access to information, methods of communication and mobility.

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Conflicts of Interest

EvT, PS & DRA report no conflict of interest. ES, PRS, JS & PP are employed by GFA, the organization which implements and supports the intervention for which this prevalence study is the first stepping stone.