



CODEN [USA]: IAJPBB

ISSN: 2349-7750

**INDO AMERICAN JOURNAL OF  
PHARMACEUTICAL SCIENCES**<http://doi.org/10.5281/zenodo.2649378>Available online at: <http://www.iajps.com>

Research Article

**AWARENESS REGARDING EFFECTS OF PASSIVE SMOKING  
AMONG GENERAL POPULATION OF BEDIAN ROAD  
LAHORE**<sup>1</sup>Dr Aqsa Liaqat, <sup>2</sup>Dr Saad Ahmad, <sup>3</sup>Dr Sarosh Jameel<sup>1</sup>Avicenna Medical College, Lahore.

Article Received: February 2019

Accepted: March 2019

Published: April 2019

**Abstract:**

**Introduction:** Passive smoking is sometimes referred to as environmental tobacco smoke. It is a combination of the smoke exhaled by a smoker that comes from the end of a burning cigarette or cigar. When someone breathes in the smoke, it is often referred to as passive smoking. For a non-smoker, breathing in second-hand tobacco smoke still carries significant health risks and also there is no known safe level of exposure to passive smoking.

**Objective:** To create the awareness regarding the effects of passive smoking among general population of Bedian Road Lahore

**Methods:** A cross-sectional survey will be conducted and data will be collected through a self-administered questionnaire from general public of Lahore. The questionnaire will consist of Information about demographic characteristics, smoking habit with in family, number of cigarettes smoked per day.

**Results:** 80% people are aware of effects of passive smoking and 20% are not aware of effects of passive smoking. The people who are aware about the effects of passive smoking are mostly lie between the age group of 20 to 30 years.

**Conclusion:** People of age group of 20-30 years have more awareness about the effects of passive smoking as compared to other age groups.

**Key words:** Passive smoking, Awareness, Hazards.

**Corresponding author:****Dr. Aqsa Liaqat,**

Avicenna Medical College, Lahore.

QR code



Please cite this article in press Aqsa Liaqat et al., Awareness Regarding Effects of Passive Smoking among General Population of Bedian Road Lahore., Indo Am. J. P. Sci, 2019; 06(04).

**INTRODUCTION:**

Passive smoking is the inhalation of smoke, called second-hand smoke (SHS), or environmental tobacco smoke (ETS), by persons other than the intended "active" smoker. It occurs when tobacco smoke permeates any environment, causing its inhalation by people within that environment. Exposure to second-hand tobacco smoke causes disease, disability and death (IARC 2004). Second-hand smoke causes many of the same diseases as direct smoking, including cardiovascular diseases, lung cancer, and respiratory diseases. Overall increased risk reviewing the evidence accumulated on a worldwide basis, the International Agency for Research on Cancer concluded in 2004 that "Involuntary smoking (exposure to secondhand or 'environmental' tobacco smoke) is carcinogenic to humans. Passive smoking increases the risk of breast cancer in younger, primarily premenopausal women by 70% (California Environmental Protection Agency, 2005-0624) and the US Surgeon General has concluded that the evidence is "suggestive," but still insufficient to assert such a causal relationship. In contrast, there was no support for a causal relation between involuntary exposure to tobacco smoke and breast cancer in never-smokers. (IARC 2004)

The International Agency for Research on Cancer of the World Health Organization concluded in 2004 that there was sufficient evidence that second-hand smoke caused cancer in humans (IARC 2004). Those who work in environments where smoke is not regulated are at higher risk. Workers particularly at risk of exposure include those in installation repair and maintenance, construction and extraction, and transportation. It is estimated that living or working in a place where smoking is permitted increases the nonsmokers' risk of developing heart disease by 25–30% and lung cancer by 20–30% (IARC 2004)

