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Risky Behaviours among Adolescent Students of Pokhara Valley: A School-Based Cross-sectional Survey

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ABSTRACT

Background: Adolescence is the period of physical and mental vulnerabilities where health risk behaviours are common due to their experimental nature and decision-making power. A higher prevalence of risky behaviours among adolescents has been reported globally which resulted in adverse effects on health and wellbeing. The present study aims to explore the overall prevalence of health risk behaviours among adolescents.

Methods: This study was conducted in 2014 using the WHO guideline of a Global School-Based Student Health Survey (GSHS) in the Pokhara valley of Nepal using a stratified clustered sampling technique. A descriptive study was conducted among 1190 adolescent school students of the valley. A self-administered questionnaire was used for data collection. The data were analysed using SPSS for descriptive statistics.

Results: The response rate of the participants was 95.35%. The prevalence of the current use of tobacco, alcohol, and drug was 15.9%, 17.1%, and 4.1% respectively. The mean age of first use of tobacco, alcohol, and drug was found 14.07 ± 1.82 , 14.19 ± 1.78 , and 15.52 ± 1.61 years respectively. Two third (66.4%) of the participants reported having sexual intercourse one or two times within the last 12 months. Among them, 21.4 % reported no use of condoms during sexual intercourse. The mean age of first sexual intercourse was 14.69 ± 1.56 years. Similarly, 42.2% reported being injured in the past 12 months of study.

Conclusions: The study shows a higher prevalence of health risk behaviours among adolescents. Tobacco, drug, alcohol use, and risky sexual activities were initiated at a younger age.

Keywords: Adolescent health; health risk behaviours; Nepal; substance abuse.

INTRODUCTION

Globally 1.2 billion people of the world are aged 10-19 years¹ also called adolescents. According to WHO, 350 million adolescents are living in South East Asia. Nearly one-fourth of Asian as well as Nepalese population is adolescents.^{1,2} Risky behaviours are prevalent among them³⁻⁵ and gender differences have been reported globally.⁶ Major changes in mental and physical state of person have reported during adolescence.⁷

They are likely to adopt reckless behaviours such as drinking and driving, tobacco and substance abuse, violence and injuries, unprotected sex and insufficient physical activities, etc. These behaviours are the risk factors for deviating the health condition.⁸ Adolescents are exposed to one or more health risk behaviours.⁹ Tobacco, alcohol use and other health risk behaviours are common among

them.^{10,11}

Therefore, this study aimed to explore the status of health risk behaviours among school-aged adolescents in Pokhara valley.

METHODS

The study involved a stratified cluster sampling technique. Initially, schools were categorized into two strata of public and private schools. Then the total number of schools from each strata was decided by the probability proportional to school enrolment size. Hence, 11 private and 4 public schools were taken into consideration for the data collection.

The present study used a cross-sectional descriptive study design. A total of 1190 adolescent students

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studying in grade 9 and 10 in schools of Pokhara Valley from August to December 2014 was considered in this study. These grades were chosen so that we can reach most of the adolescents between 10-19 years.

Data were collected through a self-administered questionnaire of the Global School-Based School Health Survey (GSHS) tool by WHO. The permission was taken from school before the data collection. Informed consent was obtained from parents and students. A brief orientation was given to the students. Students could take the questionnaire home, take the parents' consent, and fill the questionnaire. Along with the questionnaire, students were given an empty envelop so that they can put the filled questionnaire and seal it to maintain the confidentiality of the respondents. Envelop were collected in the early hour of the next day by the researcher. Ethical approval was taken from the Nepal Health Research Council (Ref#885, 21st Dec-2014). Data collection tool was translated into Nepali and pretested among about 10% of students of Bhadrakali Higher Secondary School and necessary modification was done. Those who involved in pretesting were excluded from the final data collection. The collected data were entered in Epi-Data and then exported to statistical package for social science (SPSS) version 16.0 for descriptive analysis.

RESULTS

Table 1 shows the socio-demographic information of the participants. There were students from the public (30.3%) and private (69.7%) schools. In public schools, a higher number of students were female (65.1%) while in private maximum students were male (58.4%). Similarly, about 60% of respondents were below the age of fifteen years.

Table 1. Distribution of socio-demographic characteristics of participants (n=1190).

