Health risk behaviour among adolescent students in higher secondary school of Kathmandu metropolitan city, Nepal

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ABSTRACT

Background: Health-risk behaviours are those activities that contribute to the leading causes of mortality, morbidity, disability, and social problems among youth and adults, often are established during childhood and adolescence, extend into adulthood, and are interrelated. The objective of the study was to assess health risk behaviours and their influencing factors among adolescent students in higher secondary school of Kathmandu metropolitan city.

Methods: The study was a school based cross-sectional quantitative type. The study was conducted in three government schools of Kathmandu metropolitan city, Nepal. The purposive sampling technique was applied to select total 250 respondents from grade 11 and 12. The self-administered questionnaire was used for the data collection.

Results: Study shows that majority of respondents were between aged 17-20 years, 62.4% were female and 76.8% from Hindu religion. Out of the total respondents, 6.4% smoked cigarettes, 18.4% drank alcohol and 6.8% used drugs. Regarding Initiation risk behaviour, 25% first smoked, 32.6% first drank alcohol and 11.76% first used drug at age <14 years (pre-adolescence). The major influencing factor for involving health risk behaviours are peer pressure (70.58%) followed by their curiosity (29.42). Likewise, this study revealed highly association between risk behaviours of respondents and peer pressure.

Conclusions: Despite the widespread of knowledge about negative effect of health risk behaviours, the prevalence is of smoking, drinking alcohol and drug use is higher. There is urge need of initiation and activities regarding health risk behaviour targeting to preadolescents and adolescents’ students.

Keywords: Health risk behaviours, Adolescent students, Influencing factors

INTRODUCTION

Health-risk behaviours which are behaviours that contribute to the leading causes of mortality, morbidity, disability, and social problems among youth and adults, often are established during childhood and adolescence, extend into adulthood, and are interrelated.1 In addition, they are considered as a major source of preventable premature deaths.2 The youth risk behaviour surveillance systems measures six categories of priority health-risk behaviours among youth: a) behaviours that contribute to unintentional injuries and violence, b) sexual behaviours that contribute to unintended pregnancy and sexually transmitted diseases, including HIV infection, c) alcohol and other drug use, d) tobacco use e) unhealthy dietary behaviors and f) inadequate physical activity plus obesity or sedentary life style.1
The adolescence period represents a complex set of biological, psychological, and social developmental changing phase that span the transition between childhood and adulthood. Adolescence is a period of development that involves stages of exploration and active peer interactions with accompanying risk behaviors. It is a period of identity crisis and experimentation, a time of physiological and psychological changes of puberty. During this risk-taking journey, some develop behavior problems and improper lifestyles changes in absence of proper guidance and counselling which reflected in the form of various diseases in adult life. They are heavily influenced by the environment in which they live and lead them toward risk taking behaviors and unhealthy behavior. For this reason, it is a critical period of development process during which a group of health risk behaviors may begin that can negatively affect health, both in the short- and long-term.

The various study reports show that the adolescents are highly involved in various health risk activities due to which non-communicable diseases and communicable diseases like STD, HIV/AIDS, psychological health hazards related premature morbidity and mortality. A study of high school students in the United States found that 38.7% of adolescents consumed alcohol, 18.1% had smoked cigarettes. In Brazil, 27.3% of students consumed alcohol and 6.3% were smokers. In Egypt, 19.4% of adolescents smoked, 7.3% drank alcohol, 11.3% had early sexual relation and 10.6% used drugs. In China, 6.3% drank alcohol, 25.0% used drugs and 13.3% had sexual intercourse among adolescent students. In India, 15.30% students smoked, 19.95% drank alcohol.

Similarly in Nepal, 9% of adolescent students had done sexual intercourse. 35.5% used tobacco daily, and 22% of the student’s smoke. Despite the recognition of the importance of adopting positive health behaviors, the prevalence of health risk behaviors is high among adolescents from different social contexts of developed as well as developing world. Therefore, adolescent population and health of adolescents is considering as very special issue and is focus of attention globally for adopting multiple health risk behaviors.

