

Willingness to smoke cessation among students of Medical Universities in Karachi

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Abstract

Introduction: Smoking is a public health concern of high importance. Globally, the prevalence of smoking has decreased gradually over a period from 1990-2015. However, the total numbers of smokers has increased over the same period. Currently, there are 1.1 billion smokers in the world which risk to an increase in smoking related health issues in turn contributes to increased burden of non-communicable diseases

Objective: To assist the willingness to smoke cessation among medical students and its associated factors.

Material and Methods: It is a cross-sectional study comprised of a self-administered Hamilton Tobacco use questionnaire administered with eligible university students. Data was collected from 266-participants after taking verbal informed consent. Data analysis was done using SPSS version 20.

Results: A total of out of 266 respondents were taken for the study. In general, willingness to cessation smoke among medical students in Karachi was seen about 64% while high ratio reported among female as compare to males. In MBBS students it is 64.9%, BDS 65.3% and 55.8% among BS.

Conclusion: The high ratio of smoke cessation in female students is an indicator towards need of massive behavioral change campaign in order to encourage medical students to quit cigarette smoking and other tobacco related substances. It can be possible by provision of some educational projects regarding the health hazards of smoking.

Keywords: Smoke cessation, cigarette smoking, medical students.

Introduction:

Smoking is a Public Health concern of high importance. Globally, the prevalence of smoking has decreased gradually over a period from 1990-2015. However, the total numbers of smokers has increased over the same period.¹ Currently, there are 1.1 billion smokers in the world.² Increase in number of smokers leads to an increase in smoking related health issues which in turn contributes to increased burden of non-communicable diseases (like cardiovascular disease, cancers etc) and premature death of tobacco users. Globally, one of the six deaths are associated with cancer, and lung cancer, mainly linked with tobacco use, is one of the leading

causes of these deaths.³

In 2012, Central and Eastern Europe followed by Eastern Asia has the highest lung cancer mortality rates at 47.6 and 44.8 per 100,000 respectively.⁴ South-East Asia (SEA) region hosts about one quarter of world's population and one-fourth of the total global smokers. Within the South-East Asia region, the prevalence (2011) of smoking is highest in Indonesia (63.1%), followed by India (24.3%), Myanmar & Nepal (15%), and Sri Lanka (0.4%).⁵ According to WHO, the estimated prevalence of smoking in the South-East Asia region has decreased over the last two decades with 15.8% in 2020,

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and is projected at 14.7% in 2025, against the set target of 13.2% (SDG target 3a and the tobacco reduction target under the Global Action Plan for the Prevention and Control of Non-communicable diseases 2013–2020) for the region till 2025.⁶

The situation of smoking prevalence in Pakistan is not much different as according to Pakistan Global Adult Tobacco Survey (GATS 2014), 19.1% percent of adults (age 15+) currently use tobacco in any form (men 31.8%; women 5.8%).⁷ Likewise, the Pakistani youth is also not protected from use of tobacco. Among youth (ages 13-15), 10.7% use any tobacco product (boys 13.3%; girls 6.6%), 7.2% smoke tobacco, and 5.3% use smokeless tobacco. Also, the prevalence of smoking in university students is recorded at 15%(2008).⁸

Tobacco kills over 163,600 people each year in Pakistan contributing to about 10.9% of all deaths, and 16.0% of all male deaths and 4.9% of female deaths are caused by tobacco. The country bears 1.6% of GDP as the economic cost of smoking.⁹ In order to combat the situation, country has put in place various national laws, ordinances (Ordinance No. LXXIII of 1979; Ordinance No. LXXIV of 2002) and SROs (statutory notifications) for tobacco control. Also, the Country ratified the WHO Framework Convention on Tobacco Control (FCTC) on November 3, 2004, and became a party of the Convention February 27, 2005.¹⁰ To support Government's efforts, several tobacco cessation clinics also operate in the country to provide different treatment regimens to the smokers for helping them to quit this addiction. These services include use of pharmacologic agents, nicotine replacement-therapies, and behavioural therapy trainings to develop self-efficacy for overcoming nicotine dependency.¹⁰

Until 1988, smoking was merely considered a habit, when US Surgeon General report of 1988 denied this previous myth; and identified cigarettes and other forms of tobacco as addictive due to presence of nicotine in them.¹¹ This addictive feature of nicotine puts the smokers into

physical and psychological dependency and smoker lose his free will to quit smoking. This in turn makes the person unable to quit smoking despite the wish to leave it once and for all.¹² The available data in the United State suggests that out of the total 70% who intend to quit, only 2-3% of the tobacco smokers succeed in doing so, and 40% would relapse to routine smoking after only a single day. Smoke cessation is not all-or-none approach, but it is an overlapping cycle of smoking and quit attempts that moves in a to-and-fro motion between different phases i.e., smoking & forced quitting, smoking & intentional quitting, and smoking & intermittent smoking before successful quitting.¹³

