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PREVALENCE OF SMOKING HABIT AND ITS ASSOCIATED FACTORS AMONG THE STUDENTS OF PUBLIC SECTOR UNIVERSITIES IN KARACHI

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ABSTRACT

Smoking, which accounts for a large portion of preventable deaths worldwide, has a huge negative impact on public health expenditures, reduces lifespans, and reduces daily productivity. This study aimed to determine the prevalence of smoking and its associated factors among students enrolled in public sector universities in Karachi in order to address this urgent issue. Data were gathered using questionnaires that students completed, and they were then rigorously statistically analyzed using the chi-square method and IBM SPSS Statistics 20. The results of this study provide insight into important factors affecting students' smoking habits. Notably, gender was crucial, with significant differences between male and female pupils. Another important component that emerged was age, with smoking prevalence rising sharply as people aged. The survey also found that there were significant correlations between students' smoking habits and those of their siblings and close friends. Additionally, it was discovered that people's religious beliefs have a big impact on their smoking habits. These findings highlight the critical importance of including these aspects in the creation of successful anti-smoking initiatives geared toward college students. The prevalence of smoking among this group can be lowered by using personalized treatments that consider factors including gender, age, peer pressure, and religious attitudes. This will ultimately enhance public health and lower healthcare costs.

Keywords: University students; Smoking; Grades.
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INTRODUCTION

Tobacco consumption is spreading all over the world and is the major reason for avoidable deaths in the world. Cigarette smoking impacts one's budget, reduces the life period of an individual, and decreases his daily performance. The World Health Organization reports revealed that each year, 5.4 million deaths are reported due to tobacco use, which could cause the death of more than 8 million people worldwide in upcoming years. There is an increase in the consumption of smoking cigarettes in poor countries (WHO, 2012; Wald & Hackshaw, 1996; Cockerham, 1999; WHO, 2008). For this reason, the World Health Organization (WHO) gives high regard to its policies for the cessation of smoking.

There are several factors that can increase smoking habits in university students, which include stress, elevated pressure, parents' habits of smoking and their level of education, the pressure of social acceptance

of gaining a profound personality, and life hitches (Kegler et al., 1999). The factors that decrease the smoking habit include their religious attitude, harmful effects on health, and family pressure not to smoke (Kegler et al., 1999; Felimban & Jarallah, 1994). The prevalence of smoking reveals associated problems and reflects its importance for cessation of smoking in society.

Most smokers start consuming tobacco before the completion of intermediate studies or immediately after it, indicating these students are a prime target for smoking cessation programs. The study years in the university give an excellent chance for intercessions to avert premature mortality and morbidity in the future by demotivating the commencement or continuance of negative health-related behaviors because of tobacco consumption (Steptoe et al., 2002; Thyrian et al., 2008). WHO gives high regard to its policies for the cessation of smoking. It is of great benefit to arrange tobacco awareness programs in order to talk about the health problems associated with it at the university level. In Greece, studies related to tobacco consumption revealed that smoking behaviors in students are infrequent, especially among university pupils related to non-medical departments. According to the studies reported, smoking frequency among intermediate students lies in the range of 10%-32% for 15 years old students to a maximum of 50% for 16-19 years old students (Vardavas & Kafatos, 2007; Sichletidis et al., 2006). The purpose of this study was to evaluate the frequency of smoking and the factors associated with tobacco consumption among students of public sector universities using a cross-sectional survey method.

REVIEW OF LITERATURE

The study in Karachi involved 383 students from public sector institutions. Approximately 90% of these students were enrolled in graduate programs. Data for the study were gathered through the administration of questionnaires and subsequently analyzed using IBM SPSS Statistics 20.

Smoking is a significant global public health concern, ranking as one of the leading causes of death globally (Liu et al., 2023). Nicotine, found in tobacco, can lead to seizures and even death due to muscle paralysis, heart failure, and fluid accumulation in the lungs and air passages (Perez-Warnisher et al., 2018). In the United States, smoking contributes to one in every five deaths annually, while in China, approximately 180 million people suffer from second-hand smoke each year (Ma et al., 2023).

Public knowledge about the adverse effects of smoking is generally good, having a good understanding of its side effects in developed countries. However, smokers' awareness and perception of the health impacts of smoking are low, especially among second-hand smokers in developing nations (Basit et al., 2020; Dawood et al., 2016). Even healthcare professionals, despite their medical education, are not exempt from this habit (Khan et al., 2014). In the United States, licensed practical nurses have the highest prevalence (20.55%), while physicians have the lowest (2.31%) (Zafar, 2014). Many healthcare providers believe that their inadequate knowledge about smoking contributed to their continued smoking habits. Local studies in Pakistan have also examined the prevalence of smoking among healthcare providers.