METHODS

The study design was a descriptive cross-sectional study, which was carried out to explore the health risk behaviors and the influencing factors among adolescent students in three government higher secondary school of Kathmandu metropolitan city. Study period was from March 2018 to May 2018. The population was the total number of the students from 11 and 12 grades. Before conducting study, Formal permission was taken from the concerned authority of schools. Total 250 students were included by using complete enumeration method.

Students who are studying in Shivapuri higher secondary school, Mahendra Rastriya secondary school and Shree Tangal secondary school from class 11 and 12 within Kathmandu metropolitan city and who are interested to participate were included in the study including both sexes. Students studying below as well as above 10+2 level and who are not willing to participate and absent on the day were excluded. Self-administered questionnaire was used for collecting the data. The data were edited, organized, coded, entered and analyzed through SPSS (statistical package for social science) version 16 software program.

RESULTS

All the 250 respondents participated in the study were between the aged 17 to 20 years of age. Majority of respondents (62.4%) were female. Among the respondents, majority of them (76.8 %) follow Hindu religion and more than half (54%) from Janajati ethnicity. More than half 138 (55.2%) were from nuclear family (Table 1).

| Table 1: Socio-demographic information of respondents. |
|------------------------------------------------------|
| **Socio-demographic information** | **Frequency, (n=250)** | **Percent (%)** |
|---------------------------------|------------------------|----------------|
| **Sex**                         |                        |                |
| Male                            | 94                     | 37.6           |
| Female                          | 156                    | 62.4           |
| **Religion**                    |                        |                |
| Hindu                           | 192                    | 76.8           |
| Buddhist                        | 49                     | 19.6           |
| Muslim                          | 5                      | 2.0            |
| Christian                       | 4                      | 1.6            |
| **Ethnicity**                   |                        |                |
| Brahmin                         | 35                     | 14.0           |
| Chhettri                        | 66                     | 26.4           |
| Janajati                        | 135                    | 54.0           |
| Madheshi                        | 8                      | 3.2            |
| Dalit                           | 6                      | 2.4            |
| **Type of family**              |                        |                |
| Nuclear family                  | 138                    | 55.2           |
| Joint family                    | 112                    | 44.8           |

This study revealed that 6.4% smoke cigarettes, 18.4% drink alcohol and 6.8% use drugs. They started these risk behaviors from the age of 10-19 years. The study has shown that maximum consumption of cigarettes was 3-5 sticks per day. Regarding Initiation risk behavior, 25% had their first smoking, 32.6% had their first drink of alcohol and 11.76% had their first experience of drug at age <14 years (pre-adolescence). The study has shown that 50% of current alcohol user drink half glass (30 ml) and mostly consumed on occasional (60.87%) and then social gathering and cultural occasions (36.96%). They preferred mostly beer (45.66%), local alcohol (21.74%), wine (19.56%) and least preferred was rum and vodka (Table 2).
Table 2: Cigarette smoking and alcohol use behaviour of the respondents.

| Smoking and alcohol use related variables                      | Frequency, (n=250) | Percentage (%) |
|----------------------------------------------------------------|--------------------|----------------|
| Current smoking                                               | 16                 | 6.4            |
| Current alcohol use                                            | 46                 | 18.4           |
| Current drug use                                               | 17                 | 6.8            |
| Initiation of risk behaviour (among current user)              |                    |                |
| First smoking (n=16)                                           | 4                  | 25             |
| First drink of alcohol (n=46)                                  | 15                 | 32.6           |
| First experience of drug (n=17)                                | 2                  | 11.76          |
| Number of cigarettes smoked (among current smoker), n=16        |                    |                |
| 1-2 cigarettes                                                 | 10                 | 62.5           |
| 3-5 cigarettes                                                 | 6                  | 37.5           |
| Amount of alcohol                                             |                    |                |
| Half glass                                                     | 23                 | 50.0           |
| 1 glass                                                        | 17                 | 37.0           |
| 2 glass                                                        | 3                  | 6.5            |
| More than 2 glass                                              | 3                  | 6.5            |
| Frequency of alcohol use                                       |                    |                |
| Daily                                                          | 1                  | 2.17           |
| Occasionally                                                   | 28                 | 60.87          |
| Social gathering and cultural occasions                        | 17                 | 36.96          |
| Type of drink prefer                                           |                    |                |
| Local                                                          | 10                 | 21.74          |
| Beer                                                           | 21                 | 45.66          |
| Rum                                                            | 4                  | 8.70           |
| Vodka                                                          | 2                  | 4.34           |
| Wine                                                           | 9                  | 19.56          |

