TOBACCO AND SHISHA SMOKING AMONG UNIVERSITY STUDENTS.

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ABSTRACT
INTRODUCTION
In Pakistan, it is estimated that the prevalence of tobacco smoking is 36% for males and 9% for females. Among young adults especially the university students in Pakistan, the prevalence of smoking is 15% with the majority being male smokers. Approximately 1,200 children start smoking every day.
Smoking is one of the leading causes of preventable death. According to World Health Organization (WHO) tobacco use is currently responsible for the death of one in ten adults worldwide (about 5 million deaths each year)[4].

OBJECTIVE:
The main objective of this study is to estimate the prevalence and probable risk factor of tobacco and shisha smoking among university students

MATERIAL AND METHODS
It was a cross sectional study conducted at Sialkot Medical College, Sialkot among male and female university students. For data collection a self-administered questionnaire was used as a tool. The sampling technique used in this study was convenience sampling a type of non-probability sampling. In this technique the students were selected for questioning on the basis of their availability and self-interest after taking consent. Each student was clearly informed about this study after that they actively participated.

RESULTS
From this study results we have concluded that Out of 95 medical students of Sialkot medical college, Sialkot, (15.78%) medical students were smokers and in which 12 male medical students (18.18%) out of 66 male medical students and 3 female medical students (10.34%) out of 29 female medical students were smokers. In this cross sectional study out of 100 medical students of Sialkot medical college, Sialkot from 2nd year, 3rd year and 4th year MBBS classes 95 students participated. The overall prevalence of smoking was 15 (15.78%). Among 100 participants 66 (69.47%) were males and 29 (30.52%) were females. Among these males and female medical students 15 medical students were smokers. The ages of participants range from 19-25 years. Age of 21 years is more frequent in frequency distribution table number-2.

CONCLUSION
The overall knowledge among smoker medical students about smoking and its hazards was about 60%. The good attitude of quitting smoking was present in about 60% of the smoking medical students. About 40% smoking medical students started smoking
because of peer pressure and stress and 20% smoke because of curiosity.

INTRODUCTION

Smoking is the act of inhaling and exhaling the fumes of burning plant material. A variety of plant materials are smoked, including marijuana and hashish, but the act is most commonly associated with tobacco as smoked in a cigarette, cigar, or pipe. Tobacco contains nicotine, an alkaloid that is addictive and can have both stimulating and tranquilizing psychoactive effects. The smoking of tobacco, long practiced by American Indians, was introduced to Europe by Christopher Columbus and other explorers. Smoking soon spread to other areas and today is widely practiced around the world despite medical, social, and religious arguments against it. At the dawn of the 20th century, the most common tobacco products were cigars, pipe tobacco, and chewing tobacco[1].

The tobacco epidemic is one of the biggest public health threats the world has ever faced, killing more than 8 million people a year around the world. More than 7 million of those deaths are the result of direct tobacco use while around 1.2 million are the result of non-smokers being exposed to second-hand smoke[2]. Over 80% of the 1.3 billion tobacco users worldwide live in low- and middle-income countries, where the burden of tobacco-related illness and death is heaviest. Tobacco use contributes to poverty by diverting household spending from basic needs suchas food and shelter to tobacco[3]. Smoking leads to disease and disability and harms nearly every organ of the body. More than 16 million Americans are living with a disease caused by smoking. For every person who dies because of smoking, at least 30 people live with a serious smoking-related illness. Smoking causes cancer, heart disease, stroke, lung diseases, diabetes, and chronic obstructive pulmonary disease (COPD), which includes emphysema and chronic bronchitis. Smoking also increases risk for tuberculosis, certain eye diseases, and problems of the immune system, including rheumatoid arthritis[11].

Secondhand smoke exposure contributes to approximately 41,000 deaths among nonsmoking adults and 400 deaths in infants each year. Secondhand smoke causes stroke, lung cancer, and coronary heart disease in adults. Children who are exposed to secondhand smoke are at increased risk for sudden infant death syndrome, acute respiratory infections, middle ear disease, more severe asthma, respiratory symptoms, and slowed lung growth[12].

In Pakistan, it is estimated that the prevalence of tobacco smoking is 36% for males and 9% for females. Among young adults especially the university students in Pakistan, the prevalence of smoking is 15% with the majority being male smokers. Approximately 1,200 children start smoking every day[4].

