

Prevalence of exposure to passive smoking and awareness about its ill effects among medical college undergraduate students in Mangalore


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Introduction: Passive smoking, it is the combination of side stream smoke given off by a burning tobacco product and mainstream smoke exhaled by a smoker. Exposure to passive smoking can take place in the home, the workplace or other environment that are accessible to the public places. **Aim:** To estimate the prevalence of exposure to passive smoking and awareness about its ill effects among Medical college undergraduate students in Mangalore. **Materials and Method:** This was a cross sectional study was conducted among 400 randomly selected undergraduate students in one of the medical college in Mangalore. Data was obtained by using a pre tested, structured questionnaire. **Results:** Among the total 400 students, 216 were males and 184 were females. Of the 400 students 10.25% were smokers (18.9% males, 0% females) 12.75% past smokers (20.3% males, 3.8% females) , 77.0% were non smokers. Awareness of passive smoking among all participants was 86.5% . Most of the people were exposed to passive smoking (96.25%) in public places in last thirty days. 61.5% students were exposed to passive smoking in their hostel daily (males=88.8%, females= 29.3%) . **Conclusion:** Self-reported tobacco use status, parents tobacco use, close friends smoking, and participants residence were the significant determinants of exposure to passive smoking at home and outside the home.

Keywords: Passive smoking, Undergraduates, Past smoker, Knowledge

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Introduction

Tobacco smoking, now and in the past, has been a custom and addiction primarily of men, leaving women and children as the majority of the world's passive, or involuntary, smokers [1]. Passive smoking is the combination of "side stream" smoke given off by a burning tobacco product and "mainstream" smoke exhaled by smoker [2,3]. Exposure to passive smoking can take place in the home, the workplace or other environments that are accessible to the public (e.g. bars, public transport). Cigarette smoking is the main source of SHS exposure, because it is the most prevalent form of tobacco smoking, although specific patterns differ between countries. Tobacco smoke contains thousands of chemicals that are released during burning as gases, vapors and particles. Mainstream smoke emitted as SHS is composed primarily of carbon monoxide (3–11%), particles (15–43%) and nicotine (1–9%) [4,5]. India has one of the largest populations of smokers in the world. Findings from the 2009/2010 Global Adult Tobacco Survey (GATS) indicate that there were 110 million smokers in the country, with 16% of males smoking bidis and 10% smoking cigarettes. Over half (52.3%) of adults report exposure to SHS at home, with marked state-level variation (9.9–96.5%). Exposure to second-hand smoke (SHS) is higher in rural than urban areas (58.0% versus 38.5%) and in lower socioeconomic status households [6]. To protect non-smokers from SHS, India implemented national legislation (Section 4 of the Cigarettes and other Tobacco Product Act 2003) prohibiting smoking in public places and workplaces in October 2008 [7]. The relationship between exposure to passive smoking and many health outcomes in children and adults has been cross checked closely in the epidemiological and experimental literature. Reviews of the literature have been published by national and international organizations as well as by researchers in the field. This study was done to estimate the prevalence of passive smoking and to know the participants awareness regarding ill effects of passive smoking among Medical college undergraduate students in Mangalore.

Materials and Methodology

The present study was a cross sectional study, conducted to assess the prevalence of exposure to passive smoking and to know the awareness regarding ill effects of passive smoking among Medical college undergraduate students in