Among total respondents, one third (34.4%) friends of respondents also used drugs. Among current drug users, all respondents consumed cannabis. Majority (82.35%) acquired drugs from friends and remaining from drugs sellers (17.65%). Similarly, place of drugs use was one third (35.30%) at restaurants/bars, 29.42% at lonely place. The reasons behind drugs use were mostly due to stress and remaining nearly one third (29.42%) due to curiosity (Table 3).

In this study, one fifth (20.4%) of respondents faced peer pressure for cigarettes smoking and drinking alcohol. Among the current smoker and alcohol user, majority (71.7%) respondents started risk behaviours due to peer pressure, nearly one fifth (15.5%) due to curiosity and remaining due to family behaviour (8.7%) and stress (4.3%). Similarly, family members of respondents were also significantly involving smoking (43.6%), drinking alcohol (40.8%) and drugs use (8.4%). Among current user, nearly half of father and mother of respondents were involving in risk behaviours. The study also revealed having risk behaviours among family member such as smoking (55.04%), drinking alcohol (54.90%) by father and smoking (26.60%) and drinking (28.43%) by both parents (Table 4).

Table 3: Drug use behaviour.

| Drug use                          | Frequency, (n=250) | Percentage (%) |
|-----------------------------------|--------------------|----------------|
| Drug user friends                 | 86                 | 34.4           |
| Type of drug                      |                    |                |
| Cannabis (Gaja, Bhang, Dhaturo, Ghotta) | 17                 | 100.0          |
| Method of Drug acquisition        |                    |                |
| Friends                           | 14                 | 82.35          |
| Drug’s sellers                    | 3                  | 17.65          |
| Place for drug use                |                    |                |
| Home                              | 2                  | 11.76          |
| Friend's house                    | 4                  | 23.52          |
| Lonely place                      | 5                  | 29.42          |
| Restaurants/bars                  | 6                  | 35.30          |
| Reasons for drugs use             |                    |                |
| Peer pressure                     | 12                 | 70.58          |
| Curiosity                         | 5                  | 29.42          |

Table 5 reveals that out of the total respondents, nearly half 109 (43.6%) respondent’s family members had cigarettes smoking habit. Similarly, half 102 (40.8%) respondent’s family member consumed alcohol and nearly one tenth 21 (8.4%) respondent’s family member used drugs.

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Table 4: Influencing factors related to health risk behaviours.

| Influencing factors                              | Frequency, (n=250) | Percentage (%) |
|-------------------------------------------------|--------------------|----------------|
| Peer pressure for smoking and alcohol           | 51                 | 20.4           |
| Drug availability nearby respondents’ community|                    |                |
| Drug availability                               | 109                | 43.6           |
| Drug not availability                           | 141                | 56.4           |
| Reasons behind smoking and alcohol use (among smoker and alcohol use) | | |
| Peer pressure                                   | 33                 | 71.7           |
| Curiosity                                       | 7                  | 15.3           |
| Family behaviour                                | 4                  | 8.7            |
| Stress                                          | 2                  | 4.3            |

Table 5: Types of health risk behaviour among family members.

| Types of health risk behaviour                  | Frequency, (n=250) | Percentage (%) |
|------------------------------------------------|--------------------|----------------|
| Smoking behavior among family members          | 109                | 43.6           |
| Drinking alcohol behavior among family members | 102                | 40.8           |
| Drugs use behavior among family members        | 21                 | 8.4            |
Regarding personal view towards health risk behaviors, Table 6 reveals that more than half (61.6%) respondents expressed that health risk behaviors leads to various health hazards, one fifth (21.6%) respondents agreed on health risk behaviors are increasing due to peer pressure. Remaining respondents said that smoking and alcohol are considered as fashion by 7.6%, and increasing due to effect of advertisement by 4.4% and westernization by 4.8% (Table 6).

