ORIGINAL ARTICLE

Nicotine Dependence and Reasons for Starting Smoking amongst Students in Sialkot - A Cross-Sectional Study

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ABSTRACT

Aim: To know the pattern and reasons of starting smoking in students.
Study design: Cross-sectional
Place and duration of study: Educational institutions of Sialkot during the month of September 2018
Methods: 416 consenting students above the age of 16 were included through non probability convenience sampling technique. Fagerström Test of Nicotine Dependence was administered and reasons of starting smoking were asked. Demographic data sheet was compiled and results analyzed by SPSS v 21.
Results: Mean age of male and female students was 20.65 ± 1.37 and 20.27 ± 1.86 years respectively with range from 16-24 years. Majority (29.09%) were in their 14th year of study. 93.03% were unmarried. 229 (55.05%) belonged to middle income families. Families of 260 (62.5%) lived in urban areas and 263 (63.22%) students lived in hostel. 141(33.89%) had low, 125(30.04%) had mild to moderate level of dependence. 96 (23.08%) had moderate and 54 (12.98%) had high level of dependence. Reasons for starting smoking were to overcome stress 135(32.45%) peer pressure 57(13.70%) self medication to improve mood in 46(11.06%) students.
Conclusion: Of the 416 student 221(53.13%) had mild to moderate and moderate level of dependence. It was more frequent in unmarried males of 19-20 years of age studying in their 14th year, living in hostel and belonging to urban middle class. Most common reasons for starting smoking were to overcome stress 135 (32.45%) peer pressure 57 (13.70%) and self medication to improve mood in 46(11.06%) students.
Keywords: Smoking, Nicotine, University Students, Tobacco Initiation, Sialkot, Pakistan

INTRODUCTION

History of smoking dates back to about 5000 BC. It is a practice involving combustion and then inhalation of the tobacco leaves or some other recreational drug. In this modern era, smoking is emerging as biggest health challenge and as a cardinal cause of avertable deaths all over the world.[1] The individuals having age 13-19 years are more prone to start smoking. All over the world, smoking habit is increasing day by day to alarming level in adolescents. Like all other drug of abuse, smoking is regarded as true addiction and it is prevalent in every generation[2].

There is various health hazards associated with the early start of smoking habit. If a person continues to smoke from young age either actively or passively on regular basis then likelihood to develop various diseases also increases. [3] Tobacco smoking is at the top of the list in causing or precipitating serious illnesses which are not communicable. These diseases include several body carcinomas, chronic lung disease, diabetes mellitus, hypertension, atherosclerosis etc[4].

W.H.O. and Centre for disease control and prevention conducted a survey to estimate the global burden of tobacco consumption among teenagers. Data from 131 countries was collected and according to the results, 8.9% school age children were found to be smokers all over the world. The prevalence was high in American Region (17.5%) and European Region (17.9%). However the percentages for other four WHO regions were found to be less than 10%[5]. Tobacco smoking leads to death of about 4

Million peoples annually worldwide according to W.H.O. This figure is increasing day by day due to increased initiation of smoking and according to an estimate; expected mortality rate due to tobacco consumption will rise up to 10 million per year in 2020[6].

Pakistan is one of 15 countries worldwide with a heavy burden of tobacco-related ill health. Based on World Health Organization's 2015 standardized estimate of smoking prevalence, 31.8 % of men, 5.8 % of women, and 19.1% of Pakistan's adult population currently use tobacco in one form or another[7]. Tobacco kills 108,00 Pakistanis every year (298 per day)[8].

In Pakistan, Tobacco is cultivated in various regions with a high yield from district Peshawar and Mardan of NWFP. Common ways to use tobacco is hookah, cigarettes, bidi and betel leaves. The current study is designed to measure the prevalence and to check for the different reasons to start smoking in teenage (young students) group. Knowing about the changing demographic trends of smoking especially in youth population is the need of the hour because it will determine the future burden of deaths due to smoking. Anti-Tobacco campaigns and programs will only be properly implemented if the details about the reasons and patterns of smoking are fully available. This study was done among the college and university students of Sialkot with a purpose to know about the smoking habits in adolescents. The objective of the current study was to know the pattern and reasons of starting smoking in students.

MATERIAL AND METHODS

This study was carried out among the students of various educational institutions of Sialkot during a period of one

month (September 2018). It was a cross-sectional study. Non-probability convenience sampling technique was used. The Sample size was calculated by an open pie calculator. Students from different disciplines i.e. medical, arts, general science and computer & information technology were involved. For medical students, we visited KMS medical college and two other private institutions of Sialkot. For other disciplines, data collectors went to various public and private sector colleges and universities in Sialkot.

