

TOBACCO USE AMONG THE ADOLESCENTS IN KALANKI, KATHMANDU, NEPAL

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ABSTRACT: Tobacco use among the adolescents is a growing public health problem and a great concern all over the world. The past evidence suggests that the pattern of tobacco use varies with respect to different factors. Therefore, this study was embarked on 'to study the pattern of tobacco use among the adolescents and the factors related to tobacco use in the International College, Nepal'. A descriptive cross-sectional study conducted among the 380 (314 adolescents currently smoked and 66 were non-smokers) under-graduate and graduate students between the age of 18-24 of one of the International college, Nepal. Interview with semi-structured questionnaire was used to collect the data during February till March 2014. The study revealed that the number of current smokers was high using burning tobacco. Socio-demographic factors like age, sex, gender and environmental factors like tobacco user among family, friends, tobacco availability, and price of tobacco were the independent factors. Both socio-demographic factors and environmental factors influenced the pattern of tobacco use which was divided as the types, amount and frequency of the tobacco use. The independent factors like age, sex, tobacco users among family, friends were the factors that were associated with pattern of tobacco use. *P-value* 0.05 was used as a reference to show the association between the socio-demographic and environmental factors and pattern of tobacco use using Chi-square. Study findings were consistent with the previous findings of the different reports. However, some of the findings have drastically changed. The personal factors and the surrounding factors seem to influence the use of tobacco among the respondent. Recommendation for this study would be preventive measures like school awareness programs, anti-tobacco campaigns, increasing tax, dissuading messages need to be promoted.

Keywords: Tobacco use, Adolescent health, Nepal

INTRODUCTION

Tobacco use is a common phenomenon worldwide and Nepal is no exception. One of the biggest public health threats the world has ever faced these days is the tobacco epidemic. It nearly kills six million people every year worldwide. It is believed that of the total current users of tobacco half of them will eventually die of tobacco related diseases [1]. Tobacco use is one of the leading preventable cause of premature death, disease and disability around the world [2]. Tobacco use is also one of the risk factors for six out of eight deaths which occur annually can be attributed to tobacco

use. Young people are found to be more vulnerable to tobacco use these days. Typically, tobacco use starts in the adolescent or early childhood and hits hard subsequently. The consequences of tobacco use may not be seen in the early stage but are multifaceted and seen eventually with course of time. The habit not only affects the person physically but also incurs to financial damage and other dangerous drug use.

As they saying today's young people are tomorrow's future. Any nation heavily depends on the health of youth. Unfortunately, there has been a considerable increase in the use of tobacco particularly among the adolescents. Among the total population of Nepal, more than one fifth, 22% comprises of adolescent, the proportion that is

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Table 1 Socio-demographic data

Variables	Graduate (n= 108)		Under- graduate(n=272)	
	Male(n=74) (%)	Female (n=34) (%)	Male (n=189) (%)	Female (n=83) (%)
Age (years)				
18-20	60 (81.1)	16 (47.1)	71 (37.6)	21(25.3)
21-22	NA	NA	93 (49.2)	22 (26.5)
23-24	14 (18.9)	18 (52.9)	25 (13.2)	40 (48.2)
Total	74 (100%)	34 (100%)	189 (100%)	83 (100%)
Marital status				
Single	74 (100)	34 (100)	189 (100)	83 (100)
Religion				
Hindu	51 (68.9)	23 (67.6)	135 (71.4)	63 (75.9)
Christian	4 (5.4)	5 (14.7)	4 (2.1)	6 (7.2)
Buddhist	19 (25.7)	6 (17.6)	50(26.5)	14 (16.9)
Total	74 (100%)	34 (100%)	189 (100%)	83 (100%)
Occupation				
Un-employed	74 (100)	34 (100)	189 (100)	83 (100)
School performance of the student				
Fair (2.00-3.00 GPA)	40 (54.1)	16 (47.1)	74 (39.2)	31 (37.3)
Poor (Below 2.00 GPA)	19(25.7)	10 (29.4)	72 (38.1)	34 (41)
Excellent (3.00- 4.00 GPA)	15 (20.2)	8 (23.5)	43 (22.7)	18 (21.7)
Total	74 (100%)	34 (100%)	189 (100%)	83 (100%)
Accommodation				
Parents	26 (35.1)	16 (47.1)	71 (37.6)	25 (30.0)
Friends	26 (35.1)	15 (44.1)	44 (23.3)	39 (47.0)
Cousin	13 (17.6)	3 (8.8)	20 (10.6)	8 (10.6)
Alone	9 (12.2)		54 (28.5)	11 (13.3)
Total	74 (100%)	34 (100%)	189 (100%)	83 (100)
Amount of pocket money				
3 to 4 USD a day	16 (21.6)	8 (23.6)	18 (9.6)	10 (12.0)
5 to 6 USD a day	50 (67.6)	23 (67.6)	151 (80.8)	59 (71.1)
7 to 8 USD a day	8 (10.8)	3 (8.8)	16 (9.6)	14 (16.9)
Total	74 (100%)	34 (100%)	189 (100%)	83 (100%)