A study conducted in Karachi in 2019/20 found that 25.4% of university students were smokers, with higher rates among males. The study included 383 students from public sector universities, with 90% in graduate programs. The smoking prevalence was lower than in some other regions but consistent with reports on the age of smoking initiation (18-19 years). Male students were more likely to smoke, possibly due to societal norms consistent with previous reports (Chinwong et al., 2018). The study at Mashhad University of Medical Sciences showed a significant frequency of cigarette smoking among health professional students, emphasizing the importance of prompt interventions and the incorporation of comprehensive anti-smoking education, particularly for female students (Taheri et al., 2014). Faculty choice, religious attitudes, and family and friends' influence played significant roles in smoking habits. A study reveals that university students' smoking habits vary across faculties. Those in health and religious education programs were less likely to smoke. Religious practices, particularly prayer habits, are also

correlated with reduced smoking (Jamaleddine, 2023). This suggests that promoting functional religiosity and raising awareness of health risks could help reduce smoking rates among students.

The research highlights the need for effective anti-smoking programs at the university level, targeting factors such as gender, faculty, religious attitudes, and social influences. Approximately 92.6% of smokers were in favor of smoking cessation programs, emphasizing the importance of raising awareness about the health risks associated with smoking. Understanding the prevalence of smoking is essential for effective cessation programs.

In conclusion, smoking remains a pervasive issue with severe health consequences worldwide, including among healthcare providers. Large-scale studies are needed to assess the prevalence of smoking among healthcare providers and identify the underlying reasons for their continued smoking.

METHODOLOGY

Sample

This research was conducted in September 2019 to evaluate the frequency of tobacco consumption among students of public sector universities in Karachi. Total number of students evaluated were 383. Approximately 90% are enrolled in graduate programs distributed among different faculties of universities in Karachi.

Data collection

A sample of 383 students was selected from different classrooms of each faculty using simple random sampling. The study director described the motive of the study to the students by visiting the selected classrooms. A questionnaire designed for this study was distributed by the study director, and students were directed to respond honestly and honestly to each question without restrictions. Students completed the questionnaire within 10-15 minutes. A guarantee of privacy was provided, and the tutor was outside the classrooms to guarantee the discretion.

Analysis

Data were examined by relating the occurrence of smoking among students and the factors associated with it. Chi-squared was conducted where appropriate. Data was analyzed by using IBM SPSS Statistics 20. A P-value of < 0.05 was taken as statistically significant.

RESULTS AND DISCUSSION

Characteristics of Participants

The study comprised of 199 males and 184 females. Students of 19 to 30 years of age responded to this study. More than half (i.e., 60.3%) of the smokers were 20-24 years old. Around 60% of participants were students of health and administrative sciences, and about 51% of them were 3rd or 4th year students.

Frequency of Smoking and the Factors Associated

A total of 98 students amongst 383 were reported as smokers. Therefore, the frequency of smoking among university students was found to be 25.4 % (42.7% smokers among males and 7.06% smokers among females, $P < 0.0005$). Among smokers, 38.6% were daily smokers. Most of the cigarette smokers smoked (45.8%) 0-5 cigarettes per day, 18.7% smoked 6-10 cigarettes per day, and 35.4% smoked > 10 cigarettes per day.

There was a significant difference found amid the smoking habit among males (42.7%) and females (7.06%). It increased significantly with age (p-value < 0.05). Smoking frequency was higher among 3rd and 4th-year students as compared to other students. A significant difference was also found in the smoking ratio among the students attending different faculties in the university. Students belonging to the faculty of health education and religion were less liable to smoking as compared to the students who were attending

other faculties (p-value < 0.05). The prevalence of smoking was significantly associated with family members (p-value < 0.05) and friends who smoke (p-value < 0.05).

Table 1. Chi-square test values.

S. No.	Hypotheses	Chi-Square Values	p-values	Empirical Conclusions
H_{10}	Student's faculty of education is not likely to be related with their smoking habit	7.839	0.049	Rejected
H_{20}	Level of education of student is not likely to be related with their smoking habit	5.671	0.129	Accepted
H_{30}	The age of an individual is not likely to be related with their smoking habit	8.479	0.014	Rejected
H_{40}	Gender is not likely to be related with their smoking habit.	63.381	0.000	Rejected
H_{50}	CGPR is not likely to be related with the smoking ratio among students.	16.935	0.001	Rejected
H_{60}	The smoking of close friends is not likely to be related with the smoking ratio.	40.651	0.000	Rejected
H_{70}	Smoking of siblings is not likely to be related with the smoking habit of an individual.	12.780	0.000	Rejected
H_{80}	Praying habit is not likely to be affected by the smoking habit of an individual	17.473	0.001	Rejected

Eight hypotheses related to the smoking prevalence were evaluated in this study. Out of eight hypotheses, seven were rejected, and only one hypothesis was accepted. The hypothesis and their results are shown in Table 1.

In this study, the test of Chi-Square is used to evaluate the relationship between two categorical variables. The results of chi-square test show that the p-value of less than 0.05 is an indication of rejection of H_0 and acceptance of H_A.

In 1st hypothesis, student's faculty of education and smoking habits were taken as variables. In this hypothesis, we rejected the null hypothesis because the p-value of the chi-square test obtained was less than 0.05 and concluded that there was a significant relationship between student's faculty of education and smoking ratio.

In the second hypothesis, we looked at two things: the student's education level and whether they smoke or not. When we did the chi-square test, the p-value turned out to be higher than 0.05. So, we accepted the null hypothesis, meaning there's no link between a student's education level and smoking habit.