Approval was taken from the ethical review committee of the institution. Guidelines in the Helsinki Declaration were followed. Each participant was asked for written informed consent to participate in the study after explaining the title along with nature of the study. They were assured that their personal data will remain confidential. According to WHO's Smoking and Tobacco Use Policy, a smoker is someone who smokes any tobacco product, either daily or occasionally. According to this definition, we included all consenting students who smoked and had completed ten years of education. However, we excluded those who have never smoked, who didn't give consent, who were under the age of 16, students who were under-metric, those having any severe physical and mental illness and also those who were under the effect of any substance of abuse that impaired their memory and cognition.

437 students who smoked or were known to be smokers were approached for this study, 21 students refused to give written informed consent so they were excluded. The demographics of these 21 students were not different from the students who were included in the study. After applying the final inclusion and exclusion criteria 416 students were eligible to take part in this study. A pilot study on 20 students was conducted prior to the actual study to check the feasibility of the study. A 3-step approach was used for the main study.

In the first step demographic detail in the form of age, gender, year of study, marital status, family living setting (urban, rural) and current residential status (hostilities, day scholar) was asked. In the 2nd step, smoking status was assessed by applying the Fagerström Test of Nicotine Dependence (FTND)[9]. It is a 6 item questionnaire. It contains questions like "How many cigarettes a day do you smoke?" One item has a score from 0-3, one from 1-3 and the rest of the four items from 0-1. Its English version was used as all the students could easily read English. Cronbach's alpha for the current test was 0.8. 6 questions were asked in this test and score was calculated. Its score ranges from 1- 10. Persons having score 1-2 had low dependence on nicotine. Persons having score 3-4 had low to moderate dependence. Persons having score 5-7 had moderate dependence and those having score 8 + had a high dependence on nicotine.

In the 3rd part, the reason for starting smoking was enquired by asking the question "Why you started smoking". The responses were noted. If a student had difficulty in remembering the reason, different options were given to facilitate the memory (to relieve stress, out of curiosity, peer influence, the presence of a smoker in family or friend, as an inspiration for outlook and personality, after watching or listening to smoking brand ad or any other).

The data was collected, verified, coded and re-checked by the data collectors. Data were analyzed by SPSS v 23 and results were reported.

RESULTS

Four hundred and sixteen students were included in the final study analysis. Majority 192(46.14%) belonged to the age range 19-20 years. 90(21.63%) from age range 16-18 years. 96 (23.07%) from 21-22 years and 38(9.13%) from 23-24 years. There were 284 male and 132 female students. Mean age of male students was 20.65 ± 1.37 years with range from 16-24 years. Mean age for female students was 20.27 ± 1.86 years with age range from 16-24 years. Majority 121 (29.09%) were in their 14th year of study. 104 were in 13th, 97 in 12th and 94 in their 11th year of study. Only a minority 29 were married while 387 were unmarried. Majority 229 belonged to middle income families while 142 were from upper and 45 from lower income families. Families of 260 students lived in urban areas while families 156 of lived in rural areas. 263 students were currently living in hostels while 153 were day scholars. Table 1

Among the different types of students most common was low level of dependence 141 (33.89%). 125 (30.04%) had mild to moderate level of dependence. 96 (23.08%) had moderate while only 54 (12.98%) had high level of dependence. When mild to moderate and moderate were combined 221(53.13%) students show dependence which is alarming for this age group of students. Table 2

Table 1: Demographics of the students (n=416)

Variables	Frequency	Percentage
Age in years		
16-18	90	21.63%
19-20	192	46.15%
21-22	96	23.07%
23-24	38	9.13%
Gender		
Male	284	68.27%
Female	132	31.73%
Year of Study		
11	94	22.60%
12	97	23.31%
13	104	25.00%
14	121	29.09%
Marital Status		
Un-married	387	93.03%
Married	29	6.97%
Financial Status		
Low	45	10.82%
Middle	229	55.05%
High	142	34.13%
Family Living Setting		
Urban	260	62.50%
Rural	156	37.50%
Current Residential status		
Hostel	263	63.22%
Day-Scholars	153	36.78%

Among the reasons for starting smoking top of the list was to overcome stress 135 (32.45%). The 2nd reason in 57 (13.70%) students was peer pressure. The 3rd among the list of reasons was self medication to improve mood in