Smoking is one of the leading causes of preventable death. According to World Health Organization (WHO) tobacco use is currently responsible for the death of one in ten adults worldwide (about 5 million deaths each year)[4].

The prevalence of current smoking among selected medical students of Kathmandu Medical College and Teaching Hospital is 34 (30.1%), majority male 26 (23%). Fifty-six (49.4%) of them had ever smoked cigarettes in their life, and 27 (23.9%) had their first cigarette in late adolescence. The number of students who used other forms of tobacco was comparatively lower i.e. 6 (5.3%).

Many of the students 53 (46.9%) were exposed to second-hand smoke both at home and in public, while 18(15.9) exposed only at public places, and 6 (5.3%) only at home[7].

International companies hold almost all of the cigarette market in Pakistan. In 2017, British American Tobacco led with 65.6% of the retail volume market share, and

Philip Morris International followed with 30%. In Pakistan, 52 billion cigarettes were sold in 2017.

19.1% of adults (age 15+) currently use tobacco in any form (men 31.8%; women 5.8%), 12.4% of adults smoke tobacco, 7.7% use smokeless tobacco, 3% use water pipes (hookah or shisha) [5]. Among youth (ages 13-15), 10.7% use any tobacco product (boys 13.3%; girls 6.6%) and 7.2% smoke tobacco, and 5.3% use smokeless tobacco among youth who have ever smoked, nearly 40% first tried a cigarette before age 10 [5]. 72.5% of adults (16.8 million people) who work indoors are exposed to tobacco smoke at the workplace[5]. 86% of adults who visited restaurants in 2014 (49.2 million people) were exposed to secondhand smoke, and 76.2% of adults who used public transport were exposed to secondhand smoke[5]. 37.8% of youth (ages 13-15) are exposed to secondhand smoke in public places, while 21% of youth are exposed to secondhand smoke in their homes[5]. Tobacco kills over 163,000 people each year in Pakistan, almost 31,000 of these deaths are due to exposure to secondhand smoke[5]. Tobacco causes about 16.0% of all male deaths and 4.9% of female deaths. Overall, 10.9% of all deaths are caused by tobacco[5]. Tabacco causes 66.5% of all deaths from tracheal, bronchus, and lung cancer, 53.2% of deaths from chronic obstructive pulmonary disease, 21.9% of deaths from ischemic heart disease, 15.2% of deaths from diabetes mellitus, and 16.8% of deaths from stroke[5]. In 2019, nearly 14 of every 100 U.S. adults aged 18 years or older (14.0%) currently smoked cigarettes. This means an estimated million adults in the United States currently smoke cigarettes. More than 16 million Americans live with a smoking-related disease[13].

In another study conducted, The prevalence of ever-smoking, currenting smoking, and ex-smoking was 28.94, 21.08, and 7.86%, respectively. Male participants had a much higher prevalence of ever-smoking and current smoking (67.39 and 48.77%) than females (3.74 and 2.93%). To better illustrate the time trend of smoking prevalence, sex-specific ever-smoking prevalence classified by birth-year groups was calculated. For both sexes, the prevalence of ever- smoking decreased with time (both p < 0.001)[14].

OBJECTIVE:
The main objective of this study is to estimate the prevalence and probable risk factor of tobacco and shisha smoking among university students.

MATERIAL AND METHODS
It was a cross sectional study conducted at Sialkot Medical College, Sialkot among male and female university students. For data collection a self-administered questionnaire was used as a tool. The sampling technique used in this study was convenience sampling a type of non-probability sampling. In this technique the students were selected for questioning on the basis of their availability and self- interest after taking consent. Each student was clearly informed about this study after that they actively participated.

Sample size was decided to be 100 of medical students of Sialkot Medical College, Sialkot to be convenient and sufficient as duration of study was one (01) month. After consent and selection of students to be participated in the study and approval from institutional review board the IRB the self -administered questionnaire was distributed to the students to be filled it completely. The completed questionnaire data was then entered into the computer software SPSS version 28. The qualitative data regarding qualitative variables as well as quantitative data were analyzed by calculating frequencies for various variables under

study both for male and female medical students, for rural and urban residents and other listed variables. Proportions then compared at these levels and chi square test is applied to compare any difference between the groups P-values less than 0.05 was considered significant. Variables were age, gender, Tobacco or shisha smoking, residency, family smoking, health issues, family issues, smoking sessions.