The risk of asthma, Risk of chronic obstructive pulmonary disease (COPD) increases in passive smoking. Exposure to secondhand smoke may increase the risk of cognitive impairment and dementia in adults 50 and over. Recent studies comparing women exposed to Environmental Tobacco Smoke and non-exposed women, demonstrate that women exposed while pregnant have higher risks of delivering a child with congenital abnormalities, longer lengths, smaller head circumferences, and low birth weight. (Wei,L 2013)

Overall increased risk of death in both adults, where it is estimated to kill 53,000 nonsmokers per year, making it the 3rd leading cause of preventable death in

the U.S and in children. The World Health Organization states that passive smoking causes about 600,000 deaths a year, and about 1% of the global burden of disease. (WHO website, 2015).

According to US Surgeon General 2006 report, people are exposed to secondhand smoke at home, in the workplace, and in other public places such as bars, restaurants, and recreation venues. 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. It is also a known humancarcinogen; cancer-causing agent.(US Surgeon General Report. 2006, 154). Inhaling secondhand smoke causes lung cancer and coronary heart disease in nonsmoking adults. Tobacco smoke contains over 4000 chemicals that are potentially toxic to humans. (Henderson 2008, 21.)

Carbon monoxide decreases hemoglobin transport and saturation. Nicotine decreases prostacyclin synthesis and aggregation of thrombocytes in blood vessels, which leads to the narrowing arteria of the foetus, as well as neonates and infants (Gryczynska et al.1999, 276). Tager 2008, further explains that nicotine crosses the placenta freely and, in animal models that include primates, has profound effects on fetal lung development that range through altered glucose metabolism, inhibition of fibroblast proliferation, damage to type I epithelial cells, increased proliferation of type II cells, disruption of the elastin network and alterations in cell signalling with resultant decreases in apoptosis in the developing lung. All of these result in decreased numbers and enlargement of alveoli, emphysema-like changes and alterations in lung function. ( Tager 2008)

The rationale of doing this research is to make people aware of the lethal effects caused by second hand smoking or passive smoking. In passive smoking the person sitting next to the smoker is equally affected so he is also on the edge of developing cancers, cardiovascular defects and respiratory problems. So for the sake of community it is important to make people aware that breathing in the atmosphere full of smoke can cause them health problems similar to that of a smoker. For making this world smoke free health education is most important. It is in the hands of a person to prevent himself from these lethal effects by educating his surrounding people and help society to make this world smoke free.

### Literature Review

It is well known that smoking not only does harm to the persons who smoke cigarette but also causes damage to those who are exposed to the secondhand smoke. It has been estimated that secondhand smoke is responsible each year for 22,000 hospitalizations, between 150,000 and 300,000 cases of bronchitis and pneumonia, between 8000 and 26,000 cases of asthmas only in the U.S.

Reports have shown that secondhand smoke can have a significant negative impact on health. Next to active smoking and alcohol abuse, second-hand smoke is the third leading cause of poor health and premature death in the developing world. Secondhand smoke contains more than 50 carcinogens. Except for the responsibility for estimated 3000 lung cancer deaths and more than 35000 coronary heart disease deaths among never smokers in the United States each year, secondhand smoke is also responsible for lower respiratory infections and asthma. Even short-term exposures to secondhand smoke, such as those that might be experienced by a patron in a restaurant or bar that allows smoking, can increase the risk of experiencing an acute cardiovascular event.

A recent article on the USA Today mentioned that 87% of lung-cancer patients are smokers or ex-smokers. The remaining percentage of lung-cancer patients may be those who were exposed to secondhand smoke, either as children with smokers in the home, or as employees who worked for years with smokers. A preliminary study shows that smoking infringes on nonsmokers' health more than they may be aware. Some 35,000 non-smokers die each year from heart disease caused by secondhand smoke. It's not just long-term exposure that appears to matter. Experts estimate that just 20 minutes of breathing smokefilled air makes a non-smoker's blood platelets almost as sticky as the platelets of pack-a-day smokers—and therefore more likely to form clots that could cause a heart attack or stroke.

