



Original Article

Prevalence and Determinants of Tobacco Use in the Undergraduate Students of Nursing in Peshawar, KP

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ABSTRACT

The plants of tobacco contain habit-forming chemical substances known as nicotine. Tobacco products are available in different forms like Smoke Tobacco (ST) and Smokeless tobacco (SLT). Common STs are cigarette, pipe tobacco (hookah), cigar, and e-cigarette. **Objective:** To find the prevalence and determinants of tobacco use among undergraduate nursing students. **Methods:** A quantitative, cross-sectional descriptive study was carried out among undergraduate nursing students. The convenient sampling technique was adopted. The sample size was calculated by Raosoft software with a known population of 1800, having a margin of error of 5%, a confidence interval of 95%, and a calculated sample size of 317. **Results:** Majority of the participants in this study were male, out of total 317 participants, 135 (42.6%) of the participants, (male 51.4% and female 23.8% used tobacco) while 174 (54.9%) never tried to use tobacco. Among the tobacco users (135) 25.9% smoked tobacco only (male, 31.6%: female, 14.3%), 4.1% used naswar only (male, 6.1%: female, 0%), and 5.4% (male, 6.6%: female, 1.9%) of the participants used both cigarette and naswar, and 6.9% (male, 7.1%: 6.7%) of the participants used other forms of tobacco products. **Conclusions:** In conclusion, it was found that tobacco use among nursing students of different colleges in Peshawar is common. Male students are more prone to become users because of family members, friends and college fellows' behaviors. Most of them tried in the age of 10 to 20 years.

INTRODUCTION

The plants of tobacco contain habit-forming chemical substances known as nicotine [1]. Tobacco products are available in different forms like Smoke Tobacco (ST) and Smokeless tobacco (SLT). Common STs are cigarette, pipe tobacco (hookah), cigar, and e-cigarettes [2]. Complications associated with STs use include cancer of the lungs, asthma, chronic obstructive pulmonary diseases (COPD), cardiovascular disease, diabetes, cerebrovascular accident (CVA), infertility and some other pathological changes [3]. SLTs are usually available in the market for oral and nasal use. Oral SLT substances can be chewed, sucked, or placed between the gum and the cheeks walls, Nasal SLT products are commonly mixed with other flavors; common SLTs are naswar, pan and gutka. Complications associated with SLTs use include

cancer of mouth and upper respiratory tract, diabetes, peptic ulcers, infertility and some other pathological changes [4]. World Health Organization (W.H.O) observe "World No Tobacco Day" on 31st May every year, and the core aim of the day is to eliminate all the rumors and myths in the societies, and also expose all the claims made by the tobacco and nicotine industry for promoting their markets as they make the harmful product attractive by adding flavors etc. [5]. W.H.O estimated that more than 1.1 billion peoples use tobacco around the globe; it is the single largest and most avoidable cause of diseases and premature deaths [3]. Around the world, 11.5% of all deaths occur due to tobacco-associated disease, five million peoples lose their lives annually because of smoking, and more than six lac deaths caused by secondhand smoke but

this average is 16% of all deaths in European countries [6]. A study conducted in Pakistan shows that tobacco kills over 163,600 people each year in Pakistan, almost 31,000 of these deaths are due to exposure to secondhand smoke. Tobacco causes about 16% of all male deaths while 4.9% of female deaths and nine% of all deaths caused by tobacco, including 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 diseases, 15.2% of deaths from diabetes mellitus, and 16.8% of deaths from stroke [7]. Prevalence of tobacco use shows different statistics in multiple studies; for example in a meta-analytical study there is an increase smoking in some countries of the world like in Bahrain it is 12.7% to 34.4%, in Cameroon it is 6.1% to 20.8%, and from 5.8% to 22.3% in Congo. In contrast, there are also some countries who have gained significant decline in the smoking rate from 2000 to 2015, like in Brazil a decline in smoking rate is from 23.3% to 15.2%, and in Bulgaria from 45.9% to 31.0% [8]. Another study conducted by Rezk-Hanna *et al.*, has reported that compared to other countries Europe has the highest number with the prevalence of smoking that is 28% among the adult population including 19% of female [6]. Another study on student's population conducted by Global Youth Tobacco Surveillance in Jordan shows that 13.2% of male students and 7.1 of female students in the schools use tobacco [9]. In Pakistan, the out of the 8.6% prevalence, 71.8% of the males preferred naswar whereas, in females, 26.4% used pan [10]. A Meta analytical study of 46 studies consisting 44362 nursing students as the participants reported a prevalence of 26.6% of tobacco consumption while specifically, the prevalence of cigarette smoking among the undergraduate nursing students was 18.9% [6]. Another study on total of 82 nurses participated in the focus groups: 24.7% from Slovakia; 21.0% Czech Republic; 21.0% from Romania; 21.0% from Slovenia; and 12.3% from Hungary. Sixty-five percent were current smokers and 83% of the smokers reported smoking daily [5]. According to Basit *et al.*, the current prevalence of tobacco consumption in Pakistan is 13.4%. In the people of urban area it is 16.3% (male 26.1%, Female 7.7%)[11]. While in rural areas it is 11.7% (male 24.1, female 3.1%). The prevalence of SLTs in ≥ 15 years of age in Pakistan is 7.7%, India 21.4% while in Bangladesh it is 20.6%. Another study conducted on the prevalence of smokeless tobacco shows that 8.6% of Pakistani are consuming smokeless tobacco and the prevalence of SLT use was higher in males (13.7%) compared to females (3.9%)[10]. Student nurses can play a significant part to prevent the smoking. Student of health professionals have knowledge about detrimental effects of smoking and they are role model for their patients in smoking cessation. The smoker and non-smoker students

