

## Assessment of Inclination of Smoking among MBBS Students of Four Provinces: A Descriptive Cross Sectional Study.

Rubeena Gul<sup>1</sup>, Khushhal Nadir Hadi<sup>2</sup>, Muhammad Hamza Rehman<sup>2</sup>, Abdullah Ahmad Orakzai<sup>2</sup>, Syed Saddam Hussain<sup>2</sup>

### ABSTRACT

**OBJECTIVE:** To assess the inclination of smoking among MBBS students of public and private medical colleges of four provinces.

**STUDY DESIGN:** A descriptive cross-sectional study.

**PLACE AND DURATION:** The study was carried in public private medical Colleges from 1<sup>st</sup> January to 30<sup>th</sup> January 2016.

**METHODOLOGY:** Non probability sampling was done by online questionnaire, which was distributed to all students enrolled in MBBS program in sixteen medical colleges across the four provinces of Pakistan with 20 to 25 respondents from each of these colleges and those unwilling to participate in the study or those unable to return the form by 3 weeks were excluded from study. Data was presented in form of percentage and frequency.

**RESULTS:** Of 385 respondents 57.2% were female and 42.3% were male. 89.9% of the respondents were non-smokers, while 11.1% were smokers. There were more smokers in private sector medical colleges 13% as compared to public sector colleges 9%. The general trend showed that smoking increased from 1<sup>st</sup> to 3<sup>rd</sup> year which was 31.9% and then from 3<sup>rd</sup> year to final year number of smoker was 6.8%. The inclination for smoking in 62% was to 'overcome stress' followed by 24% said it gave them 'sense of superiority' while rest said it is 'exhibition of class and wealth' as their response.

**CONCLUSION:** Stress of studies and college environment inclines the medical student to smoking.

**KEY WORDS:** Medical students, smoking, stress, private, public

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### INTRODUCTION

Tobacco prevalence is increasing in low-income countries and cost effect measures can prevent complication and death associated with it<sup>1</sup>. Globally about 1 billion men and 250 million women are regular smokers; off these, 35% and 50% of men and 22% and 9% of women respectively smoke in developed and developing countries<sup>2</sup>. Although cigarette use has reduced in developed countries but steady increase is seen in less developed countries.<sup>3</sup> About 70% of deaths related to smoking globally are expected to occur in developing countries by 2030<sup>1</sup>. The adverse effects of smoking are numerous which have been well-documented in literature<sup>4, 5</sup>. The WHO Framework Convention on Tobacco Control

(FCTC) stress on the active participation of the health care providers and their training in order to minimize the effect of tobacco on the health of the community<sup>6</sup>. As health experts who smoke likewise send a dubious message to patients whom they are advising to quit smoking<sup>7</sup>. In order to reduce smoking-related morbidity and mortality one strategy is to encourage the involvement of health care provider in tobacco prevention and cessation counseling. Health care providers are role model for the patients and if they themselves smoke, they can have attitude that prevent them from giving health education regarding adverse effect of smoking and how to stop smoking<sup>8</sup>. Thus, it is recommended that medical students should be educated about what tobacco control policies of their country right from the start of their medical schooling<sup>9</sup>. There is also a need to examine the general attitudes of medical students towards smoking in Pakistan, since there is a higher probability that medical students who are not smokers themselves will take a more active stand than their smoker counterparts with respect to advising and encouraging patients to quit smoking<sup>10</sup>. Moving further inclination toward smoking is due to stress, it is necessary to first mention the stresses faced by medical students in their student life. Studies have shown that medical students experience a high level of stress during their undergraduate course, which may have a negative effect on cognitive and learning of the students in the medical school<sup>11</sup>. The environment itself in medical schools is an all prevailing pressure situation, providing an authoritarian and rigid system, one that encourages competition rather than

1. Associate Professor Community Medicine
2. MBBS 4th Year Student

Khyber Medical College Peshawar, Pakistan

#### Correspondence to:

Dr. Rubeena Gul

Associate Professor Community Medicine  
Khyber Medical College Peshawar, Pakistan  
Email: gul\_rubeena@yahoo.com