In Pakistan, limited data is available on the success rate of smoking quit efforts. A local study in two cities of Pakistan (Rawalpindi and Islamabad) quoted that about one fourth of smokers make a quit-attempt, and the success rate is noted at 2.6%.¹⁴ The success of smoke-quitting efforts is linked with factors like individual's will, motivation, perceived risk of smoking, and environmental factors among others. To the best of our knowledge, Pakistan's research data does not provide adequate evidence on the proper understanding of the factors (individual, environmental, socio-economic) that positively or negatively affect an individual's willingness, determination and self-efficacy to quit smoking, thus contributing to their relapsing behavior.¹⁴

This study aimed at determining the extent of intention to smoke cessation among current smokers studying at three Medical Universities of Karachi and to find out the associated factors that positively or negatively affect the smoking cessation. The study results are likely to contribute to better contextualization of anti-smoking policies and in adequate enforcement of the existing legal framework, thus contributing to a notable reduction in smoking prevalence in the country.

Material and Methods:

It was a cross-sectional study comprised of a Self-administered Hamilton Tobacco use questionnaire administered with eligible university

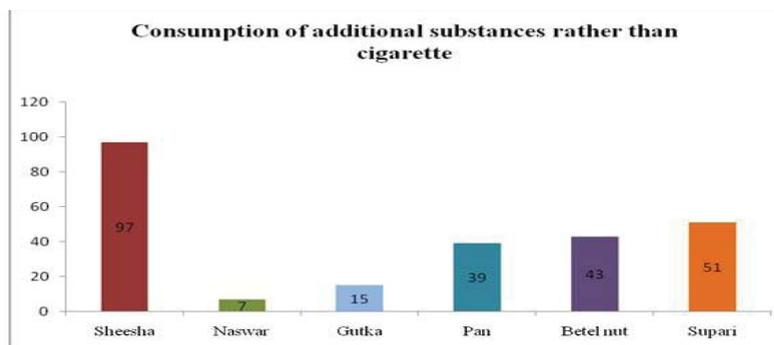


Figure 1: Consumption of additional substances rather than cigarette

students. This study was conducted in three universities of Karachi namely Dow university of Health Sciences (DUHS), Jinnah Sindh Medical University (JSMU), and Hamdard University (HU) between January to May 2020. The selection of these three universities was done 'purposively' to ensure inclusion of both public and private universities who serve a majority of city's students of medical and allied subjects. The first two universities represented public-sector and the last was from the private sector. All these universities are among the most distinguished and approved institutions in undergraduate, postgraduate, and diagnostic studies in medical and allied health subjects.

All the enrolled students of the three medical universities were considered as the study population. Sample size was calculated using a weighted prevalence of cigarette smokers (i.e., 15.2%) listed in nation-wide survey on smoking in the general population in 2012.¹⁵ The confidence level was set at 95% with margin of error of 5%. The sample size was calculated to be 199 using an Open-Epi software. This sample size was increased to a total of 266 students to overcome the chance of non-response. Non-probability consecutive sampling was used to collect the data. Only those students, who were current smokers at the time of study, were interviewed until the desired sample size was achieved.

The tool used for collecting data was a Self-administered Hamilton Tobacco use questionnaire that were distributed among all the eligible students after taking verbal informed consent.

This questionnaire was divided into three parts. The first part captured socio-demographic characteristics of the survey respondents like gender, age, enrollment year and education level. The second part comprised of questions related to smoking status, type of smoke used, willingness or intention to quit smoking, and the number and the types of methods applied to smoke cessation attempts. The third and last part of the questionnaire entailed questions to collect data on the factors negatively impacting the intention to quit. The willingness or intention to smoke cessation was treated as a dependent variable and was measured on 10-point Likert scale. Data analysis was done using SPSS version 20. Frequencies and percentages of all categorical variables (such as gender, course etc.) were calculated. Factors associated with willingness to smoke cessation were analyzed. Mean and Standard Deviations were calculated and with p-value was calculated for outcome variables.

Results:

A total of 266-students were assessed in the study from three different Universities of Health Sciences in Karachi i.e. Dow Medical College, Dow International Medical College, Dow Dental College, Sindh Medical College and Hamdard College of Medicines & Dentistry. The gender distribution of the study showed that major part of the sample collected was Male students, 237(89.1%) while female were only 29(10.9%). The sample was collected from the bachelor's students so they all belong to approximately the same age group. In the collected sample 157(59.02%) were students of MBBS, 75(28.19%) were BDS students while 34(12.78%) were from BS (DUHS) program. Participants were randomly selected but the assessment of year of study results showed that 27.8% students belonged to 2nd year while lower ratio 15.4% were from fifth year of study.

