

# Awareness towards Second - Hand Smoke Exposure among Group D Workers of Tertiary Hospital in Mangalore: A Cross Sectional Study

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**Abstract:** *Background:* According to the World Health Organization (WHO), India is home to 12% of the world's smokers. India comprises approximately 120 million smokers and more than 10 million deaths occur yearly. Smoking harms smokers and those who breathe the smoke 'passively'. Second - hand smoke (SHS) is the combination of smoke from the burning end of a cigarette and the smoke breathed out by smokers. It contains more than 7, 000 chemicals. Hundreds are toxic and about 70 lead to cancer. Home is the primary source of smoke exposure; thus, women and children are at a higher risk of SHS exposure. *Methods:* A cross - sectional study was conducted among group D workers and women using a questionnaire developed from previous studies. The developed questionnaire was standardized. It consisted of 12 closed-ended questions related to their socio - demographic factors and their awareness of SHS. Responses were placed on a 3-point Likert scale. The data was collected from those who consented to use Google Forms. The data were analyzed using SPSS Software Version 23. *Results:* A total of 102 women participated in the study. Even though they were aware of SHS exposure, 63.73% were unaware of third - hand exposure. They were conscious of the harmful effects of SHS exposure on themselves, children, and pregnant women with a percentage of 90.02%, 98.04%, and 82.35% respectively. A total of 43.13% didn't feel the need to be educated regarding the harmful effects of SHS exposure. The majority of study participants distance themselves from people who smoke. *Conclusion:* Even though people know about SHS exposure, they didn't find it necessary to spread awareness about the ill effects of second - hand and third - hand smoke exposure. Therefore health care providers should plan and implement health education programs to spread awareness about the harmful effects of second - hand and third - hand exposure.

**Keywords:** Tobacco smoke pollution, Smokers, Tobacco products, Female

## 1. Introduction

High prevalence of tobacco chewing partly attributes India to become one of the highest rates of oral cancer in the world. Half of all cancers in men and a quarter of all cancers in women are caused by tobacco consumption.<sup>1</sup>

Tobacco is deadly in any form and exposure and consumption lead to death, disease and disability. Tobacco use accounts for losing millions of lives in India per year. According to the International Agency for Research on Cancer (IARC) monograph, there is adequate evidence in human proving tobacco causes cancer of the lung, oral cavity, naso - , oro - and hypo - pharynx, nasal cavity and paranasal sinuses, larynx, esophagus, stomach, pancreas, liver, kidney (body and pelvis), ureter, urinary bladder, uterine cervix and bone marrow (myeloid leukemia). A causal association between active smoking and adverse reproductive outcomes, chronic obstructive pulmonary disease and cardiovascular diseases have been clearly established. Smoking is the cause of ninety percent and eighty percent of all lung cancer deaths in men and women respectively.<sup>2</sup>

Studies on the most common form of tobacco smoking in India (bidi smoking), provide evidence for the causality of it as a carcinogenic substance. Case-control studies demonstrate a strong association of bidi smoking with cancers at various sites. A significant association is seen

between passive or active exposure to tobacco smoke and tuberculous infection, disease and tuberculosis mortality and thus attributing forty percent of the tuberculosis burden in India<sup>2</sup>

Second - hand smoke is the smoke that remains in the environment by active smokers. Globally about one - third of adults are regularly exposed to Second - hand tobacco smoke (SHS) resulting in the death of 600, 000 people each year. The GATS - India shows that 52% of the adults (rural - 58%, urban - 39%) were exposed to SHS at home. Compared to mainstream tobacco smoke, SHS is three - to fourtimes more toxic. Out of 4000 chemicals identified in tobacco smoke, at least 250 of them are known to be harmful. Rugs, drapes, clothing, food, furniture, and other items all retain chemical residue from SHS. They are commonly referred to as "third - hand smoke, " and they coat the surfaces of rooms, objects, and smoker's possessions. Passive smoking has a number of detrimental effects, including an increased risk of cardiovascular illnesses, lung cancer and other malignancies, asthma and other respiratory diseases in adults.<sup>2</sup>

More women than males are exposed to SHS, and the majority of this exposure occurs at home. Since women are at higher risk of SHS exposure, Singh and Lal claimed it as a gender issue. Given that most households in India are headed by men, women are less likely to object to smoking in the home in order to preserve familial congruity, which is linked to socio - cultural norms. It is concerning that the

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women cannot prevent SHS exposure as they have no substitute for being at home.<sup>3</sup>Hence this study aims to access awareness towards second - hand exposure among women.

## 2. Methods

This cross - sectional study was conducted among group D women workers of a tertiary hospital in Mangalore. The data were collected using structured, self - administered questionnaires in Kannada and English languages. The questionnaire was developed by reviewing previous studies and consisted of 12 closed - ended questions related to their socio - demographic factors and awareness towards SHS. The study participants were selected based on convenience sampling. Data were collected from 111 women who consented. The collected data was fed into Excel Spreadsheets and responses were placed on a 3 - point Likert scale. The data were analyzed using SPSS Software (Version 23). A descriptive analysis of the data was performed.

