ORIGINAL ARTICLE

Comparing Attitudes of Medical and Engineering Students in Karachi Towards Smoking

Nadia Jajja[1], Farah Ahmad[2] and Syed Hasan Danish[3]

ABSTRACT

In Pakistan, tobacco consumption is at an all-time high with the tobacco industry witnessing a boom. According to the Pakistan Tobacco Company, production and sale has taken a sharp leap from Rs.1,000 million rupees to Rs.1,750 million in 2008. The youth remain particularly vulnerable as massive anti-smoking ad campaigns have failed to drill in the health hazards. The aim of this study is to assess the attitude, perception and practices of youth regarding cigarette smoking. Comparative cross-sectional study was conducted in Ziauddin University and Bahria University. Sample was taken from all years of teaching. Data was collected through self-administered structured questionnaire that was developed in English. It comprised of questions pertaining to their year of study, smoking history, and perception and practices regarding smoking. A total of 450 students were surveyed, medicine (n=260) and engineering (n=190). One-fourth of the survey sample admitted to have tried to smoke at least once in their lifetime (p=0.001), and at least 20% medical students (n=53) and 35% of engineering students (n=66) surveyed had smoked a cigarette (p=0.001). While students studying medicine were better aware of the risks associated with smoking and tobacco consumption, however compared to engineering students their overall knowledge of the health risks was unsatisfactory. A significant number of medical students were unable to list and hence effectively counsel about long and short term health benefits. Peer pressure and media played a large role in students picking up the habit.

KEY WORDS: *Pakistan/Epidemiology, Smoking, Karachi, Mechanism Medical Students.*

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INTRODUCTION

Fifty years have passed since the first report on health hazards from tobacco was released by the Committee of the Royal College of Physicians, United Kingdom, in 1962,[1] but scientists and epidemiologists continue to struggle to find a method to completely deter its use. The latest tobacco consumption report released on March 8, 2012 by the US Surgeon-General Office revealed that while there had been an overall decline in the rate of smoking across the US, the struggle to contain the epidemic of tobacco smoking is far from over.[2] According to 2012 US Surgeon-General report young people are most vulnerable to this perilous game, majority of them start by 18 years of age with progression to daily smoking and after age 26 initiation of smoking is infrequent.[2]

In Pakistan, tobacco consumption is at an all-time high with the tobacco industry witnessing a boom in its production. According to the Pakistan Tobacco Company, production and sale has taken a sharp leap from 1000 million rupees to 1750 million rupees in 2008.[3] On the other hand, the youth remain particularly vulnerable as massive anti-smoking advertising campaigns have failed to drill in the health hazards. Of the total 1680 students who responded to the Global Youth Tobacco Survey (GYTS) conducted in Islamabad, 11.2% admitted using a tobacco product. Between 30% and 38% were exposed to second-hand smoke at home and outside, but only 0.4% perceived smoke from others as deleterious to health.[4]

Over the years, studies have been undertaken to assess the knowledge of various student groups to smoking in order to better understand the lacunae that promote smoking. In this study, the researchers chose students from the fields of medicine and engineering to compare and evaluate their attitudes to smoking. Internationally, studies have specifically focused on medical students and the impact their training has on them becoming good anti-smoking counselors. In 1998, Australian researchers found that medical student do not receive adequate training to negate smoking among their patients. Another worldwide survey revealed that only 11% medical schools devote reasonable time to tobacco and smoking cessation.[5] Similar findings were presented from two research conducted at European medical schools in London (UK) and Gottingen (Germany) in 2009. the authors concluded that current curricula about tobacco dependence and control in medical schools needs to be improved.[6] Mortality related to smoking is underestimated by students as they lack relevant information on consequences of smoking and smoking cessation methods.[6]

The aims of this study were to evaluate and compare the behaviors of students enrolled in engineering and medical colleges for awareness about long and short term health consequences of smoking; factors that influenced initiation of smoking; smoking behavior and its frequency; attitude and motive behind sustaining the habit.

METHODOLOGY

This was a comparative cross sectional study design carried on medical students studying in Ziauddin Medical University and engineering students studying in Bahria University. Sample was taken from all years of teaching. The actual sample size was 384 students which was calculated by using the standard formula for calculating sample size on the basis of prevalence.

$$N= [(Z)^2 \times P (1-P)\}]/d^2$$

Prevalence was taken at 50% because no relevant data was available. The bound of error was taken at 5% with 95% confidence interval. The sample size was inflated to 450 to exclude non-response and poorly filled questionnaires. Fifty students were selected through random sampling technique from each year. Therefore 250 initially were selected from Ziauddin Medical University and 200 from Bahria University. But due to non-availability of required sample size from Bahria University, sample was completed from medical students of Ziauddin Medical University.