Mangalore. Sample size was calculated based on, India Global Health Professional Students Survey (GHPSS) where the prevalence of passive smoking among students was ($p=73.8\%$). 400 students selected by simple random method. Data collection was scheduled from September 2014 to June 2015. Undergraduate students perusing MBBS were eligible for the study. We have excluded the participants who are not willing for giving consent. Ethical Clearance was obtained from institutional ethical review board. Written informed consent was obtained from the students before questionnaire administration. A pre tested structured questionnaire in English was administered randomly to those who were free and they were explained how to fill up the questionnaire and sufficient time was given to read, understand, and answer the questions. The questionnaire was designed for self administration. Where possible, we used questionnaires from preexisting surveys, such as the Global Youth Tobacco Survey [8] the 2000 US National Health Interview Survey [9] and the Smoke Free Families Screening Form [10], to develop the questionnaire. Questionnaire consist of close ended questions related to – passive smoking exposure at hostel/home/outside home or hostel and the following predictor variables: age, gender Tobacco use status, smoking pattern of parents and close friends, awareness of the current ban on smoking in public places and harmfulness of exposure to passive smoking from other people to them. 'Current smoker: defined as history of smoking any tobacco product within 30 days preceding the survey. Past smoker: A person with the history of previous tobacco smoking and abstinence from tobacco for at least 30 days preceding the survey. 'Nonsmoker' was defined as a person who is not smoked any time in his life. A minimum of ten min is given to each person to fill the questionnaire. Such filled formats were collected on the same day. The data so obtained was fed into MS Excel and analyzed by frequency, Proportions, Chi-square. We performed the statistical by analyses using S P S S software version 16.

Results

Among the total 400 students, 216 were males and 184 were females. Of the 400 students 10.25% were smokers (18.9% males, 0% females) 12.75% past smokers (20.3% males, 3.8% females) ,77.0% were non smokers (Table 1). Table- 2 shows some of the indirect determinants of passive smoking.

54.5% participants close friends were smokers, 96.25% participants exposed to passive smoking in public space in last thirty days (Fig-1). 42. 3% replied passive smoking causes serious health hazard, 2.8% told not at all a health hazard among them. Majority told (81.3%) it causes lung cancer, 13.7% students told they don't know the ill effects of SHS (Fig- 2).

Table 1: Showing smoking status of participants

Character	Male (N=216)	Female (N=184)	Total (N=400)	P value
Current smoker	41(18.98)	0	41(10.3)	<0.001
Past smoker	44(20.3)	7(3.8)	51(12.8)	
Non user	131(60.63)	177(96.19)	308(77.0)	

Table 2: Showing smoking status of household Members and Peers

Character	Male(N= 216)	Female (N=184)	Total (N=400)	P Value
Father Only				
Yes	25(11.5)	18(9.4)	43(10.75)	0.5
No	191(88.4)	166(90.2)	357(89.25)	
Siblings				
Yes	14(6.4)	11(5.9)	25(6.25)	0.3
No	202(93.5)	173(94.0)	375(93.75)	
Close friends				
Yes	158(73.1)	60(32.6)	218(54.5)	<0.001
No	58(26.8)	124(67.39)	182(45.5)	

Table 3: Showing indirect determinants of Passive smoking

Determinants	Male (N=216)	Female (N=184)	Total (N=400)	P value
During past 30 days any time exposed to passive smoking in home				
Yes	21(9.7)	14(7.7)	35(8.75)	0.4
No	195(90.2)	170(9.2)	365(91.25)	
During past 30 days any time exposed to passive smoking in hostel				
Yes	192(88.8)	54(29.3)	246(61.5)	<0.001
No	70(32.4)	84(45.6)	154(38.5)	
During past 30 days any time Exposed to passive smoking in public space				
Yes	210(97.2)	175(95.1)	385(96.25)	0.26
No	6(2.7)	9(4.8)	15(3.75)	
Awareness of passive smoking				
Yes	189(87.5)	157(85.3)	346(86.5)	0.5
No	27(12.5)	27(12.5)	54(13.5)	
Awareness of passive smoking causes harmful to others				
Yes	205(94.9)	179(97.2)	384(96.0)	0.023
No	6(2.7)	10(5.4)	16(4.0)	
Awareness of current ban on public smoking				
Yes	214(99.0)	181(98.3)	395(98.75)	0.6
No	2(0.9)	1(0.54)	3(0.75)	