Out of 266 students 27 smoke only cigarettes while 239 students consumed some other additional substances rather than cigarette, its detail is shown in below figure 1:

The Mean scores and standard deviation of will-

Table 1: Willingness to smoke cessation among students of medical Universities of Karachi

Variables	Response of Willingness (n=266)		p.value
	Yes	No	
Sex			
Male	149 (62.8%)	88 (37.13%)	0.34
Female	21 (72.4%)	8 (27.6%)	
Program			
MBBS	102 (64.9%)	55 (35.1%)	0.89
MDS	49 (65.3%)	26 (34.7%)	
BS	19 (55.8%)	15 (44.2%)	
Year of Study			
First	37 (65.5%)	21 (34.5%)	0.86
Second	48 (64.8%)	26 (35.2%)	
Third	32 (61.5%)	20 (38.5%)	
Fourth	28 (68.3%)	13 (31.7%)	
Fifth	25 (60.9%)	16 (39.1%)	
Users of additional substances other than cigarette (n=239)			
Sheesha	55 (56.7%)	42 (43.3%)	0.13
Naswar	4 (57.1%)	3 (42.9%)	0.72
Gutka	10 (66.6%)	5 (33.4%)	0.81
Pan	27 (69.2%)	12 (30.8%)	0.98
Betel nut	28 (65.1%)	15 (34.9%)	0.45
Supari	30 (58.8%)	21 (41.2%)	0.46

ingness to smoke cessation of participants were calculated according to different characteristics. In sex group the mean score was calculated for male students was 3 ± 4.3 and for females it was 4.42 ± 4.6 with the p-value of 0.57. Students from different programs were taken for the study, the calculated scores for these were MBBS 3.6 ± 4.5 , BDS were 2.5 ± 3.9 and for BS students it was 2.9 ± 4.4 and its p-value was 0.13. The calculated scores for the year of study shown that first year students were 3.6 ± 4.5 , second year 3.21 ± 4.4 , third year students 2.5 ± 4.1 , fourth year students 4 ± 4.6 and fifth year students 2.8 ± 4.1 and the p-value for programs was 0.615. The mean scores for the additional substances were also calculated and found the near about values with each other in results i.e for Sheesha it was 3.18 ± 4.3 with p-value 0.756, for Naswar it was 3.19 ± 4.36 (p-value = 0.175), Gutka was with scores 3.3 ± 4.1 (p-value = 0.203), Betel nut (3.37 ± 4.4 p-value = 0.499) and for Supari scores were 3.37 ± 4.41 p-value = 0.276).

The assessment of willingness to smoke cessation among students of medical Universities of Karachi showed that following results in table 1:

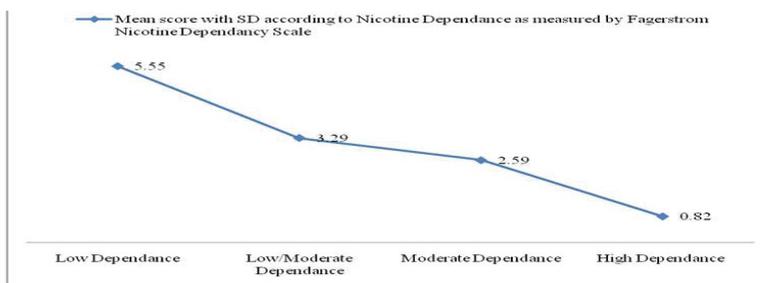


Figure 2: Consumption of additional substances rather than cigarette

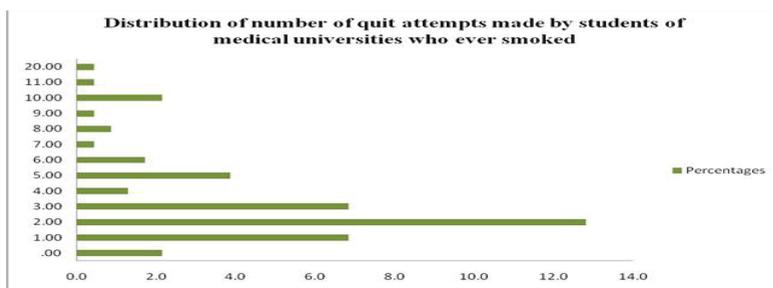


Figure 3: Distribution of number of attempts made by students for smoke cessation

The mean scores of willingness to smoke cessation was calculated by Fagerstrom Nicotine Dependency Scale by with 95% of confidence interval and the results are shown below in figure 2.