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cooperation between learners<sup>12</sup>. Results of studies suggest that mental health worsens after students begin medical school and remain poor throughout the training<sup>13</sup>. The estimated prevalence of emotional disturbance found in researches conducted on medical students was higher than that in the general population. The prevalence of stress in the three British universities was 31.2%<sup>14</sup>, 41.9% in a Malaysian medical school<sup>15</sup> and 61.4% in a Thai medical school<sup>16</sup>. The present study was conducted in Pakistan which does not have any formal tobacco-related research or surveys with regards to medical students. Therefore the findings of this study are important, as it provides a detailed insight on the inclination of Pakistani medical students towards smoking, considering how medical students have one of the most stressful lives in comparison to other professions as mentioned earlier. The objective of the study was to assess the inclination of medical students towards smoking in public and private medical colleges in the four provinces.

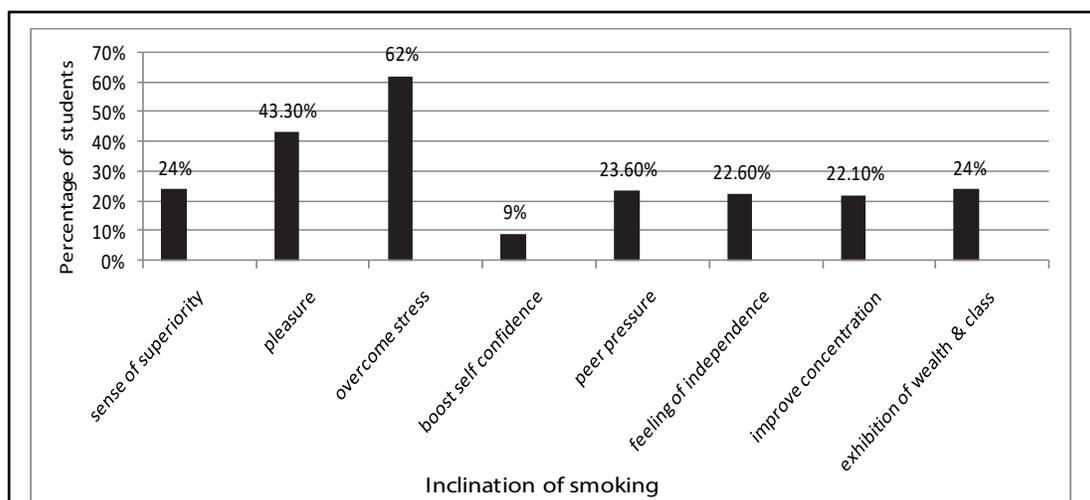
### METHODOLOGY

A cross-sectional descriptive survey conducted of all medical students, regardless of year of study, but restricted to medicine (MBBS) programs only from 1<sup>st</sup> January to 30<sup>th</sup> January 2016. The sixteen colleges involved in the study were from Khyber Pakhtunkhwa, Punjab, Sindh and Balochistan. Non probability sampling was done as the number of smoking among medical students was unknown, therefore it was assumed to be 50% with 95% Confidence Intervals and (+/-) 5% precision, using a sample size calculator online<sup>17</sup> the total questionnaire collected were 385. Inclusion criteria were all medical students enrolled in MBBS programs at their respected colleges. Those unwilling to participate in the study or those unable to return the form by 3 weeks were excluded from study. Prior to the survey, colleagues were contacted in all the medical colleges that were surveyed, and appointed as 'ambassadors' to distribute the questionnaires. The questionnaire was presented in the English language since that is well received and understood throughout the medical colleges surveyed. To minimize the loss of sample size, the questionnaires were administered over a period of 3 weeks simultaneously at all colleges. An online questionnaire was made available, and students were able to access it after being invited by their college 'ambassadors'. The purpose of the study was explained clearly to the participants, and students were encouraged to answer the questionnaire at their own leisure. The questionnaire took approximately 10 to 15 minutes to complete, and was disabled after a period of 3 weeks. Operational definitions: The survey collected information on demographics, status of smoking (whether the correspondent smoked cigarette or not), knowledge of the harmful effects of smoking, attitudes about tobacco use, and desire for cessation of smoking. Smoking included cigarettes, cigars, snuff and pipes. Smokers were defined as people who had been smoking at least thrice a week with regularity over the past 3 months. Those who had been smokers before, but had stopped smoking at least 3 months or those who had never smoked before in their life were defined as non-smokers. The predictor variables were the year of MBBS the student was in, and the sector their medical college belonged to. The other

predictor variables included the attitude and knowledge the respondent student had with regards to smoking, and if they believed there was a correlation between stress and smoking, with a clear 'yes' or 'no' option when asked if there was a clear trend of increasing smoking incidence with increasing seniority in medical college. The data was presented in the form of frequency, percentages in tables and graphs. Informed consent was obtained from each respondent and confidentiality was assured. The study was approved by the ethics committee of the Community Medicine Department of Khyber Medical College Peshawar.