Characteristics	Male n (%)	Female n (%)	Total n (%)
School Type			
Public	126(34.9)	235(65.1)	361(30.3)
Private	484(58.4)	345(41.6)	829(69.7)
Age (Years)			
≥15	327 (46.1)	383(53.9)	710(59.7)
16 and more	283(59.0)	197(41.0)	480(40.3)
Caste/ ethnicity			
Chhetri/ Thakuri / Brahmin	322 (55.0)	263(45.0)	585 (49.2)
Janajati	261(49.4)	267(50.6)	528(44.4)

Terai and other castes	27(35.1)	50(64.9)	77(6.5)
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Table 2 showed the prevalence of current tobacco users to be 15.9% out of which 73.0% was found common among boys. The cigarette was a common form of tobacco (78.3%). About 12.7% of respondents were also found to be the current user of two or more forms of it. Among the current users, the majority of male counterparts (80.0%) started to use tobacco before the age of sixteen years given the mean age at first use of tobacco being 14.07±1.82 years. Similarly, 17.1% were found to be the current users of alcohol. More male (69.5%) and less female counterparts (30.5%) were the current users. Among the alcohol users, 79.8% were aged less than 16 years while only 20.2% of participants were aged 16 or more. Furthermore, about four percent were drug users and most of them were male (83.3%). The mean age of the participant at the initiation of the drug use was found to be 14.19±1.78 years.

Table 3 illustrates the distribution of participants according to the knowledge of STI, HIV/AIDS, and risky sexual behaviours. Almost all (98.2%) participants had ever heard about STI and HIV and 96.8% of them learned from the school. Participants (11%) were found ever been involved in sexual activity. It was found common among males (77.1%) than females (22.9%). More than three fourth (75.6%) of the participants had a first sexual experience before the age of 16 years. Among those sexually active (89.3%) involved 1 to 5 times in the past 12 months preceding the study. Participants (58.0%) also reported about the use of condoms during sex and the remaining (20.6%) reported occasional use of condoms. Multiple sex partners were reported and varied up to five. In the last twelve months, 65.7% had only one partner while 29.8% had 2 to 4 partners and 4.6% of participants had 5 or more.

Table 4 illustrated the distribution of participants by their physical activity. Forty-three percent of participants never involved in any physical activities in the recent week and 33.1% of them involved 1 to 4 times and 23.8% were doing regularly. Furthermore, females (54.9%) were having low physical activities than males (45.1%) within 7 days. More than three fourth (75.6%) of the participants had usual sleep less than 8 hours and only one-fourth reported 8 and more hours daily. Similarly, a slight difference in male (50.8%) and female (49.2%) was reported for sleeping hours. More than half (54.1%) of the participants walked or cycled to and from school in recent weeks. A common reason for low physical activities at school was reported to be a lack of physical exercise facilities at school (53.2%).

Table 2. Distribution of tobacco, alcohol and drug use among the participants.

Characteristics	Male n (%)	Female n (%)	Total n (%)
Current use of Tobacco (n=1185)	138(73.0)	51(27.0)	189(15.9)
Current use of alcohol(n=1185)	141(69.5)	62(30.5)	203(17.1)
Current use of drug(n=1185)	40(83.3)	8 (16.7)	48 (4.1)
Forms of Tobacco use (n=189)			
Cigarette	108 (73.0)	40 (27.0)	148 (78.3)
Gutka/Paan/Masala	9 (52.9)	8 (47.1)	17(8.0)
Two or more than two	21 (87.5)	3 (12.5)	24 (12.7)
Age at first use of Tobacco (n=189) (Mean age= 14.07±1.82)			
<16	111(73)	41(27)	152(80)
≥ 16	27 (73.0)	10(27.0)	37(20)
No. of days tobacco use in the past 30 days (n=189)			
1-5	73(64)	41(36)	114(60.3)
≥6	65(86.6)	10(13.3))	75(39.7)
Age at first use of alcohol (n=203) (Mean age= 14.19±1.78)			
<16	113(69.8)	49(30.2)	162(79.8)
≥ 16	28(68.3)	13(31.7)	41(20.2)
Times of alcohol use in the past 30 days (n=203)			
1-5	112(66.3)	57(33.7)	169(83.3)
≥6	29(84.6)	5(15.4)	34(16.7)
Age at first use of a drug (n=203) (Mean age=14.52±1.61)			
<16	30(81.1)	7(18.9)	37(77.1)
≥ 16	10(90.9)	1(9.1)	11(22.9)
Times of drugs used in the past 30 days (n=48)			
1-2	18 (75.0)	6 (25.0)	24 (50.0)
3-9	22 (91.6)	2 (8.3)	24 (50.0)

Table 3. Distribution of participants according to knowledge on STIs and HIV/AIDS and risky sexual behaviours.