expected to grow over the years to come due to fertility [3].The health of the adolescent is profoundly associated with their behavior and development process. There are many health warning and health hazardous pictures on every packet of cigarettes produced in Nepal indicating that smoking is injurious to health but these warning are illegibly printed. On the other hand, there are attractive and catchy tobacco advertisements shown everywhere on television, hoarding boards and posters. Thus, the use of tobacco products is increasing day by day in the country. Tobacco use kills about fifteen thousand people in Nepal each year [4].

There are not much data available on the patterns of use of tobacco among the young people. Even small study like this will contribute to form be a baseline data for the country. Therefore, this aims to study the pattern of tobacco use among the adolescent in one of the Colleges of Kalanki, Kathmandu, Nepal.

MATERIALS AND METHODS

This cross-sectional study was carried out among the adolescents of 18-24 years studying in the International College, Kathmandu. The total sample was 380 adolescents. The approval of the study was taken from the Nepal Health Research Council, Nepal (24/2014). Purposive sampling was done to choose the college. Face to face interview was used as method with the help of expert trained interviewers. The socio-demographic characteristics were analyzed using the frequencies and percentage. The data file was spilt into two cases: gender and education level of the respondent. Then, other socio-demographic characteristics and environment factors like tobacco use among the family, friends, availability and price of tobacco were analyzed using the frequencies and percentages. The association between the independent variable i.e. socio-demographic factors and the environmental factors with the dependent variable which were amount, type and frequency of tobacco use was

Table 2 Current tobacco use

Variables	Graduate (n= 108)		Under-graduate(n=272)	
	Male (n=74) n (%)	Female (n=34) n (%)	Male (n=189) n (%)	Female (n=83) n (%)
Ever tried smoking				
Yes	70 (94.6)	32 (94.1)	180 (95.2)	69 (83.1)
No	4 (5.4)	2 (5.9)	9 (4.8)	14 (16.9)
Total	74 (100)	34 (100)	189 (100)	83 (100)
Currently smoke in the past 30 days?				
Yes	65 (89.7)	29 (89.2)	160 (83.8)	63 (72.9)
No	9 (10.3)	5 (10.8)	29 (16.2)	20 (27.1)
Total	74 (100)	34 (100)	189 (100)	83 (100)
Price of tobacco high				
Yes	42 (45.9)	16 (51.8)	120 (49.7)	30 (43.5)
No	32 (54.1)	18 (48.2)	69 (50.3)	53 (56.5)
Total	74 (100)	34 (100)	189 (100)	83 (100)

done using crosstabs and chi-square. The missing data were retained in the models under the assumption that these data were not answered by the respondent.

RESULTS

Table 1, the total respondent were 380 adolescents and majority of the respondents were male 71% and the female 29% Ninety percent of the graduate male and 100% of the graduate female respondents were in the age of 18-20 while 50% of the under-graduate male and female was in the age of 20-22.

Majority of the male (81%) and female (52.9%) from graduate level were in between the age of 18-20 and 23-24 and 49.2% of the under-graduate male and 48.2 % of the under-graduate female were in between the age of 20-22. More than half of the graduate and under-graduate students followed Hindu religion. All of the respondents were unmarried and un-employed. Majority (37%) and (47%) of the male and female graduate students lived with their parents and 35% of the under-graduate male and 47% female lived with their parents and friends respectively. 67% of the male and female graduate students got 5 to 6 USD per day. Seventy nine percent of the under-graduate male and 71% female got the same amount of money as the graduate student.

Table 2, 94.6% of the graduate male and 95.2% graduate female, 94.1% of the undergraduate female and 83% of the female graduate had ever tried smoking. The current smoking rate of the graduate male and female is 87.8% and 85.3% and the under-graduate male and female is 83% and female is 75%. Almost half of the adolescent male and female said that the tobacco price was high.

Table 3, this result shows that the school

performance and amount of pocket money, accommodation were significant with the use of amount of burning tobacco. Adolescents who had fair GPA (3.5 – 4.0) smoked about 4-6 sticks per day compared to the adolescents who had excellent performance in their study. The amount of pocket money is also associated with the amount of tobacco use. The adolescent (75%) who got average amount of pocket money (5-6 USD per day) smoked around 7-9 sticks per day. The adolescent who lived with friends were found to smoke around 7-9 sticks per day which was high compared to the adolescent living with parents. Education level of the adolescent is highly significant with the tobacco use of the adolescent. Adolescent who were in the under-graduate level were reported to be smoking around 7-9 sticks per day which was higher than compared to the graduate level adolescent.