### RESULTS

In total 385 respondents completed the online questionnaire, giving an overall response rate of 77%. Of the total sample 266 respondents (69%) were of public sector while 119 respondents (31%) belonged to private sector medical colleges. 47 (12.1%) were of 1<sup>st</sup> year, 100 (26%) from 2<sup>nd</sup> year, 123 (31.9%) from 3<sup>rd</sup> year, 89 (23.2%) from 4<sup>th</sup> year and 26 (6.8%) belonging to the final year. Majority of the respondents were females 220 (57.2%) while the male respondents were 165 (42.8%). Among the 385 respondents 43(11.1%) were smokers, 342(88.9%) were nonsmokers. Out of the 43 smokers 25 (58.13%) were females and 18(41.8%) were males. There were a greater number of smokers in private medical colleges 25(58.1%) as compared to public 18 (41.9%). Among the smokers 5 students were from 1<sup>st</sup> year, 11 from 2<sup>nd</sup> year, 14 from 3<sup>rd</sup> year, 10 from 4<sup>th</sup> year and 3 from final year MBBS. Majority of the smokers 19 (43.5%) started smoking in medical colleges, while 4 students (8.7%) started smoking during their intermediates years of education, 9 (21.7%) during secondary years of education, and 11(26.1%) during higher secondary years of education. Of the 385 respondents when asked why they believed medical students smoked (see fig 1), 239(62%) choose the option "to overcome stress" as their main reason to smoke, while only 35(9.1%) smoked to boost their self confidence. 53.7% non smokers were aware of the hazards, 27.1% were not allowed by the parents to smoke, 15.8% were involved in healthy activities, 35% had social dislike, 18% considered it as useless habit and 0.6% could not afford it. When asked why the high achiever do not resort to smoking as means of coping stress 24% said that they have no stress, 21.2% said that they increase their study hours or adopt other activities (25.5%), 5.3% said that they take anti anxiety drug while 24% said that they do smoke but do not reveal it. When asked if smoking affected doctors' position as a role-model of health in the community, a majority of 71.6% responded that it did. While 11.1% said, "strong willed person are not influence by others to start smoking". 6.7% said that "my abstinence will not stop anyone from smoking" The medical students who were smokers believed 'free time' and 'the company of friends' to be their major cause for smoking, while 'stress' was the least. The medical students who were not smokers outlined 'being aware of the hazards' and 'smoking is an unnecessary and useless habit' as their reasons for not smoking while on the whole majority said that smoking is an addiction. There was a consensus on 3 methods that could help smokers give up their habit, namely changing the company of their friends (28.3%), stress management (24.1%)



**Figure – 1 : Inclination of MBBS students towards smoking n=385**

and the use of smoking cessation techniques (24.3%).

### DISCUSSION

Our study highlighted several important results had evidence of the positive link between stress and smoking, a reasonable level of awareness and a positive attitudes towards tobacco control regardless of own smoking status which are consistent with other studies which have highlighted these facts beforehand too<sup>18,19</sup>. Results of this study are contrary to results of some other studies<sup>20</sup>, which showed a high prevalence rate and stress as not the main cause behind smoking. The prevalence of smoking was lower in present study not only when compare to national figures<sup>19</sup> but also with countries like China<sup>21</sup> and Vietnam<sup>22</sup>. Smoking rate was found to be lower in public sector medical students (41.9%) than in private sector medical students (58.1%). The degree of stress experienced by medical students may depend on the sector of their medical college i.e. public or private<sup>23</sup>, as well as their academic year, but, stress always does exist. The difference in stress among public and private medical colleges is most probably due to majority of public medical students belonging to middle class earning families and being more hard-working, thus adopting constant hard work to combat stress rather than smoking. They also understand the hazards of smoking more than private medical students do. Peer pressure and sense of superiority complex exist more in private medical students, also accounting for the higher incidence of smoking among private medical students. Researches in past from different medical colleges in different countries have confirmed the presence of stress among medical students, though of varying levels<sup>24</sup>. A study conducted by the Agha Khan University, Pakistan reported that more than 90% of its students experienced stressed at least once during their MBBS studies<sup>25</sup>. To our knowledge, this is the first research locally done relating prevalence of smoking with stress. Contrary to a previous research in Pakistan<sup>26</sup> though, which discussed various predisposing factors to smoking, stress here was found the main reason behind smoking. The degree of stress experienced by medical students also depends on the