Students (of MBBS) who were present on the day of data collection were included in the study (Undergraduate students from all years were taken as participants). After explaining the purpose of the study students who refuse to be

part of the study were excluded or those who were absent at the time of data collection.

Data was collected through self-administered structured questionnaire that was developed in English. It comprised of questions pertaining to their year of study, smoking history, perception and practices regarding smoking and Fagerstrom questionnaire for nicotine dependence.

Data was entered on Epi Info. Before analysis, data was cleaned for possible data entry errors. Frequencies and Percentages were taken out for categorical variables. Association between medical and engineering students and smoking habits, perception and practices was done by application of χ^2. P value less than 0.05 was taken as significant.

Before administering the questionnaires, students were briefed about the objectives of the study and consent was taken. The study was cleared through the ERB of Ziauddin University.

RESULTS

A total of 450 students were surveyed, medicine(n=260) and engineering (n=190). One-fourth of the survey sample admitted to have tried to smoke at least once in their lifetime (p=0.001), and at least 20% medical students (n=53) and 35% of engineering students (n=66) surveyed had smoked a cigarette (p=0.001) (Table 1).

That peer pressure impacted smoking behavior was obvious as 15% medical students (n=40, p=0.001) agreed that those who smoked looked cool, 16% of them (n=41, p=0.001) thought that people who smoked had more friends, and 15% (n=39) agreed that girls were more attracted to boys who smoked.

In engineering students, peer pressure influenced smoking more: 40% (n=74, p=0.001) engineering students agreed that people who smoked looked cool, 41% (n=77, p=0.001) thought that people who smoked had more friends and 40% (n=75, p=0.001) thought that girls were more attracted to boys who smoked.

70.5% medical students (n=183) and 69% engineering students (n=130) admitted that media coverage did have a role in initiation of smoking. However, 28% of engineering students (n=53, p=0.001) were impressed by sportsmen and actors smoking versus 9% (n=22) medical students.

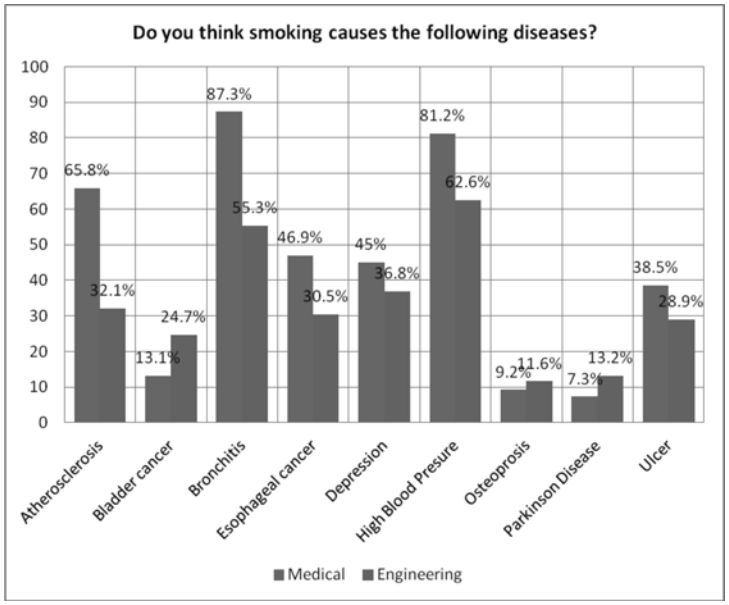
Table 1: Perceptions on Smoking Effecting Disease Occurrence

Query	Likert	Med (%)	Engr (%)	p-value
Do you think cigarettes are addictive	Agree	78.8	66.8	0.004
	Disagree	13.1	19.5	0.066
	Not sure	8.1	13.7	0.055
Smokers tend to die at a younger age than non-smokers	Agree	61.5	43.2	0.001
	Disagree	20.4	31.6	0.006
	Not sure	18.1	25.3	0.065
The majority of people with lung cancer are or have been smokers	Agree	81.9	60.5	0.001
	Disagree	7.7	18.4	0.001
	Not sure	10.4	21.1	0.002
Some cigarettes are less dangerous than others	Agree	40.4	52.6	0.010
	Disagree	38.1	28.4	0.033
	Not sure	21.5	18.9	0.501
Damage caused by smoking is reversible	Agree	25	34.7	0.025
	Disagree	53.1	39.5	0.004
	Not sure	21.9	25.8	0.339
Passive smoking is a health risk	Agree	86.9	61.6	0.001
	Disagree	3.5	19.5	0.001
	Not sure	9.6	18.9	0.004

That the tobacco companies have marketed lighter versions of cigarettes well is reflected in the response to the question whether some cigarettes were less dangerous than the others: 40% medical students (n=105, p=0.010) agreed that some were less dangerous whole 53% (n=100, p=0.010) engineering students agreed to the same.

