

Tobacco use prevalence rates in fourth year medical, dental, and pharmacy students

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Dear Editor, Globally, about six million people die every year owing to tobacco use, in either the smoke, smokeless form, or second-hand exposure.^{1,2} Deleterious health effects of tobacco use are widely known, yet 22% of the global population ages 15 years and above smokes and tobacco use causes one death every six seconds.^{1,2}

A study based on 975, first to fifth year, students from Rawalpindi Medical College reported that cumulatively 24 percent students had smoked at least once in their lifetime; with 57.7% males and 42.3% females.³

The Global Health Professionals Student Surveys (GHPSS) were conducted in Pakistan to provide prevalences of cigarette smoking, shisha use, and use of other tobacco products, in medical, dental, and pharmacy students.⁴ The objectives of this study were to provide comparisons of various prevalences between male and female students within each survey, in terms of cigarette smoking, and various forms of tobacco use; and comparisons between students in terms of total as well as sex-disaggregated prevalences between all three surveys. In addition to prevalences for some types of tobacco use that were not provided.

In 2011, the Pakistani national health authorities, World Health Organization (WHO), and Centers for Disease Control and Prevention (CDC), conducted the Global Health Professionals Student Survey (GHPSS) in Pakistan. The GHPSS collects data on the knowledge, attitudes and practices of medical, dental, and pharmacy students regarding cigarette smoking and tobacco use in several countries. The detailed information on data collection methods, questionnaires used, codebooks, and data are available on the CDC website.⁴

The Pakistan GHPSS comprised of three censuses, using a similar methodology. One census each, was conducted of all third year medical, dental, and pharmacy students, attending 21, 8, and 15 medical, dental, and pharmacy schools, respectively, across the country in the year 2011. A total of 2746 medical, 400 dental and 1107 pharmacy

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students participated in the three Pakistan GHPSS surveys; with a response rate of 69.2%, 70.3%, and 70.4%, respectively.

For prevalence of cigarette smoking and tobacco use; the 'Fact Sheets' - available at the CDC website - of medical, dental, and pharmacy surveys of Pakistan GHPSS only provide prevalence proportions as percentages for totals and disaggregation by sex. This study provides comparisons of various tobacco use prevalences between male and female students within each survey; and comparisons between students in terms of total as well as sex-disaggregated prevalences between all three surveys. Additionally prevalence is also provided for some types of tobacco use that were not provided in the 'Fact Sheets'.

Design-based analysis, using STATA-15 was done, for statistical comparisons of various cigarette smoking and tobacco use prevalences between male and female students within each survey, as well as comparisons between students in all three surveys, by total prevalence as well as sex-disaggregated comparisons. The t-tests were used to determine the statistical significance, with p-value of <0.05 as previously reported.⁵

Table provides the prevalence proportions as percentages of ever and current cigarette use, shisha use, and tobacco use in other forms (chewing tobacco, snuff/naswar, bidis, cigars, or pipes), in addition to statistical comparisons between male and female students within medical, dental, and pharmacy schools. Statistically significant differences were found between male and female medical and pharmacy students in terms of ever and current cigarette smoking; ever and current use of tobacco in other forms; and ever use of shisha/hukka, with male students, reporting higher prevalences compared to females. For prevalence of current use of shisha/hukka, statistically significant associations were found between male and female medical and dental students. Statistically significant associations were also found between male and female dental students for, ever use of tobacco in other forms. While no statistically significant association was found

between male and female pharmacy students for current shisha/hukka use.

Statistical comparisons for total i.e. combined male and female students, as well as, sex-disaggregated comparisons were also made between the students of three schools i.e. medical and dental schools students; medical and pharmacy schools students; and dental and pharmacy schools students. The only statistically significant association found was between the female medical and dental students for current cigarette smoking (p-value = 0.044); with female dental school students reporting higher prevalence compared to female medical students.

The 2011, the Pakistani Global Health Professionals Student Survey (GHPSS) is the only census of its kind in Pakistan, determining the prevalence of cigarette smoking, shisha use, and use of tobacco in other forms excluding cigarette smoking and shisha, in terms of ever or current use, in all fourth year students of medical, dental, and pharmacy students across the country. GHPSS provides a unique opportunity in Pakistan to determine prevalence rates by gender, and to compare gender disaggregated prevalence rates within and between medical, dental, and pharmacy students. The next round of GHPSS in Pakistan will provide distinct opportunity to compare results from 2011 to study how prevalence rates have oscillated among future medical professionals in the country. Taken as a bellwether for the country's university students, as a whole, these prevalence rates are alarming.

Table: Prevalence and comparisons of cigarette/tobacco use in male and female students within, and between medical, dental, and pharmacy schools.

Type of tobacco use	Medical Prevalence (95% CI)	Dental Prevalence (95% CI)	Pharmacy Prevalence (95% CI)
Ever cigarette use			
Men	52.3	41.7	52.2
Women	15.8	18.6	13.8
Difference between men and women: p-value	<0.00005*	0.085	0.0001*
Total	28.4	27.3	27.5
Current cigarette use			
Men	26.4	19.7	30.1
Women	2.4	6.2	3.6
Difference between men and women: p-value	0.0001*	0.010	0.0001*
Total	10.7	11.2	13.0
Ever used tobacco in other forms, excluding cigarettes and Shisha			
Men	19.3	26.0	18.
Women	4.9	7.3	7.6
Difference between men and women: p-value	0.0047*	0.048*	0.002*
Total	10.0	14.3	11.5
Current tobacco use in other forms, excluding cigarettes and Shisha			
Men	13.4	10.5	13.2
Women	2.0	3.3	2.9
Difference between men and women: p-value	0.0084*	0.132	0.048*
Total	6.0	6.0	6.6
Ever shisha use			
Men	26.9	29.3	26.2
Women	12.1	18.8	13.1
Difference between men and women: p-value	<0.00005*	0.116	0.018*
Total	17.4	22.8	17.7
Current shisha use			
Men	13.4	15.3	10.9
Women	3.5	7.9	4.7
Difference between men and women: p-value	0.0004*	0.040*	0.122
Total	7.0	10.7	6.9

*Statistically significant difference between male and female students at the levels of <0.05

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