

A DESCRIPTIVE STUDY OF PERCEPTIONS AND BEHAVIOR OF WATER PIPE SMOKING AMONG STUDENTS IN LAHORE INSTITUTES

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ABSTRACT

In the background of increasing popularity of shisha smoking, there is an urgent need for shisha to be better understood and acknowledged. Shisha is rapidly penetrating in young adult community especially students which is of a great public health concern. Shisha smoking is now suspected to be a risk factor for a number of systemic diseases including cancer. The objective of this study was to determine prevalence of shisha smokers among medical and dental students of a college of Lahore and also determine their knowledge, attitude and behavior towards shisha smoking. A cross sectional study was conducted in Fatima Memorial College of medicine and dentistry, Lahore which included medical and dental undergraduates. Convenience sampling technique was used to collect the data of 425 respondents. Data were analyzed using SPSS 20.0. Results demonstrate that approximately 32% of the medical and dental undergraduate students smoke shisha. Male to female ratio of water pipe smoking was found to be surprisingly high as 1:1. Results also suggested that there are a number of established correlates of water pipe smoking, including peer and social pressure and lack of awareness about harmful effects of shisha smoking. Despite its harmful effects shisha smoking is quite common among medical and dental undergraduate students mainly because of the social pressure and lack of awareness about its toxic effects.

Key Words: Shisha, Water pipe smoker behaviour, Undergraduate Students, Pakistan.

INTRODUCTION

Around the world tobacco smoking remains the leading preventable cause of death and considerable success has been achieved in by anti-smoking campaigns and programs over the past 20 years. Still a number of hurdles exist in curbing the tobacco epidemic worldwide and the most prominent among them is the practice of alternative method of tobacco use including water pipe tobacco smoking.¹

Tobacco use causes many of the world's leading lethal ailments, including but not limited to lung cancer, esophageal cancer, cardiovascular disease and reverse pregnancy outcomes.²

Tobacco in smoked form is consumed in many countries in the attractive form of shisha, especially among young adults. It is also known as water pipe, galiyan or narghilé which consists of a hose or a mouthpiece connected to a base filled with water, another pipe with a bowl on top also fits into the base. Water pipe tobacco smoking is approximately 400 years old practice. It is common in Arabian Peninsula, Turkey, India and Pakistan. Over the recent years a continuous rise in the consumption of shisha has been observed especially among youth which presents a great challenge to health care providers because of the varying composition and non-standardization of tobacco used in it.³

It was first ever used in Persia and then in India in the form of coconut shells. Around 500 years ago when it was introduced in Turkey, its structural changes occurred and it started to spread as a social trend. Globally, the highest rates of smoking occur in the African region (primarily North Africa), the Eastern Mediterranean Region and the South-East Asia Region. Since then it has been spreading amongst the young generation in the United States, Brazil and European countries.⁴ It

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contains toxic ingredients which include tobacco as an addictive material, tar, carbon monoxide, nicotine, rare heavy metals and cancer causing chemicals.

Hazards of smoking shisha quoted by a systematic review published in international journal of epidemiology are as follows.⁵

- Causes lung, stomach, esophagus and oral cancers
- Causes heart diseases and clogged arteries due to numerous toxic substances
- Reduces lung capacity and causes respiratory illnesses
- Increased risk of infectious diseases due to sharing of shisha pipe
- Children born to women who smoke have lesser weight and are more prone to lung diseases
- Adversely effects periodontal health

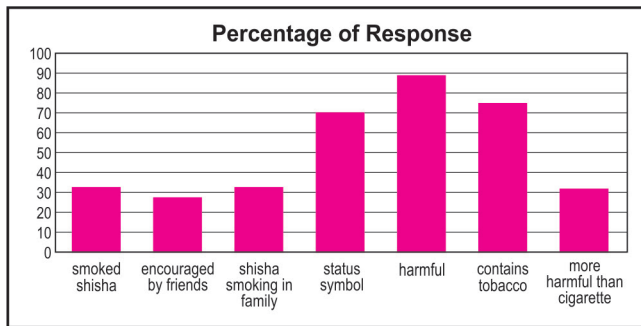


Fig 1: Percentage of response of questions asked during the survey regarding shisha smoking.