Table 6. Opinion of the respondents toward health risk behaviours.

| Views towards health risk behaviors | Frequency (n=250) | Percentage (%) |
|------------------------------------|------------------|----------------|
| Health risk behaviors are increasing due to advertisements. | 11 | 4.4 |
| Health risk behaviors are increasing due to westernization. | 12 | 4.8 |
| Health risk behaviors are increasing due to Peer pressure. | 54 | 21.6 |
| Smoking and alcohol are considered as fashion. | 19 | 7.6 |
| Health risk behavior leads to various health hazards. | 154 | 61.6 |

Regarding personal views of respondents towards controlling measures of health risk behaviors, Table 7 reveals that one third (36%) respondents focused on public awareness about risk behaviors. Similarly, 17.2% respondents expressed needed of teaching about negative aspects of risk behaviors in school and Prohibition on production of alcohol, cigarette and drugs. Likewise, 13.2% respondents focused on providing close supervision, control and care by parents and reaming 10.4% respondents said not selling to students and at Public Places for controlling health risk behaviours (Table 7).

Table 7: Views of the respondents toward controlling measures of health risk behaviours.

| Views toward controlling measures | Frequency | Percent (%) |
|----------------------------------|-----------|-------------|
| Teaching about negative aspects of risk behaviors in school | 43 | 17.2 |
| Not selling to students and at public places | 26 | 10.4 |
| Providing close supervision, control and care by parents | 33 | 13.2 |
| Public awareness on health risk behaviours | 90 | 36.0 |
| Prohibition on production of alcohol, cigarette and drugs | 43 | 17.2 |
| Stop advertisements on smoking/drinking/drugs use | 15 | 6.0 |

In this study, an association was observed between sex of respondents and drinking alcohol which was statistically significant (p<0.05) (Table 8).

Table 8: Relationship between sex of respondent with their health risk behaviours.

| Drinking alcohol | Sex | Total, (n=250) | P value |
|------------------|-----|----------------|---------|
|                  | Male | Female |         |
| Yes              | 31   | 15    | 46      | 0.001  |
| No               | 63   | 141   | 204     |        |

P value is taken from Pearson chi-square and Fisher's exact test.

Similarly, an association between risk behaviours of friends with behaviours of respondents was statistically highly significant (p<0.05) (Table 9).

Table 9: Relationship between risk behaviours of friends with behaviours of respondents.

| Variables | Health risk behaviours of friends | Total | P value |
|-----------|----------------------------------|-------|---------|
|           | Yes                              | 16    | 0.014   |
| Cigarette smoking | No                              | 76    | 158     | 234     |
| Drinking alcohol | Yes                              | 30    | 148     | 204     | 0.001   |
| Drug use | No                               | 17    | 164     | 233     | 0.001   |

P value is taken from Pearson Chi square and Fisher’s exact test.

Likewise, an association between peer pressure with health risk behaviours of respondents was statistically highly significant (p<0.05) (Table 10).

Table 10: Relationship between peer pressure with health risk behaviours of respondents.

| Variables | Peer pressure | Total | P value |
|-----------|---------------|-------|---------|
| Cigarette smoking | Yes | 14    | 2      | 16      | 0.001   |
| Drinking alcohol | Yes | 30    | 16     | 46      |         |
| Drug use | Yes | 13    | 4      | 17      |         |
|           | No              | 38    | 195    | 233     |         |

P value is taken from Pearson Chi square and Fisher’s exact test.