affect their role as health promoters as students who smoke they are reluctant to give advice on smoking prevention [12]. In most of the regions of W.H.O, students who are trained in smoking prevention approaches are the least in number i.e., (30%) while the rest (80%) feel they should receive formal education on smoking cessation [13]. Student nurses have found various causes of smoking, as to why people cannot quit smoking, because they do not receive adequate training on smoking cessation strategy, nicotine replacement therapies, and use of antidepressants in smoking cessation [14]. Educational programs conducted on smoking cessation were helpful for students and it changed students' attitude and beliefs towards tobacco use. Tobacco use is alarmingly increasing in undergraduate students and young health care professionals of universities and colleges and it is considered as a fashion [15]. Therefore, the purpose of this study was to find the prevalence and determinants of tobacco use specifically among undergraduate nursing students of public and private colleges of nursing in Peshawar Khyber Pakhtunkhwa Pakistan, where most of the students are out of their home and out of care of their parents and more prone to use of tobacco.

METHODS

A cross-sectional descriptive study was carried in six public and private colleges of nursing in Peshawar Khyber Pakhtunkhwa to find the prevalence and determinants of tobacco use among undergraduate nursing students. Cross-sectional survey is an observational survey that analyzes the population in a defined time and often used to understand prevalence and determinants of health-related issues [16]. Due to confidentiality the names of the colleges are not mentioned. The study was conducted from March 2022 to August 2022. The participants were male and female undergraduate BS nursing students, present on the time of survey in their respective colleges with their volunteer participation were included to be a part of study while those who attended any workshop on tobacco use and the Special (disable) students and who refused to participate were excluded. Sample size was calculated by Raosoft software with a known population of 1800, having a margin of error of 5%, a confidence interval of 95%, and a calculated sample size of 317. The response distribution was unknown; therefore, it was left 50% by default. Convenient sampling technique was used for the selection of the study participants. Convenient sampling is a non-probability sampling technique where subjects are selected because of their easy availability and proximity to the researcher [17]. Six colleges were visited and administrative approval was obtained from the head of each institution. Students informed about the purpose and objective of the study. They were also facilitated for

internet access. After their online form submission, every participant was thanked. In this study a valid questionnaire was adopted from CDC - Youth Tobacco Survey (YTS) - Smoking & Tobacco Use, (2011) and minimally amended according to the study [18]. It was made in soft form on "Google Form" and its link was shared through different WhatsApp groups and emails with the participants. It was consisting of two demographic questions including gender and age while sixteen questions were asked about the determinants and prevalence of tobacco use. An informed consent was agreed before filling the questionnaire from every individual participant. They were informed the purpose of this study. After taking a proper consent they were asked to fill the Questionnaire. The participants were ensured that their name and college name are not included in the questionnaire and their confidentiality will never be disclosed at any stage of the study. The study was a descriptive cross-sectional study. Data were analyzed through Statistical Package for Social Sciences (SPSS) 22.0 version and Microsoft Excel (Spreadsheet). The descriptive statistics that is mean (x) and ± standard deviation (SD) were calculated for continuous data, whereas frequency (f) and percentage (%) were calculated for categorical variables. All of the findings were presented in tables with their graphical illustration.

RESULTS

The majority of the participants in this study were males (n=212, 67%) out of total of 317 participants (Figure 1).