According to WHO, it is estimated that a smoker inhales half a liter of smoke per cigarette while a shisha smoke can take in anything from just under a sixth of a liter to as much as a liter of smoke per inhalation. Despite emerging scientific evidence of its potential health risk shisha smoking has become a trendy social habit. According to a study done in Pakistan tobacco usage in the form of cigarettes, snuff tobacco and chewable tobacco is more among shisha smokers.⁵ Water pipe smoking is also on the rise in university students, many studies conclude that it is very popular among Pakistani students especially university students and medical students.⁶⁻⁸

Objective of this study was to determine the perceptions and behavior of water pipe use by medical and dental undergraduate students of Fatima Memorial College of Medicine and Dentistry Lahore, Pakistan.

METHODOLOGY

A cross sectional study was conducted among medical and dental undergraduates of Fatima Memorial Medical and Dental College, Lahore. Convenience sampling technique was used to collect data. All students from year first until final year of both MBBS and BDS were included in this study.

Self-completed questionnaire was used as data collection instrument. The questionnaire consisted of various sections including demographic profile, smoking history and frequency, psychosocial factors, knowledge and awareness about shisha smoking. Demographic section contained questions regarding age and gender. Smoking history section contained questions regarding

TABLE 1: ASSOCIATION BETWEEN AGE AND SHISHA SMOKING

Ever consumed shisha				
	Age		Total	P value
	16 to 20 N (%)	21 to 25 N (%)		
Yes	60(44.1)	76(55.9)	136	0.003
No	171(59.2)	118(40.8)	289	
How old were you when you first consumed shisha				
Less than 12 Years	1(25.0)	3(75.0)		0.007
12 to 18 Years	34(63.0)	20(37.0)	54	
18 to 25 Years	25(32.1)	53(67.9)	78	
Does your friends encourage you to consume shisha				
Yes	45(38.8)	71(61.2)	116	0.000
No	186(60.2)	123(39.8)	309	
Do you think it is more harmful than cigarette smoking				
Yes	82(60.7)	53(39.3)	135	0.044
No	149(51.4)	141(48.6)	290	

TABLE 2: ASSOCIATION BETWEEN GENDER AND SHISHA SMOKING

Ever consumed shisha	Gender		Total	P-value
	Male N (%)	Female N (%)		
Yes	68(50.0)	68(50.0)	136	0.000
No	69(23.9)	220(76.1)	289	
How frequently do you consume shisha				
Daily	13(86.7)	2(13.3)	15	0.000
Weekly	7(87.5)	1(12.5)	8	
Monthly	5(50.0)	5(50.0)	10	
Occasionally	43(41.7)	60(58.3)	103	
Friends encourage you to consume shisha				
Yes	65(56.0)	51(44.0)	116	0.000
No	72(23.3)	237(76.7)	309	
Do you think it is harmful				
Yes	114(30.1)	265(69.9)	379	0.006
No	23(50.0)	23(50.0)	46	
Do you think it is a status symbol these days				
Yes	80(26.9)	217(73.1)	297	0.000
No	57(44.5)	71(55.5)	128	

age at which shisha smoking was started and frequency of shisha smoking. Psychosocial factors contained questions about whether their family or relatives consume shisha or not, do their friends encourage them to consume shisha and whether they think it is a status symbol these days. Student's knowledge and awareness were analyzed by asking questions about tobacco

content of shisha and whether it is more harmful than cigarette or not.

Data were anonymously collected using survey instrument and was analyzed by using SPSS 20. Frequencies were calculated and a chi square analysis was done to check the significance.

TABLE 3: ASSOCIATION BETWEEN YEAR OF STUDY AND SHISHA SMOKING

Age when first consumed shisha	Class					Total	P value
	1st year N (%)	2nd year N (%)	3rd year N (%)	4th year N (%)	5th year N (%)		
less than 12	1(25)	0(0)	1(25)	1(25)	1(25)	4	0.002
12 to 18	21(38.9)	18(33.3)	4(7.4)	6(11.1)	5(9.3)	54	
18 to 25	9(11.5)	20(25.6)	12(15.4)	25(32.1)	12(15.4)	78	
Friends encourage you to consume shisha							
Yes	23(19.8)	32(27.6)	17(14.7)	29(25.0)	15(12.9)	116	0.003
No	98(31.7)	94(30.4)	45(14.6)	38(12.3)	34(11.0)	309	
More harmful than cigarette smoking							
Yes	47(34.8)	42(31.1)	21(15.6)	18(13.3)	7(5.2)	135	0.002
No	74(25.5)	84(29.0)	41(14.1)	49(16.9)	42(14.5)	290	
Ever consumed shisha							
Yes	31(22.8)	38(27.9)	17(12.5)	32(23.5)	18(13.2)	136	0.011
No	90(31.1)	88(30.4)	45(15.6)	35(12.1)	31(10.7)	289	

RESULTS

A total of 425 students participated in the study of which 137 were male and 288 were female students. Among the respondents 54.4% were of the age range 16-20 years and 45.6% were of range 21-25 years. The prevalence of shisha smoking was found to be 32%, among medical and dental undergraduates, of which 12.7% started it in the age of 12-18 years.