When asked whether they considered smoking an addictive habit, 79% medical students (n=205, p=0.004) agreed, but the remaining 21% (n=55) either disagreed or were unsure. On the other hand, when engineering students were asked the same question, 69% (n= 127, p=0.004) agreed, 20% (n=27, p=0.06) disagreed and 14% (n=26, p=0.055) were not sure of its effects.

Figure 1: Perceptions on Smoking Effecting Disease Occurrence



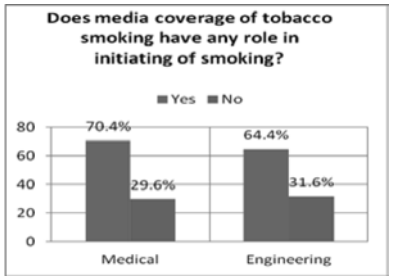
When enquired whether smokers died at an earlier age than non-smokers, 62% medical students (n=160, p=0.001) agreed, 20% of them (n=53, p=0.006) disagreed and 18% of them (n=47, p=0.065) were not sure.

Whereas in the engineering group, 43% of the students (n=82, p=0.001) agreed with the statement, 32% disagreed (n=60, p=0.006) and 25% were not sure (n=48, p=0.065).

Similarly, when asked whether there was an association between lung cancer and mortality, 82% medical students (n=213, p=0.001) and 61%engineering students (n=115 p=0.001) thought smoking was a risk factor. However, 18% of medical students disagreed or were not sure (n=47 p=0.002) as compared to 40% of engineering students (n=75, p=0.002) in it being a risk factor.

It was even more interesting to note that while 62% of medical students (n=160, p=0.001) agreed that smokers died at a younger age than non-smokers, 20.4 % of them disagreed (n=53). Engineering students were completely divided, as 43.2% of them (n=82, p=0.001) agreed on its effects in reducing life expectancy, 31.6% (n=60, p=0.006) disagreed with this whereas 25.3% (n=48, p=0.065) were not sure.

Figure 2: Media Coverage and Smoker Initiation



Misconceptions bounded about the reversibility of changes, and even more starkly in the group studying medicine. In the medicine group, 25% (n=65) believed that changes caused by smoking were reversible, and a little more in the engineering group (35%, n=66) thought the same (p=0.025). On the other hand, 22% medical students (n=57) and 26% engineering students (n=49) were not sure about the reversibility of the changes.

DISCUSSION

Smoking is such a common habit these days that every nook and corner in the city has a small stall selling paan and cigarettes. Young people who cannot afford to buy an entire cigarette pack ask the shop-keeper to give cigarettes in loose, and so miss a chance to see the warning that "smoking is injurious to health". Even ads that run on television rush through the warnings about the side effects of smoking. Now the key measure to reducing diseases due to smoking is deterring young people from taking up the habit all together.

Internationally, a lot of emphasis has been put on teaching young under-training physicians on preventive measures as they will be future ambassadors of health care. Robyn Richmond in his article, *teaching medical students about tobacco* wrote that future doctors should be educated adequately in medical school so that they become knowledgeable in tobacco control and prevention measures and develop skills in smoking cessation.[7]

In our study we have compared the attitudes and knowledge of medical students with engineering students to see the differences in perception regarding the habit. The basis of this study was that medical students would have a more mature and knowledgeable approach as teaching about tobacco and its hazards has become part of first and second year curricula in many medical colleges. In Pakistan, to the best of our knowledge, no study has been conducted that compare the attitude and influences on students enrolled in medical colleges with that of engineering colleges.

One-fourth of the survey sample admitted to have tried to smoke at least once in their lifetime, and at least 20% medical students and 35% of engineering students surveyed were currently smoking. Abroad various studies have been conducted to determine the smoking rates among medical a student, which ranged from 0 to 56.9% for men and 0 to 44.7% for women, and surprisingly was more prevalent among Turkish men than among those in other European schools.[7]

Peer pressure clearly played a major role in many students picking up the cigarette in the two groups, but students studying medicine were less likely to be influenced by it. The difference rate was not at a desirable level: a significant 15% of medical students thought that those who smoked looked cool, 16% thought that people who smoked had more friends, and 15% agreed that girls were more attracted to boys who smoked. The percentage of students with similar thoughts in the engineering group was clearly much higher.

Boys are more likely to be influenced by images of their peers smoking has been shown earlier in a study conducted in Islamabad, where51.2% of the sample thought boys who smoked had more friends, compared to 36.9% who thought girls had more friends, whereas 13.0% thought boys and 11.9% opined girls who smoked looked more attractive.[4]

In USA this phenomenon has been studied in-depth and "social smoking" has been attributed as the reason for initiation where young people hang together and are influenced to smoke in gatherings. A study published in Pediatrics journal, titled "Social Smoking Among US College Students", which sampled 10,904 students enrolled at 119 nationally representative US colleges revealed that social smoking is common among college students[8]. Smith et al noted similar findings but saw social smokers more likely to be occasional in their habit along with less nicotine dependence[8].