Non-willing and non-cooperative students were excluded.

RESULTS

In this cross sectional study out of 100 medical students of Sialkot medical college, Sialkot from 2nd year, 3rd year and 4th year MBBS classes 95 students participated.

The overall prevalence of smoking was 15 (15.78%). Among 100 participants 66 (69.47%) were males and 29 (30.52%) were females. Among these males and female medical students 15 medical students were smokers. The ages of participants range from 19-25 years. Age of 21 years is more frequent in frequency distribution table.

Table: 1 Descriptive analysis of participants' ages

TABLE -1		
Years		
N	Total	95
		0
Mean		21.51
Std. Error of Mean		.114
Median		21.00
Mode		21
Std. Deviation		1.110
Range		6

Table: 2 Frequency distribution table of age in years

Age (years)	Frequency	Percentage %
19	2	2.1
20	12	12.6
21	38	40.0
22	27	1.1
23	13	13.7
24	1	1.1
25	2	2.1
Total	95	100

The percentages of male and female medical students who smoke as compared to those who don't smoke. Out of 95 medical students 12 (80%) are male medical students while 3 (20%) are female medical students who smoke. Similarly the difference between these two variables gender and smoking status was determined by applying chi-square test, which shows that p value is greater than 0.05 and difference is not significant and smoking prevalence is nearly same in both male and female medical students. Similarly table No. 34 shows the relationship of parent-education with smoking prevalence in medical students. In this table 8(53.33%) students who smoke belong to educated parents while 7(46.66%) students who smoke belong to un-educated parents. Chi-square test shows the p value 0.03 which is less than 0.05 which means that the difference is significant and educated parents have more smoking prevalence among their children.

Table: 3 Distribution of parent education among smoking students

	Smoker	%age	non-smokers	
Parent educated	8	53.33	63	X^2= 4.32
Parent uneducated	7	46.66	17	P= 0.03*
Total	15	100	80	(P< 0.05)

*Difference is significant we reject null hypothesis

The relationship between residency and smoking prevalence among medical students is listed in following table No. 4, which shows that 9(60%) students who smoke they belong to urban areas while 6(40%) students who smoke belong to rural areas. When these variables of residency and smoking status were compared by chi-square test the p value was 0.44 which is more than 0.05 which shows that difference is not significant and residency has no or by chance influence on smoking prevalence.

Table: 4 Distribution of residency and smoking status

Residency	Smokers	%age	Non smokers	
Rural	6	40.0	24	X^2= 0.585 P= 0.44*
Urban	9	60.0	56	
Total		100	80	(P> 0.05)

*Difference is not significant we fail to reject null hypothesis

Another table No. 5 is designed to illustrate the relationship between family socio economic status and smoking status among medical students. The table shows

that 13(86.66%) medical students who smoke have good socio-economic status while 2(13.33%) who smoke have poor socio-economic status. However chi square test shows no significant difference as p value is more than 0.05.

Table: 5 Distribution of smoking and socioeconomic status of family

| Socioeconomic status	Smokers	%age	Non smoker	
Good	13	86.66	69	X^2= 0.002 P= 0.96*
Poor	2	13.33	11	(P> 0.05)
Total	15	100	80	

*Difference is not significant we fail to reject null hypothesis

Table: 6 Distribution of attitude, knowledge and health issues among smokers

Smokers			% age
Want to quit smoking	Yes	9	60.0
	No	6	40.0
Knowledge	yes	9	60.0
	No	6	40.0
Health issues	Yes	7	46.66
	No	8	53.33

Table No. 6 shows the different aspects of smoking among smokers that 9(60%) smokers want to quit the smoking. Among smokers 7(46.66%). Students who smoke are facing stomach and lung problems currently. While 9(60%) smokers are having knowledge about the bad effect of smoking on health. In the pie chart given below shows the percentage of smoking

students who started smoking either below 18 years is 53% and above 18 years is 47%.
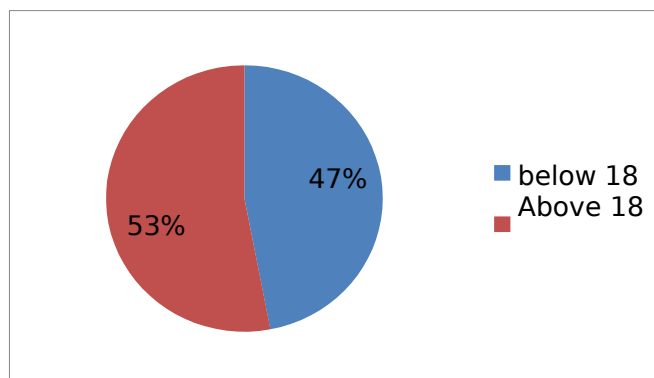
Pie Chart 1 showing the age of start of smoking in smoking medical students