In this study, Pearson Chi square test was used for bivariate analysis and results are further divided into three categories based on student's Age, Gender and Current year of Study.

Generally a bigger percentage of students in the first year and second year started smoking shisha at the age of 12-18. Same is the case when asked whether their friends encourage them to consume shisha, whether they think it is harmful and have they ever smoked shisha, a larger percentage of students replied with yes from first and second year.

Variables found to be insignificant were frequency of shisha smoking, whether their friends and relatives smoke shisha, is it harmful, whether it contains tobacco and whether it is a status symbol.

DISCUSSION

Globally 4.9 million deaths are attributed to tobacco use and this number may rise to 10 million by 2030. Around 70% of these deaths occur in developing countries. According to the report of global youth tobacco surveillance 2000-2007 tobacco use is increasing at an alarming rate among young girls as compared to adult females. The previous tobacco use ratio among boys and girls was 1:2 which has changed to 1: less than 2.⁹ All the credit goes to increasing susceptibility of smoking among never smokers, high level of exposure to second hand smoke and pro-tobacco indirect advertising.¹⁰

Use of tobacco is a preventable cause of premature death and disease either in the form of smokeless or smoked tobacco. Unfortunately despite the fact that developing countries bear the brunt of tobacco as an epidemic, most of the efforts directed against it focus only on developed nations. Researches and treatment methods in the past have even neglected other forms of tobacco use in developing areas of the world such as water pipe smoking which is being used by more than 100 million people daily.¹¹

Shisha or water pipe smoking is on the rise and is receiving striking attention around the world. This

study has revealed that among the respondents 32% of the medical students were ever smokers and among them 50% were females. 3.5% were consuming it daily whereas 24.2% were consuming it occasionally. Prevalence of shisha smoking varies around the world. Grekin and Ayna reported 20% of students as current smokers in United States.¹¹ Attia and colleagues mentioned 12.6% of male medical students as shisha smokers in Saudi Arabia.¹² In Malaysia the prevalence of shisha smoking among medical students was found to be 20%.¹³ A Cochrane review shows that more than half the younger population in Denmark has tried water pipe smoking.¹⁴ A cross sectional survey of university students in Karachi Pakistan revealed that about half the participants ever smoked shisha.⁷ In fact in a systematic review which assessed 38 studies for prevalence of shisha smoking from all around the globe. The highest prevalence of current water pipe smoking was found among school students across countries: the United States 12%-15%, the Arabic Gulf region 9%-16%, Estonia 21% and Lebanon 28%. The study also showed the prevalence of current smokers among university students which was in Arabic Gulf 6%, The United Kingdom 8%, The United States 10%, Lebanon 28% and Pakistan 33%.¹⁵

An important perspective of the present study was questions regarding tobacco content and detrimental effects of shisha on health. In the current study majority of participants had the view that it is harmful and contains tobacco but the significant lack of knowledge among medical students about the extent of damage it can do more than a cigarette highlights it as a public health threat. This lack of awareness is quite prevalent around the world. Labib et al reported 74% of female university students believed shisha smoking to be less harmful than cigarette.¹⁶

Maziak revealed 30% of young people prefer shisha smoking because they think it is less harmful than cigarette.¹⁷ A study from Pakistan showed that 60% of the university students considered shisha smoking to be less unhealthy than cigarette.⁷ Similarly in the United States most of the shisha smokers believed water-pipe use to be less addictive and harmful.¹⁸

In this study behind water pipe smoking were also looked into and surprisingly most of the students said they started it as it is a status symbol these days and their friends encourage them to smoke shisha moreover, they are being encouraged because water pipe smoking is a common practice among their families and relatives. Similarly the main motives summarized for water pipe

use by a systematic review were socializing, relaxation, pleasure and entertainment. This study also reported motives by university and school students which peer pressure, fashion and curiosity.¹⁹

CONCLUSION

There is a high prevalence of shisha smoking among medical and dental undergraduate students about 32% of the medical students surveyed were shisha smoker analysis of available information supports this high prevalence. According to this study most of students start shisha smoking due to social and peer pressure as reported by many studies. Actually the matter of great concern highlighted by this study is the lack of awareness about the damaging effects of shisha among medical students.

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