academic year. Results show that smoking rate increases from 1st year to 3rd year, and then declines down till final year. It is an obvious fact that 3rd year is the toughest of all, accounting for the highest rate of incidence of smoking<sup>27</sup>. Smoking rate increases initially as students try to adapt to the studies. 4<sup>th</sup> year onwards, students find the clinical studies more interesting and active learning gets them too busy for smoking. Majority of the smokers started smoking in medical colleges, clearly due to the sudden change in professional environment and study load. They were followed by matriculation students, before matriculation, and intermediate studies students. Also of note was the overall positive attitude towards the need of smoking control expressed by the students<sup>28</sup>. The students generally backed up tobacco prevention program and agreed that smoking negatively affects the role of medical students as models of good health.

### CONCLUSION

Stress of studies and college environment inclines the medical student to smoking.

### RECOMMENDATION

Further qualitative studies and efforts are needed to understand the reasons behind the levels of stress which are high enough to induce in medical students the habit of smoking, as well as to further understand the reasons that motivate medical students to end this habit. Smoking cessation techniques are very important especially for medical students to adopt as well as preach so that their role as healthcare providers and health role-models in the community may be justified.

### LIMITATIONS

The respondents in this survey were not equally distributed among public and private medical colleges as well as the five academic years of MBBS program in Pakistan, as originally planned and only those medical students with access to

computer and internet were included which could account for response prejudice.

#### CONTRIBUTION OF AUTHORS

Gul R: Conceived Idea, Designed Research Methodology, Manuscript final reading and approval