The above findings of this study illustrated that adolescent is very critical period in which they are not...
completely mature and may easily engage in risky behaviours. The analysis of religion suggests that people take marijuana as the Prasad of God Shiva. Hindu culture is interlinked with using different substances which make people addict unknowingly. Students from ethnic group; Tamangs, lama, Gurungs, Newar, Rai, Sunuwar etc were more prone for health risk behaviour because there is easily available of alcohol and daily consumed with meal. The findings regarding family information of respondents concluded that nowadays family structure is changing from joint family to nuclear family. Family members are always busy on their work. Due to lack of proper supervision, children may adopt health risky behaviours. On the basis of above findings, it can easily assume that adopting health risk behaviours from early age may develop aggressive behaviour, psychological and physical problem in future. The acquisition of risky behaviours from friends revealed that adolescent students are more influenced by peer pressure and curiosity. While analyzing on opinions of the respondents toward controlling measures of health risk behaviours, there is need of various school health programmes on health risk behaviours, parental supervision, prohibition of production and cessation of advertisements about risk behaviours in public place and mass media.

**DISCUSSION**

This is the school based descriptive cross-sectional study on health risk behaviours among adolescent students conducted in three governments level secondary school of Kathmandu metropolitan city to explore health risk behaviours and its influencing factors. Health risk behaviours have negative impact on the health and development of adolescents’ current health status, and increased risk for developing chronic diseases in adulthood. In addition, they are considered as a major source of preventable premature deaths. Adolescent is a critical and period of rapid transition development process of life. This stage is also a stressful period in which adolescent tries to adjust his/her varied physical, emotional and psychological changes. In this adolescence period, young people experience more freedom, independence, and normative experimentation accompanied by more peer pressure and less parental supervision, which results engagement in any health risk behaviours.

This study revealed the age groups of respondents were between 17-20 years. The majority (76.8%) students belong to Hindu and more than half (54.0%) students from ethnic group Janajati (Tamang, Lama, Gurung, Newar etc). Likewise, more than half 138 (55.2%) belongs to Nuclear family and nearly one fifth were single child. Similar observations were also made in studies by Poudel and Bhaskar. Moreover, they started risk behaviours from the age of 10-19 years. The health risk behaviours were adopted higher in boys than girl students.

Similarly, this study has revealed that nearly on tenth respondents smoked cigarettes, nearly on fifth drank alcohol and nearly one tenth respondents used drugs. The study has shown that maximum consumption of cigarettes was 3-5 sticks per day. The findings of this study are very similar to the research conducted by Seedhom, where 19.4% of adolescents smoked, 7.3% drank alcohol and another research by Barbosa where 6.3% of students smoked, 27.3% of students consumed alcohol. The another research by Chen, where 6.3% adolescents students drank alcohol, 25.0% used drugs. Likewise, similar research by Nepal and Rai, where 35.5% of students used tobacco daily. Similarly, another research by Dahal, where 22% of the students smoked. Similar research by Kariwal where 15.30% students smoked, 19.95% drank alcohol.

In addition, nearly one fourth student-initiated risk behaviour at age ≤14 years or preadolescence. Similar result was observed in research by Kariwal where 19.95% had ever drink alcohol and 4.64 % had their first drink alcohol at age ≤14 years. Regarding risk behaviours among family member, 24.60% father smoked and 14.48% drank alcohol. Similarly, the major influencing factor for adopting risk behaviours were peer pressure, curiosity and behaviours of family members. There was significant association between risk behaviours of respondents with peer pressure and risk behaviour of their friends. Another study by Sychaeun suggests the similar finding where drinking alcohol, smoking, being sexually active were significantly associated with peer pressure.

**Limitation**

This study was limited in only three higher secondary schools’ students from government (public) sector of Kathmandu metropolitan city and limited in assessment of exposure and influencing related variables of cigarette smoking, drinking alcohol and drug use.

**CONCLUSION**

In conclusion, students from preadolescence and adolescence are more vulnerable for adopting various health risk behaviours. Prevalence rate of health risk behaviours of adolescents is increasing as an emerging serious public health threats and alarming issue in worldwide. Hence, Healthy shaping of behaviours and lifestyle of adolescents from childhood and preadolescence has become the prime concern for reducing premature morbidity and mortality.

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