International Journal of Community Medicine and Public Health
Shah SK et al. Int J Community Med Public Health. 2021 Jun;8(6):2637-2642
http://www.ijcmph.com
pISSN 2394-6032 | eISSN 2394-6040

DOI: https://dx.doi.org/10.18203/2394-6040.ijcmph20211963

Original Research Article

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

Sanjaya Kumar Shah[1]*, Shree Laxmi Duwal[2], Richa Shah[3], Ramesh Bhatta[1], Rajesh Karki[1], Anil Chaudhary[1]

[1]Department of Public Health, Yeti Health Science and Academy, Kathmandu, Nepal
[2]Departments of Nursing, Yeti Health Science and Academy, Kathmandu, Nepal
[3]Departments of Medicine, Nobel Medical College, Biratnagar, Nepal

Received: 08 October 2020
Revised: 09 December 2020
Accepted: 23 April 2021

***Correspondence:**
Sanjaya Kumar Shah,
E-mail: sanjayamph123@gmail.com

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.[2] 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.[3] 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.[4]

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.[5] In Brazil, 27.3% of students consumed alcohol and 6.3% were smokers.[6] In Egypt**,** 19.4% of adolescents smoked, 7.3% drank alcohol, 11.3% had early sexual relation and 10.6% used drugs.[4] In china, 6.3% drank alcohol, 25.0% used drugs and 13.3% had sexual intercourse among adolescent students.[7] In India, 15.30% students smoked, 19.95% drank alcohol.[8]

Similarly in Nepal, 9% of adolescent students had done sexual intercourse.[9] 35.5% used tobacco daily, and 22% of the student's smoke.[10,11] 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 (70.58%) 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 (15.3%) 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 currents 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 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 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.

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 no. 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).

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

Similarly, an association between risk behaviours respondents (smoking, drinking alcohol and drug use) and same risk behaviour of their friends were also statistically highly significant ($p<0.05$) (Table 9).

Likewise, an association between peer pressure and risk behaviours respondents (smoking, drinking alcohol and drug use) were statistically highly significant ($p<0.05$) (Table 10).

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

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	
No	63	141	204	0.001

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

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

Variables		Health risk behaviours of friends		Total	P value
		Yes	No		
Cigarette smoking	Yes	10	6	16	0.014
	No	76	158	234	
Drinking alcohol	Yes	30	16	46	0.001
	No	56	148	204	
Drug use	Yes	17	0	17	0.001
	No	69	164	233	

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

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

Variables		Peer pressure		Total	P value
		Yes	No		
Cigarette smoking	Yes	14	2	16	0.001
	No	37	197	234	
Drinking alcohol	Yes	30	16	46	0.001
	No	21	183	204	
Drug use	Yes	13	4	17	0.001
	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.[2] Adolescent is a critical and period of rapid transition development process of life.[3] 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.[8]

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.[13,14] Moreover, they started risk behaviours from the age of 10-19 years. The health risk behaviors 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.[4,6] The another research by Chen, where 6.3% adolescents students drank alcohol, 25.0% used drugs.[7] Likewise, similar research by Nepal and Rai, where 35.5% of students used tobacco daily.[10] Similarly, another research by Dahal, where 22% of the students smoked. Similar research by Kariwal where 15.30% students smoked, 19.95% drank alcohol.[11]

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.[8] 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.[12]

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.

ACKNOWLEDGEMENTS

Author would like to thanks Yeti health science academy for providing approval. Similarly, I would like to thank Shivapuri secondary school, Mahendra Ratriya secondary school and Tangal secondary school for their support in conducting this research. I also like to express my gratitude to research experts for his untiring guidance,

valuable suggestions, encouragement, cooperation and supervision throughout this study.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethics Committee

REFERENCES

1. U. S. Department of Health and Human Services. Health-risk behaviors and academic achievement. centers for disease control and prevention national center for chronic disease prevention and health promotion division of adolescent and school health. 2009.
2. Malak MJ. Patterns of health-risk behaviors among Jordanian adolescent students. Health. 2014;*7*(1):58-70.
3. Das N, Chattopadhyay D, Chakraborty S, Dasgupta A, Akbar F. A study on health risk behavior of mid-adolescent school students in a rural and an urban area of West Bengal, India. Med Health Sci. 2015;3(2):203-8.
4. Seedhom AE. Health risk behaviors among school adolescents; types, frequency and predictors. SM J Public Health Epidemiol. 2017;3(1):1036.
5. Huang JH, Jacobs DF, Derevensky JL, Gupta R, Paskus TS. Gambling and health risk behaviors among us college student-athletes: findings from a national study. J Adohealth. 2007;40(10):390-7.
6. Barbosa FN, Casotti CA, Nery AA. Health risk behavior of adolescent scholars in Brasil. Texto Contexto Enferm. 2016;25:4.
7. Chen Y, Lei X, Yi J, Yao S. Increasing High-Risk Sexual Behavior among Adolescents in 10 Cities of China. Ann Psy Mental Health. 2017;5(3):1100-02.
8. Kariwal P, Srivastav S, Singh AK. Mathur BP. A Study of health risk behavior amongst 14-19-year adolescents in urban areas of district Jhansi. Indian J Comm Health. 2010;22:1.
9. Thapa N, Chaulagain K. Sexual health behavior of adolescents: A school-based study conducted in Kathmandu District of Nepal. Glob J Med Pub Health. 2015;4:1.
10. Nepal S, Rai S. Prevalence and Factor Influencing Tobacco Smoking Behavior among Adult Women in Urban Squatter Settlement of Kathmandu. Int J Health Sci Res. 2017;7(5):211-7.
11. Dahal S, Subedi RK, Maharjan S, Maharjan J. Smoking behaviour of adolescents and their view towards government's ban on smoking in public places in Kathmandu. Nepal J Med Sci. 2014;3(2):94-100.
12. Sychareun V, Thomsen S, Faxelid E. Concurrent multiple health risk behaviors among adolescents in Luangnamtha province, Lao PDR. BMC Public Health. 2011;11:36.
13. Paudel D. Tobacco use among adolescent's students in secondary schools of Pokhara sub-Metropolitan City of Nepal. Department of Community and Family Health. Maharajgunj Campus. Institute Med Tribhuvan University Kathmandu. 2003;1-47.
14. Bhaskar RK, Sah MN, Gaurav K, Chaudhary Bhaskar S, Singh R, Yadav MK et al. Prevalence and correlates of tobacco use among adolescents in the schools of Kalaiya, Nepal: a cross-sectional questionnaire-based study. Department Comm Med Public Health, National Med College, Birgunj, Nepal. 2016;14:11.

Cite this article as: Shah SK, Duwal SL, Shah R, Bhatta R, Karki R, Chaudhary A. Health risk behaviour among adolescent students in higher secondary school of Kathmandu metropolitan city, Nepal. Int J Community Med Public Health 2021;8:2637-42.