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## Awareness of second hand tobacco smoke among high school students studying in the rural field practice area of raja rajeswari medical college and hospital, Bengaluru

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### Abstract

**Background:** More than 600, 000 non-smokers die each year from breathing second-hand smoke (SHS). The exposure to SHS has been associated with poor health outcomes such as cardiovascular diseases, chronic obstructive pulmonary disease (COPD) and a range of cancers. Children exposed to SHS are also at risk of middle ear disease and lower respiratory illnesses. Though a number of studies have been done assessing the awareness and practices of smokers on smoking, not many studies have focused on the non-smoking population, especially children. In this study, we have assessed the perceptions and practices of children on their exposure to secondary smoking.

**Materials and Methods:** A Descriptive study was conducted among all the high school students. Data was collected using a semi-structured, self-administered questionnaire by the students present on the day of data collection. Health education was given to these students regarding passive smoking after the data collection.

**Results:** Of the 185 students who participated in the study 62% were males and 38% were females and a total of 93% belonged to rural area. It was found that 63% were aware that smoking was injurious to health and 79% were aware that SHS is also harmful, but only 32% were aware of legislation (COTPA act) by the government being present for a smoke-free environment.

**Keywords:** Smoking, students, second-hand smoke, COTPA act

### Introduction

Tobacco use is a risk factor shared by four major non-communicable conditions, it is an important cause of preventable death and without urgent actions to alleviate such burden, one billion people will die from tobacco in the 21st century <sup>[1]</sup>.

In addition, passive smoking (second-hand smoke) causes disease, disability, and death in people who do not smoke <sup>[2]</sup>. Tobacco smoking and passive smoking are the current global public health challenges.

Secondhand smoke, also known as environmental tobacco smoke, is a mixture of the smoke given off by the burning end of tobacco products (side-stream smoke) and the mainstream smoke exhaled by smokers. People are exposed to secondhand smoke at home, in the workplace, and in other public places such as bars, restaurants, and recreation venues <sup>[2]</sup>.

It is harmful and hazardous to the health of the general public and particularly dangerous to children. It increases the risk of serious respiratory problems in children, such as a greater number and severity of asthma attacks and lower respiratory tract infections, and increases the risk for middle ear infections <sup>[2]</sup>.

It is also a known human carcinogen (cancer-causing agent). Inhaling secondhand smoke causes lung cancer and coronary heart disease in nonsmoking adults <sup>[2]</sup>.

India signed Frame work Convention on Tobacco Control (WHO-FCTC, 2005) in the year 2005 and enacted the Cigarettes and Other Tobacco Products Act (COTPA) to regulate and control tobacco in 2003 (MOHFW, 2003) <sup>[3]</sup>.

COTPA bans, smoking in public places (Section-4), promotion of tobacco products (Section-5), sale to and by minors (Section 6-a), sale around the educational institutions (Section 6-b) and printing pictorial health warning in the packets (Section-7) <sup>[3]</sup>.

However, the purpose of these legislations in terms of reducing the consumption rate and preventing new users has not yet been achieved due to inefficient implementation, lack of knowledge among related stakeholders and poor compliance [3].

In contrast, effects of SHS exposure (including product type, magnitude, and time of exposure) among women and children in developing countries have not been well studied even though smoking prevalence is much higher in those countries because tobacco control initiatives are minimal [4].

**Objective**

- To assess the awareness about second hand tobacco smoke among high school students in the rural field practice area of Raja Rajeswari Medical College and Hospital, Bengaluru.

**Methodology**

- This descriptive Study was conducted among 185 high school students over a period of three months (Jun 2018 – August 2018). Data was collected using a self-administered, Semi-structured Questionnaire. Complete enumeration was done and all the high school students

who were present and willing to participate on the day of data collection were included. Ethical clearance was obtained for the study to be conducted as well as permission to conduct the study was obtained from the respective head of institutions.

- After the data collection, a brief health education regarding second hand tobacco smoke and its adverse effects was given to the students. The data collected was compiled in MS Excel sheet and analyzed. Descriptive variables were expressed as frequency and percentages.

**Results**

Out of the 185 students who participated in the study, 114(62%) were males compared to 71(38%) who were females. 172(93%) were from rural residences compared 13(7%) were from urban areas.

4% of the students agreed that they have tried smoking before while 96% of them had not tried smoking even once till date.

70% of the students were exposed to SHS at-least 1-3 times per day and 22% were exposed for 3-5 times per day where as 8% were exposed to SHS >5 times per day.