Characteristics	Male n (%)	Female n (%)	Total n (%)
Heard about STI and HIV (n=1190)	600 (51.4)	568 (48.6)	1168 (98.2)
Learnt in school about STI/HIV (n=1190)	592 (51.4)	560 (48.6)	1152 (96.8)
Ever been involved in sexual activity(n=1187)	101 (77.1)	30 (22.9)	131 (11.0)
Age (years)at first involved in sexual intercourse* (n=131) (Mean age= 14.69± 1.56)			
<16	79(79.8)	20(20.2)	99(75.6)
≥16	22(68.8)	10(31.2)	32(24.4)
Times of sexual intercourse in the past 12 months (n=131)			
1-5	89(76.1)	28(23.9)	117(89.3)
6-10	6(100.0)	0(0.0)	6(4.6)
>10	6(75.0)	2(25.0)	8(6.1)
Use of condom during sexual intercourse (n=131)			
Yes	60 (78.9)	16 (21.1)	76 (58.0)
No	21 (75.0)	7 (5.0)	28 (21.4)
Sometimes only	20 (74.1)	7 (25.9)	27 (20.6)
No. of sexual partners in the past 12 months (n=131)			
1	64 (74.4)	22 (25.6)	86(65.7)
2-4	31(79.5)	8(20.5)	39(29.8)
5 or >5	6 (100.0)	0 (0.0)	6(4.6)

Table 4. Distribution of participants according to physical activity-related characteristics.

Characteristics	Male n(%)	Female n(%)	Total n(%)
Times of physical activities in the past 7 days (n=1188)			
0	231(45.1)	281(54.9)	512 (43.1)
1 - 4	213(54.1)	181(45.9)	394(33.1)
5 - 7	165(58.5)	117(41.5)	282(23.8)
Usual time of sleep in hours (n=1186)			
< 8	457(50.8)	443(49.2)	900(75.9)
≥8	150(52.4)	136(47.6)	286(24.1)
No. of days walked or cycled to and from school (n=1183)			
0	180(52.2)	165(47.8)	345(29.2)
1 - 4	102(51.5)	96(48.5)	198(16.7)
5 - 7	325(50.8)	315(49.2)	640(54.1)
Physical exercise facility in school (n=1185)			
Yes	257(46.3)	298(53.7)	555 (46.8)
No	352(55.9)	278(44.1)	630 (53.2)

Table 5. Distribution of participants according to injuries related characteristics.

Characteristics	Male n(%)	Female n(%)	Total n(%)
Ever injured in past 12 months (n=1179)			
Yes	301(60.4)	197(39.6)	498(42.2)
No	304(44.6)	377(55.4)	681(57.8)
Cause of injury (n=498)			
Fall	186(63.5)	107(36.5)	293(58.8)
Cut	86(55.)	69(44.5)	155(31.1)
RTA	25(67.6)	12(32.4)	37(7.4)
Others	5(38.4)	8(61.5)	13(2.6)
Activities performed while injured (n=498)			
Playing	153(79.7)	39(20.3)	192(38.6)
Housework	39(39.0)	61(61.0)	100(20.1)
Riding vehicle	64(69.6)	28(30.4)	92(18.5)
Walking	37(41.1)	53(58.9)	90(18.1)
Others	9(37.5)	15(62.5)	24(4.8)

Injuries are one of the most common consequences of risky behaviours. Table 5 illustrates the distribution of participants by their injuries related information. Forty-two percent of participants reported being injured in the past year and six among ten (60.4%) were males.

Fall (58.8%), cut (31.1%) and road traffic accident (RTA) (7.4%) were major reasons for it. Furthermore, about thirty-seven percent of adolescents were injured while playing. Female adolescents (61.0%) were comparatively more injured while doing housework than males (39.0%).

