

## **Passive Smoking: Silent Threat to the Female Population of Karachi**

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### **ABSTRACT**

**INTRODUCTION:** Passive smoking is defined as inhalation of smoke also known as second hand smoke (SHS) or environmental tobacco smoke (ETS) by persons other than the intended active smoker. Smoking can lead to number of respiratory and cardiovascular disorders. **OBJECTIVE:** The purpose of our study was to evaluate awareness regarding passive smoking, exposure of cigarette smoke faced by passive smokers, symptoms experienced by them and measures that are taken by passive smokers to avoid the smoke. **METHODOLOGY:** It is a cross-sectional survey based study comprising of N= 350 individuals (Females only) of age group 16-35 years who had never smoked but had been exposed to environmental tobacco smoke. The answers were recorded as open ended. **RESULT:** Our resulted showed that 59% females were aware about the term passive smoking. 82% were passive smokers. 48% females were exposed to more than 5 cigarettes smoke/day. 35% females felt nausea as most common symptom whereas 29% had headache due to exposure. 84% females went in fresh air to relieve the symptoms whereas 11% had to take medicines for it. **CONCLUSION:** From our study we came to conclude that female population is getting affected due to smokers in the family. Proper measures need to be taken to prevent risk to passive smokers who don't smoke but get affected due to smokers in family and environment.

### **INTRODUCTION**

Passive smoking, also known as involuntary smoking, second hand smoking or exposure to environmental tobacco smoke (ETS), is defined as Inhalation of cigarette smoke of another individual or exhalation of smoke from a smoker. [1]

Secondhand smoke (SHS) has the same harmful chemicals that smokers inhale. There's no safe level of exposure for secondhand smoke (SHS). Secondhand smoke is known to cause cancer. It has more than 7,000 chemicals, including at least 70 that can cause cancer. SHS causes lung cancer – even in people who have never smoked. There's also some evidence which is linked to the cancer of Larynx, Pharynx, Nasal sinuses, Brain, Bladder, Rectum, Stomach and Breast. Secondhand smoke can also trigger asthma attacks, make asthma symptoms worse, Corresponding Author: Sana.sarfraz@live.com

and even cause new cases of asthma in children who didn't have symptoms before. ETS contains over 4000 chemical agents adversely affecting the health of passive smoker. [2] ETS is a combination of main stream smoke and side stream (SS) smoke.

Mainstream smoke refers to exhalation of smoke by a smoker where as Side stream smoke means smoke from the lighted end of a cigarette, pipe, or cigar, or tobacco burning in a hookah. This type of smoke has higher concentrations of carcinogens and is more toxic than mainstream smoke. It also has smaller particles than mainstream smoke.

The side stream smoke constitutes about 85% of the smoke present in the room where active smokers smoke, and contains many potentially toxic components. [3] Side stream smoking increases the risk of Otitis media. [4] ETS increases risk of death from heart disease

especially Myocardial Infarction in passive smoker. ETS adversely affects platelet function and damages arterial endothelium in a way that increases the risk of heart disease. [5] ETS also reduce cellular respiration at the level of mitochondria. Atherosclerotic plaque form by the polycyclic aromatic hydrocarbons which are present in ETS and due to its acceleration and initiation the development of atherosclerotic plaque occur. [6] Passive smoking reduces the ability of blood to deliver oxygen to the heart and compromises the myocardium's ability to use oxygen to create adenosine triphosphate. [7]

Passive smoking leads to changes in airflow mechanics. Exposure to ETS is a significant trigger for acute exacerbation of asthma. Passive smoking impairs vascular endothelial function and induces oxidative stress in humans. [8]

The symptoms commonly experienced are nausea, headache, cough and vomiting. [4] The passive smokers are at increased risk of suffering from asthma, bronchitis, pneumonia, otitis media, tuberculosis, learning disorders, developmental retardation, high systolic and diastolic blood pressure, child behavior disorders and spontaneous abortion. [9-11]

Preventive strategies include avoiding areas which are smoking zones. Smokers should be advised to avoid smoking in closed rooms at home or around the young children. [12]

The objective of the above study was to evaluate the awareness regarding passive smoking in female population, observe female passive smokers, symptoms faced by them and measures adopted to overcome them as well as preventive measures to overcome passive smoking.

#### **METHODOLOGY:**

It is a cross-sectional survey based study comprising of N= 350 individuals ( Females only) of age group 16-35 years who had never smoked but had been exposed to environmental

tobacco smoke. The data was collected for 2 months from January 2016-March 2016. They were questioned about passive smoking, symptoms faced by them and preventive strategies used by them. The answers were recorded as both open ended and close ended.

#### **INCLUSION CRITERIA:**

Only healthy females were considered.

#### **RESULTS**

The results were presented as percentile evaluated using SPSS version 19.

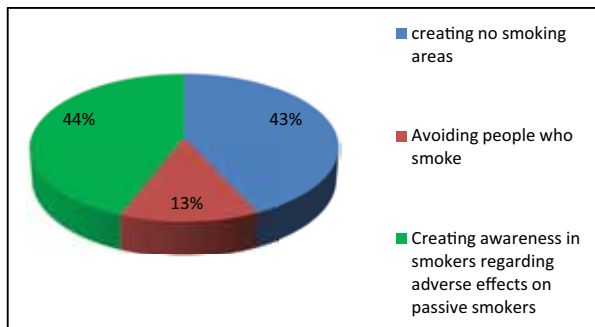
#### **DISCUSSION:**

Passive smoking is a very common threat faced by non smokers. Table 1 shows according to our survey, 59% female population knew about passive smoking. Although the symptoms of passive smoking were felt by majority of population which were even present in cases who do not have any smoker in their home. We found average percentage of awareness regarding passive smoking. The Literature studies state that Second-hand smoke (SHS) is one of the most important and most widespread exposures in the indoor environment. The link between SHS and several health outcomes, such as respiratory infections, ischemic heart disease, lung cancer and asthma, have long been established. Nevertheless, 93% of the world population is still living in countries not covered by 100% smoke-free public health regulations, and exposure to SHS in the home is still common. [13]

Table 1 also shows Smoker in Family and Exposure to cigarette/ day. 82% females said they had smoker in their family. 48% population faced more than 5 cigarettes/day where as 36% females faced more than 10 cigarette smoke/ day. Literature studies show in both sexes, smoking 1-4 cigarettes per day was associated with a significantly higher risk of dying from ischemic heart disease and from lung cancer in women.