## 3. Results

One hundred and eleven people in all consented to take part in the study. An 11 - itemed questionnaire was used to assess the awareness of second - hand exposure among group D workers.45.09% of the study participants had graduated

from college and 28.43% had completed high school. The results of an individual question are given in Table 1.

Around 90.20% of research participants claimed that no one in their household smokes cigarettes or bidi at home. Despite the fact that 68.83% of the participants were aware of second - hand smoke exposure, I discovered that third - hand smoke was not something that 63.73% of them were familiar with.

Data analysis showed that individuals are aware of the harmful effects of SHS exposure on themselves, their children, and pregnant women. When asked about the importance of raising awareness of the negative consequences of SHS exposure, 34.31% of participants said that it is not necessary, while 8.82% had no opinion.

Of these 98.04% of them responded that they would not allow people to smoke inside their homes. According to the data, none of them will permit this activity, and 1.96% of them were unsure of what to do.

67.65% of the participants don't feel helpless to restrain their husbands or family member from smoking.

The majority of interviewees said they would avoid SHS exposure in public places, 2.94% refused to back down and 2.94% were unsure of what to do.90.20% of participants stated they would stay away from people (including their husband) who smokes.

S. No.	Questions	Answer		
		Yes	No	I Don't Know
1	Does any of your family members smoke Cigarette or Bidi at home?	8.8%	90.20%	0.98%
2	Have you heard of Second - hand smoke exposure?	68.63%	22.55%	8.82%
3	Have you heard of Third - hand smoke exposure?	18.63%	63.73%	17.65%
4	Are you aware that Second - hand smoke exposure can harm yourself?	90.20%	3.92%	5.88%
5	Are you aware that Second - hand smoke is harmful to your child?	6.86%	0.98%	0.98%
6	Are you aware of the risks related to Second - hand smoke during pregnancy?	82.35%	10.78%	6.86%
7	Do you feel helpless as you are unable to restrain your husband or family member from smoking?	19.61%	67.65%	12.75%
8	Do you feel the need to be educated regarding harmful effects of Second - hand smoke?	56.86%	34.31%	8.82%
9	Do you allow people to smoke inside your home?	00	98.04%	1.96%
10	Do you distance yourself from Second - hand smoke exposure in public places?	94.12%	2.94%	2.94%
11	Do you distance yourself (including your husband) from people who smoke?	90.20%	4.90%	4.90%

## 4. Discussion

A cross - sectional study was conducted among 112 participants among group D workers of a tertiary hospital in Mangalore via printed forms to assess the awareness among women towards SHS exposure.

While tobacco smoking has historically been predominantly a male habit and addiction, it leaves women and children as the world's passive smokers.<sup>4</sup> Women and children are at an increased risk of exposure to second - hand and third - hand smoke due to varying factors such as gender prevalence of smoking, women and children spending more time at home than men do, and inadequate ventilation in many homes.<sup>5</sup>SHS exposure can affect the fetus in non - smoking pregnant women, leading to low birth weight, fetal mortality, premature delivery, and spontaneous abortion.<sup>6</sup>

Participants in the current study were fully aware of second - hand smoke but were not aware of third - hand smoke. A study by Walia et al. also showed that people were unaware of third - hand smoke.<sup>7</sup>In the current study, participants don't allow smoking at home. The majority of them distance themselves from people smoking in public places, which is in line with the study by Yavagal et al.<sup>4</sup>They have a basic knowledge that SHS exposure is harmful to pregnant women, children and themselves. In the present study, study participants didn't find the necessity to educate people about the harmful effects of SHS exposure. But, Yavagal et al in their study found that the study participants felt the need to educate people about the harmful effects.<sup>4</sup>

SHS exposure is a neglected public health problem and claims the lives of 1.2 million people annually. Side stream smoke tends to have higher concentrations of many of the toxins in cigarette smoke as side stream smoke generated at lower temperatures than mainstream smoke.<sup>5</sup>Although most

people are aware that SHS exposure is dangerous, extensive understanding is necessary. The ill effects on themselves, children, and pregnant women and also the probability of developing cancer should be explained. They should be made aware of the existing laws regarding smoking. This could be attained by organizing health education programs. Training programs offered should raise women's awareness, alter their attitudes, increase their ability to protect themselves and their children against smoke, and help them to have a smoke - free home.

The current study's limitation is the potential for participants to conceal information about their husband's smoking habits. More data should be gathered addressing the participant's understanding of the negative effects of SHS exposure, and the study might have used a bigger sample size.

## 5. Conclusion

A smoke - free home for a woman is difficult to enforce for various factors including lack of self - efficacy, lack of knowledge, and cultural and societal hurdles. There should be a complete prohibition on smoking. Behavioral interventions, community education, and women's empowerment are required. Active smoker spouses should get counseling on the hazards to others around them and be encouraged to stop smoking.

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