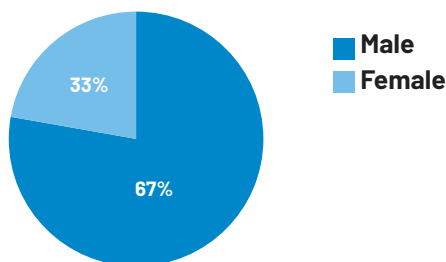


Figure 1: Distribution of Males and Females

The mean age of the participants was 25.38 ± 5.517 (M±SD). Most of the participants were in between 21 to 30 years old (Figure 2).

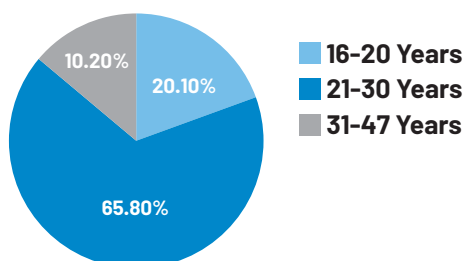


Figure 2: Age Range of Study Participants

Table 1 shows the consumption of different forms of tobacco in undergraduate BS nursing students. Out of total

317 participants, 135 (42.6%) of the participants, (male 51.4% and female 23.8% used tobacco) while 174 (54.9%) never tried to use tobacco. 2.5% (8) of the participants did not answer the question.

Table 1: Tobacco Products usage by Gender

Have you ever used any form of tobacco product?		
Total	Male	Female
n= 135, 42.6%	51.4%	23.8%

Among the tobacco users (135) 25.9 % smoked tobacco only (male, 31.6%; female, 14.3%), 4.1% used naswar only (male, 6.1%; female, 0%), and 5.4% (male, 6.6%; female, 1.9%) of the participants used both cigarette and naswar, and 6.9% (male, 7.1; 6.7%) of the participants used other forms of tobacco products e.g. Cigar, Pan, Hukkah, Gutka, e-cigarette, Shisha (Table 2).

Table 2: Forms of Tobacco Products used

Tobacco Type	Yes	Male	Female
Cigarette	25.9%	31.6%	14.3%
Naswar	4.1%	6.1%	0%
Both Naswar & Cigarette	5.4%	6.6%	1.9%
Other Forms	6.9%	7.1%	6.7%
Cannabis	7.6%		

Table 3 shows the status of current users and Ex-users. 27.4% of participants were current users while 15.1% were ex-users.

Table 3: Status of Current and Ex Users

Users Status	Percentage	Male	Female
Current Users	27.4%	34.0%	14.3%
Ex-Users	15.1%	17.0%	10.5%

Figure 3 shows the frequency of tobacco use per day in which 14.5% used tobacco once daily, 9.5% used 2 to 5 times daily, 2.8% used 6 to 10 times daily, and 2.5% of the participants used more than 10 times daily as shown in Figure 3.

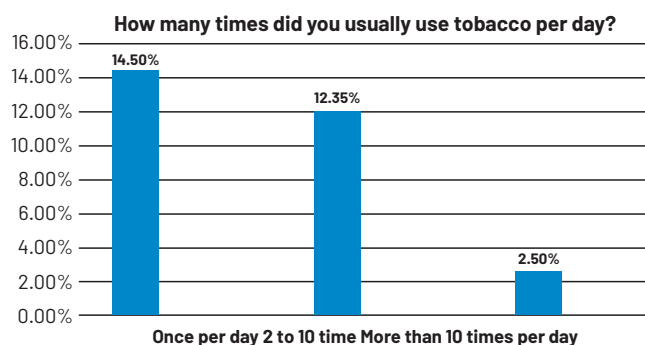


Figure 3: Number of times Participants used Tobacco

Table 4 shows different determinants of tobacco use, almost 26.5% of the tobacco users agreed to quit tobacco use but 11% did not agree to stop tobacco use. The table also presents causes of tobacco use, 11% started tobacco due to pressure of peers (group and friends), 4.7% started because of family stress, 5.7% of the participants started

due to study stress (exam and career) and 20.2% used for enjoyment and relaxation. Also, it shows that 44.2% of the study participants saw students who were using tobacco inside the college and the results also highlights that the fathers of 17.7% participants (male: 17.0%, female: 19.0%) were tobacco user and both of the parents of 1.6% of the participants were tobacco user but according to 80.1%, their parents were non-tobacco user. Furthermore, it also shows the responses of participants of other determinants of tobacco.