**Table 1:** Passive Smoking Information and Effects Felt by Female Population of Karachi:

1.	Awareness Regarding Passive Smoking	<b>Yes</b>	<b>No</b>			
		59%	41%			
2.	Any Smokers in your Family?	<b>Yes</b>	<b>No</b>			
		82%	18%			
3.	Exposure to Cigarettes/ Day	<b>2-3 Cigarettes</b>	<b>More than 5 Cigarettes</b>	<b>More than 10 Cigarettes</b>		
		16%	48%	36%		
4.	Trend of Respiratory Diseases in Family	<b>Asthama</b>	<b>Bronchitis</b>	<b>Lung Cancer</b>	<b>None</b>	
		59%	12%	1%	28%	
5.	Experience Effects due to Cigarette smoke	<b>Yes</b>	<b>No</b>			
		93%	7%			
6.	Symptoms Experienced due to Exposure	<b>Headache</b>	<b>Nausea</b>	<b>Vomiting</b>	<b>Shortness of Breath</b>	<b>None</b>
		29%	35%	11%	23%	2%
7.	Measures Done to Overcome Symptoms	<b>Fresh Air</b>	<b>Self-Medication</b>	<b>None</b>		
		84%	9%	7%		



**Fig 1:** Preventive Measures to avoid Passive Smoking:

Smoking control policymakers and health educators should emphasize more strongly that light smokers also endanger their health.[13] Literature also showed ETS exposure at home was more common in females (31% versus 19%), while exposure outside of the home was more common in males (53% versus 7%). [14]

Table 1 also shows Trend of Respiratory disease in Family. According to our results we have found 59% have asthma and asthma like feelings, 12% suffer from Bronchitis, 1% have lung cancer

and 28% do not have any disease. The smoke of cigarettes become poison for those passive smoker who have lung cancer, emphysema, asthma, sinus problem.. According to the literature, the symptoms of bronchitis, chronic bronchitis, dyspnea and asthma occur in majority. [12] Involuntary exposure to tobacco smoke to passive smokers results in greater risk of cancer.[15] The main cause of lung disease in adults and children is increasingly being associated with Environmental tobacco smoke (ETS), or secondhand smoke. [16, 17] ETS is linked with greater risk of lower respiratory tract infections (LRTIs), such as bronchitis and pneumonia in children. ETS is causally associated with increased prevalence of fluid in the middle ear, upper respiratory tract irritation, and depressed lung function. ETS is a risk factor for the development of asthma in children. [18] Another literature has highlighted that the most effective way of preventing asthma is by preventing exposure to secondhand smoke. [19]

Table 1 also shows Symptoms experienced due to cigarette smoke Inhalation. We observed that 93% felt the effects of smoking on their selves while 7% did not feel any effects. In which 29% feel headache, 35% feel nausea, 11% feel vomiting, 23% feel SOB and 2% do not feel any symptoms. Due to this smoke, firstly feel problem in breathing, then headache occur, due to extreme headache nausea like feelings generate and some time vomiting occur. After vomit out headache become low and the person want to go in fresh air to take breath properly and after that feel relax. Literature survey shows majority of the people have suffered from nasal symptoms, nausea, headache, cough, sore throat. [20] Females seem to be more troubled by environmental smoke exposure than males and provides further evidence of the serious health hazards associated with environmental smoke exposure. Females reported more symptoms from tobacco smoke. [14] The cardiovascular risk becomes high with increasing levels of blood pressure and or serum cholesterol and diabetes mellitus in active smokers or passive smokers. [21] The analysis of multiple data showed that ETS exposure during pregnancy was significantly associated with an increasing risk to fetus[22].

Table 1 also shows Measures taken to overcome symptoms. 84% get fresh air and 14% take medicines to relief these symptoms. According to literature, Passive smokers should consume a healthy diet that is high in fresh fruits and vegetables. Regular exercise is very important as it helps to increase circulation as well as improve lung function. A herbal tea made out of Mullein and Licorice is an excellent expectorant. Ginger and garlic are herbs that promote respiratory removal of mucus and are beneficial for passive smokers.

Fig 1 shows Preventive Measures to avoid passive smoking. 43% suggested creating no smoking area, 13% thought smokers should be avoided where as 44% suggested

creating awareness in smoker regarding adverse effects on passive smoker could be beneficial. According to literature, Preventive measures must be absolutely conducted to prevent the disease development. These are the changes in lifestyle of passive smoker i.e. to avoid smoking areas, indulge in physical activity and diet supplementation especially by those substances with antioxidant effects. [23] Make sure children's schools are tobacco - free.[24] According to another literature study preventing measures can also include supporting a ban on smoking in the workplace and public areas.[14, 24] According to literature data 60% of the people claimed in supporting banning of smoking in public places where as 45% supported that cigarettes advertisements should be banned [24]

## CONCLUSION

We have concluded that smoking is dangerous for passive smokers too. Passive smokers are affected by smokers and suffer number of symptoms which can lead to different diseases. Passive smokers should avoid the smokers

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