DISCUSSION

This study explored the status of major health risk behaviours among adolescents. The prevalence of tobacco use in this study (15.9%) is slightly higher than in various studies from Indonesia (10.9%), Pokhara (13.2%), Thailand (7.2%) but Mauritius study shows a slightly higher prevalence of tobacco use (16.5%).^{9,10,12,13} The mean age at first use of tobacco in this study was 14.07±1.82 years which is almost similar to findings from the Pokhara sub-metropolitan in which the mean age of initiating tobacco was 13 years.¹⁰ In this study, the prevalence of current alcohol users was found to be 17.1% which is slightly higher than the study conducted in Thailand (14.8%) in 2008 and lower than the study conducted in Mauritius (20.8%) but the Indonesian study shows the low use of alcohol (2.6%).^{9,12,13} Moreover, most of the current users (79.8%) had the initial taste of alcohol before their fifteenth birthday, while in Mauritius, 63.2% initiated before their 14th birthday.¹² Easy availability and lack of awareness about the harmful effects of alcohol might be the triggering factors to initiate alcohol at an early age. Early alcohol intake might also be due to cultural influences.¹⁴⁻¹⁶ Similarly, It was found that the prevalence of drug use was 4.1% which is high when compared to the study conducted in Indonesia in 2007 which depicted only 0.5% however it was higher in the study of Mauritius (6.4%)^{9,12} Similarly in the present study gender difference in drug use was reported. The Mauritius study also reported the same difference in drug use i.e. 9.3% male and 3.7% female.¹² However, in Indonesia low gender-based discrepancy of drug use was found i.e. 0.6% male and 0.3% female.⁹ In this study, smoking was found common among boys. Smoking is governed by age group and also influenced by socio-cultural factors.¹⁷⁻¹⁹ Global evidence shows a higher prevalence of smoking among the age group 18 to 25 years and there is a significant difference in smoking habits with the increasing age of young people.²⁰

It was found common to have sexual intercourse among males (77.1%) with an overall prevalence of 11% for both sexes. We still doubt about the occurrence of biases in responses due to sensitive issue which is similar to the study conducted in Thailand in 2008.¹³ Similar nature of studies conducted in Pokhara, Nigeria and

Kathmandu showed a higher prevalence of 18.76%, 34%, and 39% respectively.²¹⁻²³ In the present study, nearly one-third of students had first-ever sexual contact at the age of thirteen to fifteen years, however, nearly one among ten (9.2%) were also found indulged in the sexual act before 12 years. Adolescents had sex without condoms frequently in Pokhara. Another study found that those who had sex, 81.21% had used some form of contraceptive devices and among them and most of them used condoms.²¹ A study from Kathmandu found that 57% of respondents used condoms.²⁰ Multiple sex partners were common. Male respondents were more likely to have more sexual partners. Studies revealed that sexual partners ranged from 1 to 15 and 55% having sexual partners more than one and 31% having three or more sexual partners.^{21,23} Lifestyles have been changing recently in Nepal^{24,25} resulting in more sedentary lifestyles among adolescents. Worldwide experience shows that low physical activities are common among them. The present study reported low physical activities which are almost similar other two studies which found 16.5% and 14% of the students being engaged in at least 60 minutes of moderate-vigorous activity each day in a week.^{9,26} Nepal has already published evidence emphasizing the burden of obesity.²⁵ Contributors for overweight in Nepal are socioeconomic status, television watching habit for a longer time, and low consumption of fruits.²⁷ Therefore, there should have an emphasis on healthy diets and increased physical activities.

We also tried to explore the present issues from the gender perspective. In this study, females seem more physically inactive than male but another study conducted in Indonesia found males (16.1%) and females (16.8%) are equally likely to be physically active all days in a week.⁹ Malaysian evidence found 42.7% physically active students.²⁸ Nearly six among ten of the students (58.4%) opted that they usually sleep 7 to 8 hours a day whereas nearly a quarter of participants (24.1%) sleep more than 8 hours a day. Nearly three out of ten (29.2%) never walked or cycled to and from school in the recent week while, among those who walked or cycled (n=1183, 70.8%) which is almost similar to the findings from Indonesia which found 73.9% of students walked or bicycled to and from school for a total of 150 minutes or more during the recent week.⁹ In this study, injury is more common among adolescent and four among ten reported to have ever been injured in recent year. Indonesian evidence demonstrated a slightly higher prevalence of injury (45.9%) in the past 12 months.⁹

The present study was conducted based on a self-administered questionnaire among the adolescent students of Pokhara valley in 2014. Thus, we are

unable to comment on the present situation of health risk behaviours. Similarly, due to a self-reported questionnaire, there might have some information bias and recall bias.

Worldwide, understanding of risky behaviours is one of the strategic priorities to mitigate health risks among adolescents. However, Nepal has limited resources on it. We expect this literature will suffice the gap for advocacy and policy on adolescents. Therefore, we recommend the concerned authorities to focus on the concrete interventions that can help promote the healthy lifestyles of adolescents from school. Resources should be delivered and focused on creating a good teaching-learning environment which can ultimately promote healthy behaviours and reduces the reckless behaviours among them.

CONCLUSIONS

The present study shows health risk behaviours were prevalent among adolescents. Adolescents were found to initiate the use of drugs, alcohol, and sexual activities at a younger age. The difference in male and female behaviours was reported for these activities. Educational intervention should target the reduction of risk behaviours at school.

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