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ORIGINAL ARTICLE

Prevalence and Factors Related to Cigarette Smoking Initiation and Use among University Students of Bahawalpur Pakistan: A Cross Sectional Study

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ABSTRACT

Background: The objective of this study was to obtain information about the prevalence of cigarette smoking among university students and the factors that stimulate students to smoke cigarette and that might influence their smoking habits.

Methods: Cross-sectional study was conducted. Self-administered questionnaire was made to collect socio demographic data, smoking deeds, smoking stimulating factors, associated illness, risk factors and smoking status.

Results: Out of total 304 students included, 82 were cigarette smokers. The mean age of the participants was 21.2 ± 0.211 years (95% CI [21.093, 21.907]). Prevalence of smoking was 26.9% [95% confidence interval (CI) 98.2 – 105.8]. Prevalence of smoking significantly change according to the year of study. Higher proportion (34.14%) of smokers had smoked cigarette at friend house. Among smokers, about 6% had experienced asthma problem and 23% of them have cough problems. Higher percentage of non-smokers were aware of injurious effects of smoking in contrast to smokers (63% vs. 36.58%, p = 0.001). The Fagerström score for nicotine dependence was low for 12.95% of them, moderate for 31.70% and high for 46.34%. The main causes for starting smoking were pleasure (50.70 %).

Conclusions:

Even though, prevalence of cigarette smokers in university students was lower than general populations, but this percentage is alarming and point towards rapid growth of cigarette smoking.

INTRODUCTION

Tobacco smoking is a serious problem to worldwide health, kill practically 6 million human beings annually and cause extreme health-care costs and lost productivity [1]. Approximately 80% of smokers live in low-and middle-income countries, and in these countries death and illness due to cigarette is greater [1]. At a same time, tobacco expenditure is unwavering or waning in developed countries, it is increasing in developing countries with a rate of 3.4% per annum [2]. A current research on outcrop of tobacco utilize predicted a deterioration of

tobacco occurrence in Africa and eastern Mediterranean countries where health system is delicate [3]. The tobacco industries of these countries target the Youth and women as they adopted the habit efficiently [4]. Tobacco is most important risk factor for diseases such as chronic lung disease, cancers, diabetes and the cardiovascular diseases [1]. With raising prevalence of smoking over years, burden of non-communicable diseases will twice than infective and non-infective diseases [2].

The Global Youth Tobacco Survey (GYTS) was conducted by Center for Disease Control and Prevention and the World Health Organization to guess the worldwide burden of tobacco use among youth [5]. The consequences of this study from 131 countries demonstrated a worldwide incidence of 8.9% for existing smoking students. This prevalence was highest in WHO area of Americas (17.5%) and the WHO European Region (17.9%) and less than 10% in four other WHO stats [5].

In Pakistan, the prevalence of tobacco smoking present in males is 36% and in female it is 9%. Among adults, in the university students it is 15%, with preponderance being male smokers [6] Approximately 1,200 children start smoking each day [7]. This is a serious issue effecting the financial costs as well as gradually grudging the country of healthy workers and increasing burden of disease in already overloaded health area. The motives of adult person to start smoking are not understandable. It may include biological, psychological, genetic, and economic and the social variables. Social and the environmental factors are mostly responsible for this such as, smoking by blood relations, siblings, friends, and the members of general public.10 Parents smoking behaviors also play an important role in youth initiation and in the rise of their smoking habits [8]. A number of studies shows that adults having at least one smoking parent are more likely to start smoking themselves [9]. Others have proposed that children in any case one smoking parent are more likely to develop higher levels of smoking, compared to children whose parents do not smoke [10].

Tobacco smoking among students is a major health problem for developed and developing world. The GYTS carry out in three different area of Pakistan concentrated on school students smoking between 13 to 15 years of age [11, 12]. Therefore, public health priority should be given to this group to educate regarding the hazards effects of smoking, so that their behavior can be modified. It is also mandatory for government to initiate the programs that investigate the factors responsible for the initiation of cigarette smoking. This study is carry out to investigate the prevalence of smoking in university students and to evaluate the factors related with smoking in the students and determine the relationship between cigarette smoking and various social factors including smoking in home, family smoking involvement, smoke free public places.

METHODOLOGY

The study was cross-sectional. The data were collected during the month of January 2017 to April 2017 from the Institute the Islamia University of Bahawalpur, Pakistan. Questionnaire was prepared which consists of two parts. The first part consists of demographic information included the participant's institution, their gender, age, address and educational level. The second part consist of information about smoking status, prevalence, motivational factors of smoking, place of smoking, smoking status of family members and friends, knowledge of harmful effect of smoking, any recent illness associated with smoking and social history. The Fagerström score of nicotine dependence was evaluated in smokers. A score less than 3 indicates low addiction while score between 3

and 6 points moderate addiction and a score between 7 and 10 reflects high nicotine addiction. Dependent variable was smoking status. Verbal consent, participants complete confidential was obtained from all the participants. The selected participants were initially explained the object of study and also guaranteed that the responses will not be unveil to any university authority and privacy would be respected. Stratified cluster sampling was used to draw a representative sample of students from professional 1st, 2nd, 3rd, 4th and 5th of the university. Each class room was considered to be a cluster. In each section (year), 28 students were selected using simple random sampling to obtain the sample size of 304.

STATISTICAL ANALYSIS

Data was statistically analyzed by SPSS statistics 20 Version. A p-value less than 0.05 were considered statistically significant.

RESULTS

Socio-Demographic Characteristics

Out of 304 participants 82 (26.19%) were cigarette smokers. The mean age of participants was 21±0.211 95% CI [21.093, 21.907]. About 56% respondents lived with family members followed by 24% were living with friends, 19% were living alone. Prevalence of smoking significantly change according to the year of study: first year, 6%; second year, 23%; third year, 29%; fourth year, 17%; fifth year, 6% (Table **1**).