Rather than medical education playing a deterrent role, study in Turkey found that tobacco consumption by medical students increased progressively with knowledge on harmful consequences not barring students from this habit. It concluded that students smoke more frequently with passage of time and their smoking history prolongs with one third smokers adopting this habit while studying medicine[9]. In the study we conducted, we found that medical students' knowledge about smoking was inadequate when it came to morbidity, mortality and life expectancy (Fig. 1). That the tobacco companies have successfully marketed lighter versions of cigarettes as less threatening to health is reflected in the response to the question whether some cigarettes were less dangerous than the others: 40% medical students (n=105, p=0.010) agreed that some were less dangerous while 53% (n=100, p=0.010) engineering students agreed to the same.

It was even more interesting to note that while 62% of medical students (n=160, p=0.001) agreed that smokers died at a younger age than non-smokers, 20.4 % of them disagreed (n=53). Engineering students were completely divided, as 43.2% of them (n=82, p=0.001) agreed on its effects in reducing life expectancy, 31.6% (n=60, p=0.006) disagreed with this whereas 25.3% (n=48, p=0.065) were not sure.

Misconceptions abounded about the reversibility of changes, and even more starkly in the group studying medicine. In the medicine group, 25% (n=65) believed that changes caused by smoking were reversible, and a little more in the engineering group (35%, n=66) thought the same (p=0.025). On the other hand, 22% medical students (n=57) and 26% engineering students (n=49) were inconclusive about the reversibility of the changes.

Our findings were no different to the study conducted in November 2007 in Berlin, Germany, to determine the competence of fifth year medical students to counsel smokers. In this study, students underestimated smoking related mortality and its negative effects on longevity with only one third students feeling qualified enough to counsel tobacco dependant patients[10]

Influence of media on smoking habits was obvious as 70.5% medical students (n=183) and 69% engineering students (n=130) admitted that media coverage did have a role in initiation of smoking. However, 28% of engineering students (n=53, p=0.001) were impressed by sportsmen and actors smoking versus 9% (n=22) medical students (Fig. 2).The fact remains that tobacco is easily available, and the more young people are exposed to cigarette advertising and promotional activities, the more likely they are to smoke. [2]

In the 2012 US Surgeon-General report, it was observed that marketing by tobacco industries instigates youths to smoke with 80% smokers influenced by heavily advertised brands[2]. Further a humongous amount is spent on marketing these products promoting low cost tobacco that ends up having a substantial impact on youth.[2] World Health Organization in 2006 reported that nicotine is made available in doses to maximize addiction and a phony image of tobacco as a clean product is promoted although standards for tobacco products are not regulated appropriately. Hence it is high time that a comprehensive regulation on all tobacco products, ingredients, emissions, manufacture, communications and marketing, as endorsed by the WHO Framework Convention is implemented [11]

According to afore mentioned discussion nearly three decades ago, the US National Cancer Institute had recommended inclusion of tobacco-treatment education in the curricula of all US medical schools by 1995 to improve the participation of health-care providers in smoking cessation efforts. Another follow up study found that tobacco control training in medical and nursing schools is low.[12]

CONCLUSION

Even though this study is based on a valid questionnaire tested internationally and the large sample size with a good response rate, there were certain limitations. First, all subjects were

taken from private education institutes of Karachi. Second, they all had the same level of affordability. Third, only those subjects who were between the age groups 19 to 25 years could be included.

In this study conducted in two colleges of Pakistan, our findings were no different than previous studies conducted abroad. Even though the hazards of smoking have been included in the curriculum, it has not made significant impact in the outlook of students. While students studying medicine were better aware of the risks associated with smoking and tobacco consumption, their overall knowledge of the health risks was unsatisfactory. A significant number of medical students were unable to list and hence effectively counsel about long and short term health benefits. Peer pressure and media played a large role in students picking up the habit.

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CASE REPORT

Incidentally Diagnosed Lobular Carcinoma-in-Situ in a Case of Multiple Fibroadenomas

Asma Niaz Khan[1]

ABSTRACT

A case of lobular carcinoma *in situ (LCIS)* arising within a fibroadenoma. Diagnosis of LCIS was made based on histopathological examination of the excised lumps. The case report highlights the role of histopathology in the diagnosis of this entity coexisting in a fibroadenoma, as ultrasound missed the presence of pre-malignant cells. Fibroadenomas have genetic correlation, as was defined in our case. This case stresses the need for histological evaluation of all breast masses in women.

KEY WORDS: *LCIS, fibroadenoma, Histopathology, Non Invasive Breast Cancer.*

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