Table 4, shows that the tobacco users in the family, friends and teachers affect the amount of tobacco used by the adolescent. Those adolescent whose family member (73%) smoked more were found to use 4-6 sticks per day (*p-value* 0.00). The tobacco price, availability and the tobacco advertisement also influenced the amount of use of tobacco. 47% of those who have seen the advertisement smoked 4-6 sticks per day (*p-value* 0.007). 75% of the adolescent whose family member smoked also smoked once a day. 60% of the adolescent who responded that the price is high smoked 2-5 times a day. 91% of the users whose friends smoked tobacco once a day (0.002).

DISCUSSION

This research reports that the overall prevalence of tobacco used among male and female was 88%. There was significant relationship with the socio-demographic and environmental factors and the

Table 3 Association of the socio-demographic characteristics and amount of burning tobacco

	Amount of burning tobacco				<i>p-value</i>
	1-3 sticks per day	4-6 sticks per day	7-9 sticks per day	9-12 sticks per day	
Age (years)					
18-19	36 (46.5)	37 (52.1)	35 (38.9)	18 (60)	0.05
20-22	23 (29.9)	15 (21.1)	36 (40)	5 (10)	
23-24	18 (24.6)	19 (26.8)	19 (21.1)	7 (30)	
Total	77 (100)	71 (100)	90 (100)	30 (100)	
Gender					
Male	57 (74)	53 (74.6)	53 (58.9)	20 (70)	0.17
Female	20 (26)	18 (25.4)	37 (41.1)	9 (30)	
Total	77 (100)	71 (100)	90 (100)	29 (100)	
Religion					
Hindu	61 (79.2)	51 (75.6)	61 (68.9)	20 (66.7)	0.4
Buddhist	14 (20.8)	17 (23.0)	21 (24.4)	8 (26.7)	
Christian		3 (1.4)	8 (6.7)	2 (6.6)	
Total	75 (100)	71 (100)	90 (100)	30 (100)	
Education level					
Under-Graduate	17 (20.8)	24 (33.8)	25 (27.8)	16 (53.3)	0.00 **
Graduate	60 (79.2)	47 (66.2)	65 (72.2)	14 (46.7)	
Total	77 (100)	71 (100)	90 (100)	30 (100)	
Accommodation					
Parents	32 (41.6)	27 (38.0)	26 (28.9)	9 (30)	0.006
Cousin	7 (9.0)	11 (15.5)	8 (8.9)	5 (16.7)	
Friends	24 (28.6)	22 (41)	45 (50)	11 (40)	
Alone	14 (20.8)	11 (15.5)	11 (12.2)	5 (13.3)	
Total	77 (100)	71 (100)	90 (100)	30 (100)	
School performance					
Excellent(3.00-4.0 GPA)	18 (3.4)	16 (22.5)	28 (31.1)	6 (20.0)	0.013*
Fair (2.0-3.0 GPA)	33 (63.9)	40 (56.4)	27 (30)	11 (36.7)	
Poor (less than 2.0 GPA)	26 (33.7)	15 (21.1)	35 (38.9)	13 (43.3)	
Total	77 (100)	71 (100)	90 (100)	30 (100)	
Amount of pocket money					
3to 4 USD a day	15 (18.8)	13 (18.7)	10 (11.1)	25 (96.5)	0.013*
5 to 6 USD a day	54 (72.3)	49 (68)	68 (75.6)	5 (3.5)	
7 to 8 USD a day	8 (8.9)	9 (13.3)	12 (13.3)		
Total	77 (100)	71 (100)	90 (100)	30 (100)	

burning tobacco, 8-11 sticks per day and smoke for 6-8 times per day. Factors like accommodation, school performance of the student, amount of pocket money, education level were found to be significant with the amount of tobacco and frequency of tobacco used by the adolescent. Environmental factors like tobacco use among the family members, friends, price of tobacco and availability and information about the tobacco was also found to have high influence on the amount of tobacco use.

The result was different with the study done by Global Adult Tobacco Survey, 2008, Nepal [3] which revealed that the prevalence of male and female was 30% and 18% respectively. This shows that the tobacco use among male and female has increased whereas in females it shows a drastic change. This might be as smoking has been a fashion statement and also to maintain their body weight. In this study it shows that the accommodation during

the study had influence in the amount and frequency of tobacco use with *p-value* 0.006. This study revealed that the poor performance in the study affects the use of tobacco frequently and high number. The students who had poor performance were reported to smoke highly (*p-value* <0.02) with the use of tobacco. Similar results were found in one of the studies done in Thailand, 2007 [5] in the students from government and private school that their performance was related to smoking. Male adolescents who achieved good performance in the study were smoking less whereas the adolescents who had poor performance were smoking more. Receiving pocket money plays an important role in using the tobacco, amount of tobacco and frequency of tobacco. 75% adolescents receiving pocket money were reported to be using 7-9 sticks per day. One of the studies done by NCT, India, 2004 [6] revealed that more than a third of total respondents