Fig 1: Exposure to passive smoking in different locations

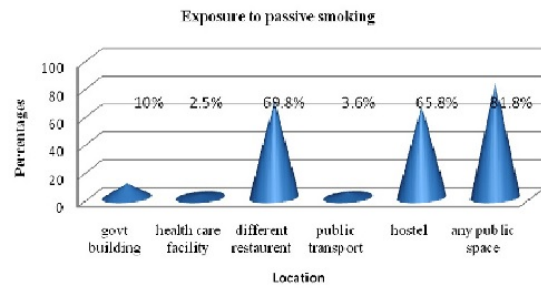
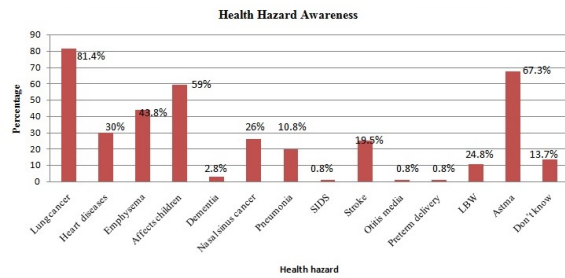


Fig 2: Showing: knowledge about ill effects of Passive smoking



Discussions

To our knowledge, our study was the first to carry out the survey on exposure and knowledge regarding Passive smoking among medical students. A cross-country comparison study by Brian A King [11], showed that in India exposure to SHS in the home was (40%) , healthcare facilities (1.8%) public transportation, (33.9%), restaurants (47.8%) Interestingly passive smoking exposure among our participants in the home (8.75%) healthcare facilities (2.5%) public transportation, (3.6%), restaurants was (69.8%).

In India, the rules prohibiting smoking in all public places was notified on May 30, 2008 and came into effect on October 2, 2008[12]. Findings provide a significant alarm to the country authorities regarding the need to adopt more preventive, stringent strategies in addition to the present smoking rules and regulations legislation in particular to restaurants and public places.

Among students from South-East Asia region of the WHO, exposure was 37% [13]. However, in the present study, only 9.4% students were exposed to passive smoking at home and almost all (96.25%) students were exposed to passive smoke outside their home or hostel or residence.

Observations that exposure to passive smoking has not decreased significantly since the ban came into effect suggests that efforts are still needed to address this issue. The study also provides evidence that about 94.4% students reported inside their hostel smoking is not allowed (2.5% males, 91.9% females) but more than half (61.5%) of the students exposed to passive smoke in hostel daily. Among daily hostel exposure history, males were 88.8%, females were 29.3%. This data highlights the urgent need to implement strict rules and regular surveillances in hostel premises. Raute, et al [14] concluded in their study that the majority of students (88.1%) were aware about the harmful effects of being exposed to tobacco smoke from other people. Our study highlights, 96.0% students were aware of exposure to passive smoking causes health hazard among non smokers. John Tayu Lee et al[15] found out that 61.7% women , 54.1% men's reported their homes are smoke free. Unlike this study variation we found higher number of houses were smoke free i.e. 91.6% boys, 90.6% girls homes are smoke free. With respect to exposure in our study almost 8.75% students exposed passive smoking at home. 96.25% in public space and about 81.8 % students exposed to passive smoking outside their home or hostel or residence in the past thirty days, Similar study by Raute et al [14] reported that about 16.5% of students were exposed to passive smoking at home, and 39.9% outside of the home.

Limitations

Since data was collected by self administered questionnaire. Smoking history by students especially girls , and participants close friends, house hold smoking status, and also exposure of passive smoking in hostel may not be accurate; our findings may well have underestimated the scope of the problem if respondents were reluctant to acknowledge their smoking status. The study was limited to Medical students in the age group 18 -26 years. the findings of this study, especially in Knowledge of passive smoking cannot necessarily be generalized to other non medical students in this age group, nor to illiterates and to general public.

Conclusion

Self-reported smoking status, parents' smoking habits, close friends' smoking, and participants' residence were the significant determinants of exposure to passive smoking at home and outside

The home. And knowledge regarding ill effects of passive smoking is varied among students.

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