The following bar chart-1 shows the distribution of male and female medical students among smokers and non-smokers groups, which shows that male medical students involved in smoking are 12 out of 54 non-smoker male students as compared to female students which are 3 out of 26.

Bar Chart-1
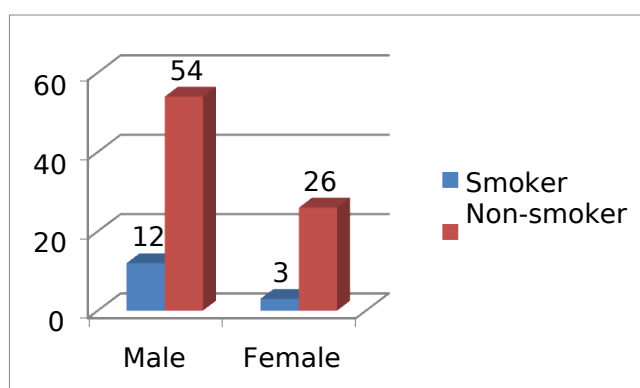
However, the population of female medical students is about half of the male medical students and the prevalence of smoking is 12(22.2%) in male medical students and 3(11.53%) in female medical students.

Similarly, in this study out of 95 students 31 (32.63 %) have had ever smoked in their life they are not smoking currently. So they are included in the category of non-smokers in this study.

Practice of smoking:
Similarly table no 8 shows that, out of the students who are smoking currently 11 (73.33%) students are Shisha Smokers while 14 (93.33%) students are the cigarette smokers and 10 (67.66%) students are both cigarette and shisha smokers.

Table No: 7 Modes of smoking among medical students

Modes	Frequency	Percentage %
Cigarette smoking	14	93.3
Shisha smoking	11	73.3
Both Cigarette & Shisha	10	66.7
Smokers	15	15.8

The Bar Chart 1 shows the distribution of causes behind smoking among medical students.
Out of the smoking medical students 6 (40%) were having peer pressure, 6 (40%) were having stress and 3 (20%) were having curiosity as the reason to start smoking.
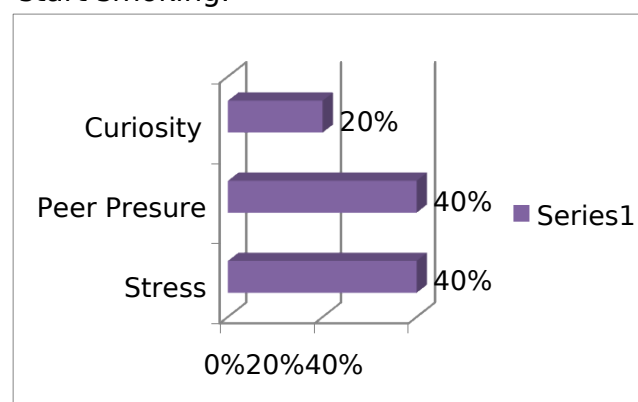
DISCUSSION
Smoking is an unhealthy behaviour and it is a risk factor for many cancerous conditions, respiratory diseases, gastro-

intestinal diseases and psychiatric abnormalities. Smoking not only effects the smoker but it is also an environmental hazard for people in proximity to the smoker i.e. second hand smoker.

In current situation the prevalence of smoking is day by day increasing in young adults all over the world. In educational institutes the smoking is very common. In Pakistan smoking is present in all groups of ages.

Medical students smoke due to various causes including peer pressure, stress and curiosity. In this study the peer pressure and stress were found to be the most prevalent causes of smoking in medical students of Sialkot medical college, Sialkot. Student smoke either cigarette or shisha and most of them smoke both of cigarette and shisha. Many of students who smoke are knowledgeable and also have preexisting health problems and they are economically stable. Most of students belong to the urban areas and smoking is 50% more prevalent in male medical students.