Hadi KN: Manuscript Writing

Rehman MH: Statistical Analysis

Orakzai AA: Data Collection

Hussain SS: Literature Search

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#### REFERENCES

- 1 World Health Organization (WHO) WHO Report on the Global Tobacco Epidemic, 2009: implementing smoke-free environments. 2009. WHO; Geneva, Switzerland: 2009. <http://www.who.int/tobacco/mpower/2009/en/>
- 2 Kaleta D, Makowiec-Dąbrowska T, Dziankowska-Zaborszczyk E, Fronczak A. Prevalence and socio-demographic correlates of daily cigarette smoking in Poland: Results from the Global Adult Tobacco Survey (2009–2010). *Int. J of Occup med & Envir Health*. 2012; 1;25(2):126-36
- 3 Sotiropoulos A, Gikas A, Spanou E, Dimitrellos D, Karakostas F, Skliros E, Apostolou O, Politakis P, Pappas S. Smoking habits and associated factors among Greek physicians. *Pub Health*. 2007. 31;121(5):333-40.
- 4 Anthonisen NR. The effects of a smoking cessation intervention on 14.5-year mortality: a randomized clinical trial. *Ann Intern Med*. 2005. 15;142(4):233-39.
- 5 Peto R, Darby S, Deo H, Silcocks P, Whitley E, Doll R. Smoking, smoking cessation, and lung cancer in the UK since 1950: combination of national statistics with two case-control studies. *BMJ*. 2000. 5;321(7257):323-29.
- 6 Group TG. Tobacco use and cessation counseling: Global health professionals survey pilot study, 10 countries, 2005. *Tob cont*. 2006 15(2):31.
- 7 Chatkin J, Chatkin G. Learning about smoking during medical school: are we still missing opportunities? *Int J Tuberc Lung Dis* 2009;13:429-37.
- 8 Eldalo AS, Albarraq A, Yousif MA. Medical students' perception about smoking cessation counseling. *Health MED*. 2015;9(10):431-38.
- 9 Kusma B, Quarcoo, Vitzthum D, Welte K, Tobias M, Meyer-Falcke S, Groneberg A, Berlin's medical students' smoking habits, knowledge about smoking and attitudes toward smoking cessation counseling. *J. Occup Med & Toxic*. 2010;16; 5(1):9.
- 10 Smith DR. The historical decline of tobacco smoking among United States physicians: 1949–1984. *Tob Ind Dis*. 2008 9;4(1): 9.
- 11 Dahlin M, Joneborg N, Runeson B. Stress and depression among medical students: A cross-sectional study. *Med Educ*. 2005. 1;39(6):594-604.
- 12 Abdulghani H, Alkanhal A, Mahmoud A, Ponnampema G, Alfaris E: Stress and its effects on medical students: a cross sectional study at a college of medicine in Saudi Arabia. *J Health Popul Nutr*. 2001, 29: 516-22
- 13 Dyrbye LN, Thomas MR, Shanafelt TD. Medical student distress: causes, consequences, and proposed solutions. *Mayo Clin Proc* 2005;80(12):1613–22
- 14 Shah M, Hasan S, Malik S, Sreeramareddy CT. Perceived stress, sources and severity of stress among medical undergraduates in a Pakistani medical school. *BMC Med Edu*. 2010, 15;10(1):2.
- 15 Mane Abhay B, Krishnakumar M, Niranjana Paul C, Hiremath Shashidhar G, Mane AB. Differences in perceived stress and its correlates among students in professional courses. *J.Clin Diag Res*. 2011;5(6):1228-33.
- 16 Alzahem AM, Van der Molen HT, Alaujan AH, Schmidt HG, Zamakhshary MH. Stress amongst dental students: a systematic review. *Eur J Den Edu*. 2011,1;15(1):8-18.
- 17 National statistical service australia. [online].website: [<http://www.nss.gov.au/nss/home.nsf/pages/sample+size+calculator>]
- 18 Hammond SM, O'Rourke M, Kelly M, Bennett D, O'Flynn S. A psychometric appraisal of the DREEM. *BMC Med Edu*. 2012.12;12(1):2.
- 19 Jai Prakash H R, Arvinda Prabhu. A study of depression among medical students of a private medical college in South India. *J Evolu Med and Den Sci* 2014; 3(15): 3856-62
- 20 Yousafzai AW, Ahmer S, Syed E, Bhutto N, Iqbal S, Siddiqi MN, Zaman M. Well-being of medical students and their awareness on substance misuse: a cross-sectional survey in Pakistan. *Ann Gen Psy*. 2009.19;8(1):8.
- 21 Yang T, Abdullah A, S., Rockett, I. R. H, Li M, Zhou, Y, Ma J, Wang L. Assessment of tobacco control advocacy behavioral capacity among students at schools of public health in China. *Tob control*. 2011. 20(1), 20–25.
- 22 Van Huy N, An DT, Phong DN. Smoking among Vietnamese medical students: prevalence, costs, and predictors. *Asia Paci J Public Health*. 2008;20(1):16-24.
- 23 Saeed A, A Bahnassy, Al-Hamdan N A, Almudhaiber F S, Alyahya, A Z. Perceived stress and associated factors among medical students. *J Family Com Med*. 2016;23(3)::166-71.
- 24 Pozos-Radillo BE, Preciado-Serrano ML, Acosta-Fernández M, Aguilera-Velasco MA, Delgado-García D. Academic stress as a predictor of chronic stress in university students. *Psicología Educativa*. 2014. 30;20(1):47-52.
- 25 Al-Dubai SA, Barua A, Ganasegeran K, Jadoo SA, Rampal KG. Concurrent validity of the Malay version of Perceived Stress Scale (PSS-10). *Asian J Psychi*. 2014;15(1):8-13.
- 26 Sohail N. Stress and academic performance among medical students. *J Col Physician Surg Pak*. 2013. 1;23(1):67-71.
- 27 Elamin OE, Elamin SE, Dafalla BA, El-Amin ME, Elsidig AA. Cigarette smoking among medical students in The National Ribat University, Sudan. *Sud J Paed*. 2013;13(2):45.
- 28 Maziak W. The global epidemic of water pipe smoking. *Addict Behaviors*. 2011, 28;36(1):1-5.