Table 4: Different Determinants of Tobacco use

Questions	Response	Percentage
Do you want to stop tobacco use?	Agree	26.5%
	Disagree	11.0%
Where do you usually use tobacco?	Home, College, Work	10.1%
	Others (social events, friend's house, public spaces)	19.9%
	All of the Above	5.0%
Why do you try tobacco for the first time?	Peers pressure	11.0%
	Family stress	4.7%
	Study stress	5.7%
	Others (enjoy & Relaxation)	20.2%
How old were you, when you first tried tobacco?	Below 10 years	4.1%
	10 to 20 years	20.2%
	21 to 30 years	14.5%
	31 years and above	1.3%
During the past 30 days, did you see any student using tobacco inside the college or its premises?	Yes	44.2%
Do your parents use tobacco?	Fathers Only	Both
	Mothers Only	0%
	Both	1.6%
Do any of your closest friends use tobacco?		58.1%
Do any students use tobacco in your section/class?		60.2%
Do you think using tobacco is harmful to your health?	Yes	92.4%
	No	7.6%
Does your college have policy or rules prohibiting tobacco use among students inside and premises of the college?	Yes	58.76%
	No	18.18%
	I don't know	23.06%

DISCUSSION

In this study the overall prevalence of tobacco use among undergraduate BS nursing students at Peshawar was 42.6%; 51.4% were male and 23.8% were female; among them 25.9% were only cigarette smokers (male; 31.65 and female; 14.3%) and it was similar to 44.2% reported smoking rate in nurses in Italy [8]. 29.7% of Nursing students in Catalonia were smokers which also supports our results [14]. The 15% of Jewish Arabs women were found smokers [19]. In our study, the current users were 27.4% and the ex-users were 15.1% which is absolutely supported by the findings of Zeng et al., [8]. Current

smokers were 26.6% and 15.5% were ex-smokers. According to Literature, the tobacco using status of the relatives and peers affect the behavior of nursing students and significant percentage of the students said that they tried tobacco because their friends were smokers [3]. In comparison, the current study results showed that 17.7% fathers of the participant used tobacco, 58.1% of the closest friends and 60.2% of their class-fellows had used tobacco and 11% of the participants started tobacco use due to peers' pressure. The gender wise worldwide smoking rate in nursing students' male was 24.4% and female 19% [3]. This study reveals that 31.6% male students of nursing and 14.3% female nursing students were smokers. It shows that tobacco use significantly higher in male students than female, it was supported by previous studies [20, 8]. The cause might be cultural and social traditional pressure and against smoking in female gender may reduce the ratio of tobacco use in female students, according to a study conducted at a Jordanian university also found that that conservative Jordanian culture stigmatizes women tobacco use and gives users women a bad reputation. Men prioritize a non-tobacco users female in contrast of a smokers for relationships and marriage [9]. Another study found that the use of tobacco was not socially acceptable, especially in Arab and Muslim women [19]. According to information provided by (Fernández-García) the result was higher to the result of European Health Survey of the general public, male 21.4% and female 15.5% [3]. In the current study 5.7% of the nursing students responded that they started using tobacco to cope with study stress and the similar response was found by Al-Natour et al., [9]. In Jordanian university female students, 20.2% of the participant started tobacco use for emotional support to enjoy, feel relax and release boredom which also supports by the findings of Al-Natour et al., 2021 study [9]. Peer pressure and stress caused by family disputes were reported by the study of Ghazal as the most compelling reason to abuse drugs (78%) followed by curiosity or joy seeking (24%). Also, Similar observations have been reported in this regard from studies from Karachi, Lahore and Peshawar [4]. This study shows that 20.2% of the participants tried tobacco for the first time at the age of 10 to 20 years of age, similar to the findings of the study in Karachi observed 22.4% of patients to be aged between 15 and 20 years were chronic substance abusers [4].

CONCLUSIONS

In conclusion, it was found that tobacco use among nursing students of different colleges in Peshawar is common despite they consider its negative impacts on health. Male students are more prone to become users because of family members, friends and college fellows' behaviors.

Most of them tried in the age of 10 to 20 years. This growing trend may lead to poor practices in tobacco cessation of their clients in future. The policy makers should enforce to implement the tobacco prohibiting policies. The policies may be revived in educational and professional institutes.

Authors Contribution

Conceptualization: BM, HK

Methodology: HK, WUM, NB, KB, MS

Formal analysis: BM, NB

Writing-review and editing: BM, HK, WUM, KB, MS

All authors have read and agreed to the published version of the manuscript.

Conflicts of Interest

The authors declare no conflict of interest.

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