In a study, The prevalence of current smoking among selected medical students of Kathmandu Medical College and Teaching Hospital is 34 (30.1%), majority male 26 (23%). Fifty-six (49.4%) of them had ever smoked cigarettes in their life, and 27 (23.9%) had their first cigarette in late adolescence. The number of students who used other forms of tobacco was comparatively lower i.e. 6 (5.3%). Many of the students 53 (46.9%) were exposed to second-hand smoke both at home and in public, while 18(15.9) exposed only at public places, and 6 (5.3%) only at home[7].

In other study, Overall response rate was 81.6% (922/1130). Median age was 22 years while 50.7% were males and 48.2% were females. The overall prevalence of 'ever smokers' and 'current smokers' was 31.7% and 13.1% respectively. A majority (> 80%) of students asked the patients

about their smoking habits during clinical postings/clerkships. Only a third of them did counseling, and assessed the patients' willingness to quit. Majority of the students agreed about doctors' role in tobacco control as being role models, competence in smoking cessation methods, counseling, and the need for training about tobacco cessation in medical schools. About 50% agreed that current curriculum teaches about tobacco smoking but not systematically and should be included as a separate module. Majority of the students indicated that topics about health effects, nicotine addiction and its treatment, counseling, prevention of relapse were important or very important in training about tobacco smoking[8]. Medical educators should consider revising medical curricula to improve training about tobacco smoking cessation in medical schools. Our results need references from surveys from other medical schools in developing countries of Asia[8].

Most people who smoke started smoking when they were teenagers. Those who have friends and/or parents who smoke are more likely to start smoking than those who don't. Some teenagers say that they "just wanted to try it," or they thought it was "cool" to smoke[9].

The tobacco industry's ads, price breaks, and other promotions for its products are a big influence in our society. The tobacco industry spends billions of dollars each year to create and market ads that show smoking as exciting, glamorous, and safe. Tobacco use is also shown in video games, online, and on TV. And movies showing people smoking are another big influence. Studies show that young people who see smoking in movies are more likely to start smoking[9].

Anyone who starts using tobacco can become addicted to nicotine. Studies show that smoking is most likely to become a habit during the teen years. The younger

you are when you begin to smoke, the more likely you are to become addicted to nicotine[9].

According to the 2014 Surgeon General's Report (SGR), nearly 9 out of 10 adults who smoke started before age 18, and nearly all started by age 26. The report estimates that about 3 out of 4 high school students who smoke will become adults who smoke – even if they intend to quit in a few years[9].

Our study shows that smoking is less prevalent in medical students of Sialkot medical college, Sialkot.

Tobacco harms the health, the treasury, and the spirit of Pakistan. Every year, more than 160100 of its people are killed by tobacco- caused disease. Still, more than 125000 children (10-14 years old) and 14122000 adults (15+ years old) continue to use tobacco each day[10].

Even though fewer men smoke on average in Pakistan than on average in medium-HDI countries, there are still more than 12921300 men who smoke cigarettes each day, making it an ongoing and dire public health threat[10]. Even though fewer boys smoke in Pakistan than on average in medium- HDI countries, there are still more than 86300 boys who smoke cigarettes each day, making it an ongoing and dire public health threat[10].

From this study results we have concluded that; Out of 95 medical students of Sialkot medical college, Sialkot, (15.78%) medical students were smokers and in which 12 male medical students (18.18%) out of 66 male medical students and 3 female medical students (10.34%) out of 29 female medical students were smokers. The overall knowledge among smoker medical students about smoking and its hazards was about 60%. The good attitude of quitting smoking was present in about 60% of the smoking medical students. About 40% smoking medical students started smoking because of peer pressure and stress and 20% smoke because of curiosity.

CONCLUSION

The prevalence of smoking in male medical students is 22.2% as compared to female medical students which is 11.53%. which shows that smoking 0.5 times more prevalent in males medical students as compared to female medical students.

RECOMMENDATIONS

1. It is recommended that medical literature should be revised to improve the healthy behaviour of medical students and to stop smoking in medical institutes because smoking is now a public health problem and should be considered at multidisciplinary level.
2. The governing bodies should do an effective legislation to control and stop smoking and to improve quality of living.
3. The medical colleges should design the smoking control committees to effectively stop smoking inside the college.

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