In 3rd hypothesis, we took two variables, i.e., the age of students and their smoking habits. We rejected the null hypothesis because of the p-value of the chi-square test, which was less than 0.05, and concluded that there was a significant association between the age of students and smoking habits among university students. In 4th hypothesis, the gender of students and their smoking habits were taken as variables, which was also rejected due to the p-value of the chi-square test being less than 0.05, showing a significant association between the gender of students and their smoking habits.

In the 5th hypothesis, two variables, i.e., CGPR of students and their smoking habit, were taken, while in the case of the 6th hypothesis, we took the smoking of close friends and student's smoking habit as variables.

We rejected both null hypotheses because the p-value of the chi-square test was less than 0.05, showing that there was a significant association found in both cases.

In the 7th hypothesis, two variables, i.e., the smoking of siblings and their smoking habit, were taken. The p-value of the chi-square test was less than 0.05, so we rejected the null hypothesis and concluded that there was a significant association between the smoking of siblings and their smoking habits.

In the 8th hypothesis, two variables, i.e., praying habit and smoking habit, were taken. The p-value of the chi-square test was less than 0.05, so we rejected the null hypothesis and concluded that there was a significant association between praying habits and smoking habits.

Discussion

This study revealed that about one-fourth (25.6%) of the students who responded were smokers, which is lower than that reported by the private universities of Lahore (Kofahi & Haddad, 2005). In comparison to studies conducted in different countries, the prevalence was found inferior to that reported in Saudi Arabia (29%) [Rundall and Bruvold, 1988], Syrian Arab Republic (30.9%) (Saleiro et al., 2008), Lebanon (40%) (WHO, 2006), Turkey (42.5%) (Kegler et al., 1999) and Kuwait (42.2%) (Cockerham, 1999). This variation might be due to the diverse measures used for explaining smoking, different age groups, and different procedures considered. Thus, it is difficult to compare the data of these studies. Our findings are consistent with other reported studies that the most communal age for starting smoking was between 18-19 years (Kofahi & Haddad, 2005; Vardavas & Kafatos, 2007). There was a significant difference found in the frequency of smoking among males and females. These were found consistent with many reported studies regarding tobacco consumption in other countries that showed a significantly high occurrence of smoking habit among men as compared to women, which might be due to the social acceptance of the smoking practice among men in the community (Kegler et al., 1999; Kofahi & Haddad, 2005; Linardakis, 2003; Khader & Alsadi, 2008).

This study revealed that significant differences were found in the occurrence of smoking habits among the students attending different faculties in the university. Students studying in the faculty of health and religious education were less prone to smoking as compared to the students studying in other faculties, which is consistent with a study in Jordan. This study also revealed that the praying habit of students also affects their smoking habit; students with more religious attitudes were less prone to smoking. Results also revealed that the students who have good religious attitudes are less prone to smoking. This finding suggests that functional religiosity and awareness about the risks associated with health-related smoking may assist in promoting health and decreasing the smoking ratio (Khader & Alsadi, 2008).

Our results show that the frequency of smoking increased with an increase in the number of sibling and friend smokers. Friends were always found to have a great influence on the attitudes and behaviour of an individual and were found to be a major reason in this study for starting smoking. These results were found to be consistent with other studies reported (Kofahi & Haddad, 2005; Thyrian et al., 2008; Vardavas & Kafatos, 2007).

Results displayed that about 92.6% of smokers are in favor of training related to smoking cessation. A high percentage of students who desire to quit smoking has also been reported, which is consistent with other studies (Kofahi & Haddad, 2005; Khader & Alsadi, 2008). This may be linked to the harmful effects of smoking on the health of an individual.

This study revealed that a high number of smokers were in favor of smoking cessation programs if arranged for university students. The finding revealed that there is a necessity for emphasizing on effective anti-smoking programs among university-level students to enhance the awareness of the negative health effects of tobacco consumption.

CONCLUSIONS

According to the results, 25.4% of university students smoke, with a large gender gap between 42.7% of men and 7.06% of women reporting smoking. 38.6% of smokers reported daily smoking, with different degrees of cigarette consumption: 0–5 cigarettes for 45.8%, 6–10 cigarettes for 18.7%, and more than 10 cigarettes for 35.4%. Notably, a number of strong relationships between smoking and gender, age, academic year, faculty of study, family members who smoke, and smoking friends were found. Results of the chi-square test showed that these connections were significant, with the majority of the hypotheses (7 out of 8) being rejected.

In particular, the study found that students' smoking behaviors were strongly influenced by their faculty of education, age, gender, and CGPR, as well as smoking among close friends, smoking among siblings, and praying practices. The only theory that was approved involved education level, which did not significantly correlate with smoking behavior. These results make it clear that addressing smoking incidence among university students calls for a diversified strategy. Gender-specific interventions, age-specific tactics, and initiatives specifically designed for students in various academic years and faculties are all important considerations for efficient anti-smoking campaigns. Additionally, addressing the effect of friends and family who smoke as well as including religious viewpoints, can help with smoking cessation and prevention efforts among this group of people.

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