Table 4 Association of the environmental factors and the amount of burning tobacco

	Amount of burning tobacco used				<i>p-value</i>
	1-3 sticks a day	4-6 sticks a day	7-9 sticks a day	9-12 sticks a day	
Tobacco users in family					
Yes	51 (66.2)	52 (73.2)	37 (41.1)	15 (50.0)	0.00 **
No	26 (33.8)	19 (26.8)	53 (58.9)	15 (50.0)	
Total	77 (100)	71 (100)	90 (100)	30 (100)	
Tobacco users in friends					
Yes	67 (87.0)	60 (84.5)	72 (80.0)	23 (76.7)	0.002*
No	10 (13.0)	11 (15.5)	18 (20.0)	7 (23.3)	
Total	77 (100)	71 (100)	90 (100)	30 (100)	
Price of tobacco					
Yes	48 (61.3)	35 (50.7)	55 (59.3)	12 (40.0)	0.00**
No	29 (38.7)	36 (49.3)	35 (40.7)	18 (60.0)	
Total	77 (100)	71 (100)	90 (100)	30 (100)	
Advertisement seen about tobacco					
Yes	22 (28.6)	34 (47.9)	19 (21.1)	9 (30.0)	0.007 *
No	55 (71.4)	37 (52.1)	71 (78.9)	21 (70.0)	
Total	77 (100)	71 (100)	90(100)	30 (100)	
Ever seen teacher smoking					
Yes	63 (81.8)	43 (60.6)	64 (71.1)	13 (43.3)	0.001*
No	14 (18.2)	28 (39.4)	26 (28.9)	17 (56.7)	
Total	77 (100)	71 (100)	90 (100)	30 (100)	

reported to spend their significant part of their pocket money on tobacco consumption with about 9.6%. More than 50% of the adolescents said that any member of their family smoked. 73% of the adolescents were reported to be using 4-6 sticks per day whose family member smoked. Similar study done about the Patterns of tobacco use among the school children, NCT 2004 was observed that 30% of them initiated first cigarette by their family members/relatives.

CONCLUSION

Half of the adolescents were in between the age group of 18-19. All of the respondents got average amount of pocket money which was around 5-6 USD per day. This study reports that the adolescents currently smoked and commonly used tobacco was burning tobacco. Half of the adolescent responded that the tobacco was easily accessible every time and they were reported to smoke in public places. Half of the adolescents responded that any of their family member and friends smoked. There were significant relationship between the school performance, education level and amount of pocket money with the adolescent being smoking tobacco product ($p\text{-value}<0.05$). Age of the respondent, accommodation during stay, school performance and amount of pocket money were significantly associated with the amount of tobacco they used. Adolescent of younger age and those living with

friends smoked around 7-9 sticks per day than the adolescent living with their parents.

The use of tobacco among the family members was highly associated with the amount of tobacco they used. Around 50% of the adolescent whose family members smoked reported to use 7-9 sticks per day compared to those adolescent whose family member didn't smoked. The easy availability of the tobacco highly influenced the amount of tobacco use. Around 60% of the adolescent smoked 1-3 sticks per day ($p\text{-value}<0.05$). The price of the tobacco also influenced the use of tobacco products, the adolescents (40%) responded that the price of tobacco was high and the amount of tobacco they use was only 1-3 sticks per day whereas the adolescents (60%) of the adolescent who responded that the price of tobacco was not high used about 9-12 sticks per day. The exposure to tobacco products also affected the use of tobacco use. Forty seven percent of the adolescents smoked 4-6 sticks of tobacco per day ($p\text{-value}<0.05$) compared to those who has not been exposed to tobacco advertisement

LIMITATION

The research was conducted only in one school. Therefore, generalizing the data for the whole population would be difficult.

RECOMMENDATION

The study reveals that there are many factors

influencing the tobacco use. Though, many programs need to be set up in order to reduce and control the prevalence of tobacco use among the adolescent as the follow;

School based programs and school curriculum focusing on the hazards of tobacco should be taught and conducted in the school. As the availability of the tobacco is easy near the school area, the school and nearby premises of the school should be declared as the smoke free zone to discourage the use of tobacco use among the adolescent. Law on prohibiting the use of tobacco in the public places which might help to decrease the use of tobacco products and certain amount as penalty should be charged. Strong law should be enforced against the tobacco advertisement. The tax on the tobacco should be increased so that the price of tobacco is increased. Parental and teacher counseling should be provided to the children. It is necessary to inform them about the influence of their tobacco on their children. Different anti-tobacco campaigns should be done and adolescents should be influenced in the campaigns which will increase their knowledge and give them sense of understanding about not using the tobacco products.

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