46(11.06%) students. other reasons were to eradicate depression 36(8.65%) personal income 31(7.45%) advertisement and celebrity attraction 28(6.73%) social setting (in parties and functions) 22(5.29%) to look cool and fashionable 22(5.29%) parental influence 17 (4.09%) and for control of weight 12(2.88%). The least common reason was to feel mature and adult 10(2.40%). Table 3

Table 2: Level of smoking dependence (n=416)

Students	Level of dependence				
	Low	Mild To Moderate	Moderate	High	Total
Medical	33	34	21	15	103 (24.76%)
Arts	37	29	26	10	102 (24.52%)
General science	39	31	27	17	114 (27.40%)
Computer & IT	32	31	22	12	97 (23.32%)
Total	141 (33.89%)	125 (30.04%)	96 (23.08%)	54 (12.98%)	416 (100%)

Table 3: Reasons for starting smoking (n=416)

Reasons	Frequency	Percentage
To overcome Stress	135	(32.45%)
Peer Pressure	57	(13.70%)
Self medication to improve mood	46	(11.06%)
To eradicate Depression	36	(8.65%)
Personal Income	31	(7.45%)
Advertisement/ celebrity attraction	28	(6.73%)
Social setting (in parties and functions)	22	(5.29%)
To look cool and fashionable	22	(5.29%)
Parental Influence	17	(4.09%)
For weight control	12	(2.88%)
To feel more mature and adult	10	(2.40%)

DISCUSSION

In our study, we noticed that most of the smoker were in between age 18-20 (46.15%), male gender is an important risk factor for smoking as in our study 68.27% were males. We also observed that un-married peoples (93.03%) are more likely to fell prey to smoking. Financial status also affected the results as about 55.05% were from middle-class families. We also found that student from any department has equal chances to start smoking as in our study.

Age, education level, marital and financial status were important parameters. The highest rates of cigarettes smoking were found in young age and chances of smoking decreases with the advancing age. On contrary to this, in another study conducted in Tehran (Iran)[10] and Cameron[11]. They stated that smoking increases as the age increases. However, our finding was consistent with another research conducted in Azad Jammu and Kashmir[12] and Turkey[13]. This can be better explained in a way that with increasing age, the person becomes mature and more receptive to public health awareness messages and as result, he may quit smoking easily as compared to younger age.

Marital status also affected the results. In this study, it was found that the prevalence of smoking in un-married peoples is as high as 93.03 % were found to be unmarried. These results are not very much different from a study conducted in Malaysia[14] and Jordan[15]. The reason behind this may be that single peoples mostly live with their friends and usually have a lot of money to spend. In contrast, married peoples stay with their families which don't like their smoking habit.

The average age of initiation of smoking was 20.65±1.37 years for males 20.27±1.86 years for females in our study. This is a little bit higher than the study conducted in Iran [16] which reported an average age of 19 years. This difference may be due to the fact that every country has different socio-demographic features and customs. This result implies that anti-tobacco campaigns should be focused on the age group of 18-20 years.

The major reasons for smoking initiation were to overcome stress (32.45%), peer pressure (13.70%), to improve mood (11.06%), to eradicate depression (8.65%) and as a result of personal income(7.45%). Another study from Pakistan (Muzaffarabad)[12] showed not very different results from us, stress reduction (35%), peer pressure (24.5%) and family influencing (19.28%). However, a study from KPK area of Pakistan [17] revealed that stress relief contributes in up to 74% peoples to start smoking. While looking in other geographical regions and countries, we came across a study conducted in India [18] enjoyment (34.88%), peer pressure (20.93%) and stress reduction (18.60%) were reported to be the main reasons for starting smoking in it. A study conducted in Sudan[19] showed health concerns (29%), waste of money (19%), religious (17%), social (17%) and others (18%) as the reasons for smoking.

The strengths of our study is its easy methodology. The instrument used was easily readable by all students and took few minutes to be completed. The limitations are cross-sectional nature of the study and recall bias on the part of students for remembering the reasons for starting smoking. In future larger prospective studies with more rigorous methodology are needed.

CONCLUSION

Of the 416 student 221(53.13%) had mild to moderate and moderate level of dependence. It was more frequent in unmarried males of 19-20 years of age studying in their 14th year, living in hostel and belonging to urban middle class. Most common reasons for starting smoking were to overcome stress 135(32.45%) peer pressure 57(13.70%) and self medication to improve mood in 46(11.06%) students.

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