The data related to the attempt made by students are also noted which is summarized below in the graph (Figure 3)

Discussion:

The study was conducted to assess the willingness or intention to smoke cessation to among smokers medical students of three Universities in Karachi. The study found the intention to quit among medical students, higher ratio was observed in female students with more than 72%, among male medical students it was 62.8%. Willingness to quit among in MBBS students was noted 64.9% followed by 65.3% of Dental students and 55.8% among BS students.

Pakistan faces a high burden and growing trend of cigarette smoking among young adolescents. Cigarette smoking is plaguing not only the less educated but also educated sects of the society. Even Health care providers are not spared by this nuisance with an alarming rate of 37% among medical doctors and 36% in paramedics.⁷

Attitude towards giving up smoking, the main reasons for those who quit smoking was to secure their own health (99%). Two third of the students gave up smoking for the reasons they believed in not to bother others i.e passive smoking. Half of the ex-smokers had the desires of addiction with motives to quit smoking habits. About 40% medical students mentioned reason as the high cost of tobacco products to quit, 63% of the study physicians aged above 40 reported to quit to set an exemplary role for children and patients but interests in such role is less mentioned by medical students and house officers.⁸

Literature review studies on prevalence of smoking among medical students published over the past 30 years indicated unique variations in prevalence rates among various countries which range from 3% of USA to 58% in Japan. Studies in Brazil noted a downwards tendency of smoking among medical students. Tobacco use among medical students over the past 50 years has decreased but still it is running as a major cause of preventable disease, and because of the role which has to be played by these future physicians in the community. If the adviser physicians themselves are smokers then, it is less possible to convince smokers to quit smoking through them.⁹

The provision of knowledge to people locally along with firmed and trusted information about the injurious conditions of tobacco, smoking related to health including the advantages to quit smoking as result leaded to cessation adopted commonly. The cessation rates in those countries (high income) are 30%, 15% in Thailand, 9% and less than 5% in China and India respectively. The physicians in developed countries exhibit an exemplary role through quitting smoking.¹⁰

A study on Saudi students discovered that 8.9% attendants were current smokers, because there is no stern legitimate age for obtaining cigarettes in the Kingdom of Saudia Arabia.¹¹

Currently more than 1.3 billion adults are smokers all around the world with total smoking prevalence of 29% (47% of men and 10.3% women of age 15 and above smoke). More than 900 million out of 1.3 billion live in under developed countries.¹²

Intention to quit among first year students were observed 65.5%, in second year 64.8%, third year 61.5%, forth year 68.3% and 60.9% in final year. A similar study among medical and dental students conducted in different area reported the prevalence of cigarette smoking to be 35.7% and 42.9% respectively,¹³ similarly another study held in a private medical college reported prevalence of smoking 26% among male and 2% female medical students. Quitting rates among medical students reported around 3%.¹⁴ Prevalence of smoking is not same globally, in Chinese female student's 26% and 69.9 male medical students, in Iranian medical students 14.4%, while percentage among female Saudi medial students is 4.3%.¹⁵

Smoking is considered as the paramount cause of death in the USA with 14.6 per 1000 is the mortality rate for men and 6.7 per 1000 for women. In advanced countries there is ban on smoking in public places, but in other hand in under developed country like in Pakistan is facing an enhanced trends of smoking. Tobacco addiction in Pakistan is largely prevalent and is about 33% in men of middle aged class. In the recent past some preventive measures were being applied in order to reduce its prevalence. Nationwide health hazards of smoking apprehension programs, along with its restriction of publicity on local TV networks. Despite of all the relevant struggles, it is still highly prevalent among students, especially more in non medical to medical students.¹⁶

Conclusion:

The overall cessation rate of smoke among par-

participant of this study is satisfactory through some extent but the contrast of other sectors of same country shows the need of more serious work and policies can make progress towards lowering smoking trends and habits. Massive behavioral change and awareness programs in response to smoking should need to launch. Need to create more awareness of smoking related hazards and to encourage and support medical students in establishing intend to quit and to become a role model for the general population.

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Role and contribution of authors:

Naseem Khan Achakzai, collected the data, references and did the initial write up.

Syed Aqeel Akbar Shah Gillani, collected the data and helped in introduction writing.

Attaullah Bangulzai, collected the data, references and helped in interpretation of data.

Rubina Mir, collected the references and helped in discussion writing.

Noor Khajjak, collected the data, references and helped in discussion writing.

Zara Arshad, collected the references and helped in result writing.

Tahira Kamal, critically review the article and made the final changes.

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