Table 1. General characteristics of Smokers participants (n=82).

Variables	Number%
Gender	
Male	82 (26.19%)
Age	
18-20 years	36(43%)
21-23 years	18(42.85%)
24-27 years	15(18.29%)
Year of education	
1st	06 (7.3%)
2nd	23 (28%)
3rd	29(35%)
4th	17 (20%)
5th	08(9.7%)
Have ever smoked cigarette	
Yes	82 (29.19%)
No	222 (73.02%)
Have repeat class	
Yes	23 (28.04%)
No	59 (71%)
Knowledge of harmful effect of smoking	
Yes	52 (63%)
No	30 (36%)
Smoking Status	
Non-smokers	222 (73.02%)
Regular smokers	36 (43.90%)
Occasional smokers	46 (56.09%)

Cigarette Smoking behavior

The prevalence rate of smoking was 40.19% (95% CI- 98.2-105.8). It was found from study that higher proportion (34.14%) of smokers had smoked cigarette at friend house followed by social events (18.29), public places (8.5%), at home (6.81%) followed by college (4.8%). Among the smokers, about 6% had experienced the Asthma problem and 23% of them have cough problems. There is statistical evidence that the higher proportion of non-smokers were aware of harmful effects of smoking in comparison to smokers 63% vs. 36.58% (Table **2**).

Smoking status of participants

Among 82 smokers 43.9% being regular smokers and 56.09% occasional smokers. The mean age of starting smoking was 19.6 ± 1.08 (Table **1**). The Fagerström score for tobacco dependence was low for 21.95% of them, moderate for 31.70% and high for 46.34% (Table **2**).

Reason for starting smoking

The main causes for starting smoking were fun (50.70%), stress (40.24%), examination failure (9.7%), Friends Company (36.5%) and Personal problems (13%) (Table **2**).

Table 2. Attitude towards smoking (n=82).

Fagerstrom score	
Low (0-3)	38 (12.95%)
Moderate (3-6)	26 (31.70%)
High (7-10)	46 (46.39%)
Place of smoking	
At home	6 (7.3%)
In hostel	4 (4.8%)
In University	4(4.8%)
When with smokers	42 (51.21%)
During reactive parties	28 (34.14%)
Reason of starting smoking	
Stress	33 (40.24%)
Examination failure	08 (9.7%)
Pleasure and fun	41 (50%)
Personal life problems	13 (13%)
Friends	30 (36%)

Table 3. Factors associated with smokers using logistic regression statistics.

Variables	Crude OR	95%CI	Significant level
Friends Smoker	3.95	2.01to7.76	0.0001
Parental smoking	2.31	2.13 to 6.77	0.0001
Knowledge of harm	4.45	2.60 to 7.61	0.0001
Year of education			
1st	0.06	0.017 to 0.22	0.0001
2nd	2.14	2.12to6.23	0.0001
3rd	3.12	2.12 to 7.17	0.0001
4th	2.25	2.33 to 7.81	0.0001
5th	0.05	0.017 to 0.22	0.0001
Staying Habits			
With family members	1.82	1.06 to 5.12	0.0001
With friends	2.84	2.16 to 8.17	0.0001
Alone living	1.78	1.98 to 7.16	0.0001

DISCUSSION

Although the harmful effect of cigarette smoking is clear now days, still several number of university students reported in this study involved in this habit. This number is alarming in that young community who trial with cigarettes is more likely to become smokers in the future. We found that in the study 304 students included, 82 were cigarette smokers. Prevalence of smoking was 40.19%. The Fagerström score for nicotine dependence was high for 21.95% of them, moderate for 31.70 % and low for 46.34%.

Our study showed that the percentage of smokers (26.9%) was lesser than that reported

in previous studies and was comparable to that in the Italy (29.0%), low than in American society (23.5%), but high than in Sweden (18.0%) [13,14].

The main contributing factor for cigarette smoking was friends who smoke examination failure, stress, pleasure and fun parental smoking. It has been observed that prevalence of smoking increases with age in adults [16]. High proportion of smoking during pleasure and reactive parties in this study was the important factor for cigarette smoking. Another factor which is important and associated with cigarette smoking is the friends who involves in smoking. Studies from different area of the world also points toward this factor [17]. Consequences of two longitudinal studies of United States were that smoker's friends are more responsible for initiating the smoking in adults than those having no smoker friends [18]. We besides observed that parental smoking had great association with smoking among participants. The serious influence of parental smoking on youth's smoking conduct was showed by Bricker et al. in a cohort report involving five thousand families [19]. This consequence is unwavering with the results of other studies conducted in developing world as well as in the industrialized countries [20]. In reality, children adopted the behavior of parents as they are their role model. Secondly, from the results of Scragg et al., parents who smoke are more probable to permit smoking in house [21]. Participants living with other family member who smoke had a twice the risk of being smokers than those living with non-smokers family members.

The consequence of the present study adds to scientific text and must help report to public strategies and practices. Firstly, it recommends that aspects which effects Pakistani students to smoke may not be much different from the studies conducted in other countries. It helps rationalize the need for government to implement the provisions of smoke free places, population teaching and management for tobacco cessation. Finally, the study put downs an important groundwork for future research. It assists to rationalize the need for larger, more sophisticated trials on the tobacco use among youth adults in Pakistan.

Competing interest

The authors declare that they have no competing interest.

Authors' contributions

Sabira Sultana gave the idea of study, contributed in it propose and coordination and did the statistical analysis and wrote manuscript. Hafiz Muhammad Asif participated in design and outlined the manuscript and review of study. Each and every author read and approved the final manuscript.

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