**Table 1:** Distribution of High school students according to their awareness about tobacco smoking

Variable	Response	Frequency (%)
Do you think smoking is harmful to the health?	Agree	116(63)
	Disagree	42(23)
	No opinion	27(14)
Are you aware of your right to ask people to stop smoking in public places?	Yes	128(69)
	no	57(31)
Are you willing to advice people not to smoke	Yes	151(82)
	No	34(18)
Does anyone smoke in your house?	Yes	41(22)
	no	144(78)
Is it wrong to smoke in Public?	Yes	120(65)
	no	65(33)
Are you aware of a legislation for a smoke free environment by the government?	Yes	59(32)
	no	126(68)

Only 32% of them were aware of a legislation for a smoke free environment by the government and 65% of them knew

that smoking in public space is wrong.

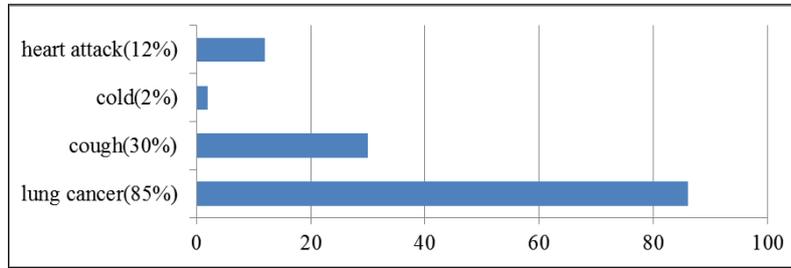
**Table 2:** Distribution of high school students according to their awareness regarding second-hand tobacco smoke among high school students

Variable	Response	Frequency (%)
Do you think SHS contains toxic gases?	Yes	123(66)
	No	59(34)
Do you think SHS is as harmful as smoking?	Yes	131(79)
	No	53(21)
Is there increased risk of getting cancer living with smokers?	Yes	158(85)
	no	27(15)
Do we need to be protected from SHS?	Yes	134(72)
	no	51(28)

Out of 185, 79% were aware that second hand smoking is also harmful.

The Study subjects were well aware about the increased risk

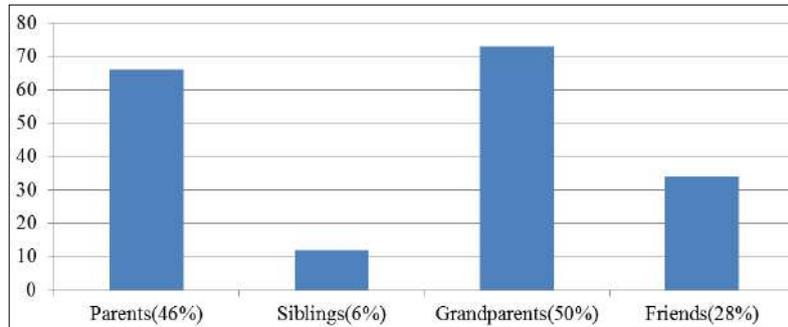
of getting cancer living with smokers (85%) and they are also aware of the necessity of protecting ourselves from SHS (72%)



\*Second hand smoke

**Fig 1:** Awareness among high school students about the common diseases caused due to SHS\*

Most of the study subjects (85%) were aware of lung cancer being a disease associated with SHS.



\*inclusive at school, home and public places

**Fig 2:** Distribution of study subjects based on the smokers in their vicinity\*

It is noted here that the grandparents (50%) and parents (46%) were the smokers found most frequently in the vicinity of the study subjects.

**Discussion**

According to a study conducted by Devanesan and Selvan in 2011, the passive smokers studying in various colleges had awareness of it (i.e 50.97%) as compared to 79% of students in this study, suggestive of increase in awareness of second hand smoke.

According to a study conducted by Jia Xion Ooi *et al.*, Most adult subjects (74.9%) agreed that they have the right to ask people to not smoke in their presence whereas the rest (19.7%) were either unsure of their rights or disagreed (5.5%). As compared to 69% of the study subjects in this study agreed that they had the right to ask people to stop smoking in their presence whereas 31% were of the opinion they had no rights to do the same.

According to the above mentioned study by Jia Xion Ooi *et al.*, Majority of the study subjects (66.1%) agreed that side-stream smoke was more harmful than mainstream smoke whereas 29.5% were unsure which kind of smoke is more harmful. As compared to the current study where 79% of the study subjects agreed that second hand smoke was more harmful compared to tobacco smoking, 21% were not sure on the same.

**Conclusion**

Majority of the students are aware of second-hand tobacco smoke as a health hazard due to the presence of toxic gases in the smoke and the increased risk of developing Carcinoma Lung and other diseases when exposed to the same. However, most of them are not aware of the legislation (COTPA Act) for a smoke free environment. There is a necessity to create awareness about their right to a smoke-free environment and about the COTPA act as most

of them were willing to advice people on the effects of second-hand tobacco smoke.

**Recommendations**

- Strict enforcement of COTPA act in all the public places.
- There is a necessity to re-in force the dangers of smoking not only to active smokers but the passive smokers also.

**Conflict of interest:** None declared

**Source of funding:** None

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