Researchers from Osaka, Japan found that while heart rate and blood pressure responses were unaffected by passive smoke exposure, passive smoke exposure significantly reduced coronary flow velocity reserve among nonsmokers. They concluded that this finding provides direct evidence that passive smoking may cause endothelial dysfunction of the coronary circulation in nonsmokers.

It was found that secondhand smoke is the major contributor to particle-bound polycyclic aromatic hydrocarbons (PPAH), which are related to the

occurrence of cardiopulmonary diseases and mortality. Reports on a new study, which has found that compounds called aryl amines can be linked to bladder cancer risk in nonsmokers as well as smokers and is believed to account for a significant proportion of nonsmoking-related bladder cancer in the general population, uncovered the causes of how aryl amines react with hemoglobin and pointed to secondhand smoke exposure as the possible culprit.

When an international research team checked the health records of 18,000 adults' ages 20 to 44, 12% already had a chronic cough and persistent phlegm—chronic obstructive pulmonary disease (COPD)'s earliest warning signs. If you have these, or if you're a smoker, an exsmoker, or have a history of asthma, you'd better clear your air, quit smoking and avoid secondhand smoke. According to the National Women's Health Resource Center, one in eight adults under age 45 may be at risk for chronic obstructive pulmonary disease (COPD), a deadly collection of lung disorders—including emphysema and chronic bronchitis that doctors rarely test for. Death rates from COPD among women now surpass those of men.

The National Cancer Institute (NCI) recently released the most comprehensive report to date on the health risks of secondhand smoke, linking secondhand smoke not only with lung cancer but also with heart disease, sudden infant death syndrome, nasal sinus cancer and many other diseases in adults and children. The 430-page report, "Health Effects of Exposure to Environmental Tobacco Smoke: The Report of the California Environmental Protection Agency," confirms what most Americans already know—cigarettes not only pose grave health risks to the smoker; they also threaten the health of anyone who is even near a lighted cigarette, especially children.

Women and Smoking: A Report of the Surgeon General-2001 indicates that exposure to environmental tobacco smokes is a cause of lung cancer and coronary heart disease among women who are lifetime nonsmokers. Studies have also linked exposure to secondhand smoke during early children to increased risk of sudden infant death syndrome, asthmas, and other respiratory illnesses, ear infections, and a host of developmental, cognitive and behavioral problems. Infants born to women exposed to environmental tobacco smoke during pregnancy have a small decrement in birth weight and a slightly increased risk of intrauterine growth retardation compared to infants of non exposed women. Researchers in Malmo found that 80 per cent of the women whose babies were

below average in weight were routinely exposed to secondhand smoke during pregnancy.

In 1999, researchers warned that heavy smoking by teenagers can cause genetic mutations in the lungs, forever predisposing them to lung cancer—even if they quit. Secondhand smoke may prove just as bad. In a study at the University of Louisville, associate professor Steven Myers and his team measured the levels of 4-ABP, a cancer-causing agent in tobacco smoke, in the blood of 475 pregnant women and their fetuses. As expected, 4-ABP levels were significantly elevated in mothers who smoked, compared with nonsmokers, and in their fetuses. The unpleasant surprise: Levels were also high in nonsmoking mothers exposed to secondhand smoke for eight or more hours a day at home or work.

Researchers estimate that millions of U.S. children and adolescents could have deficits in reading and other skills caused by breathing secondhand smoke. A new study links poor performance on several cognitive tests to tobacco-smoke exposure, even at low levels. David Lee et al conducted a research in 2003, which found the association of secondhand exposure with self-reported earaches in adolescents.

Medical researchers have established a clear link between secondhand tobacco smoke and serious breathing problems for children who receive general anesthesia. Girls are at greater risk, especially those whose mothers have a lower level of education, according to a study by Eric T. Skolnick, assistant professor of anesthesiology and pediatrics, Columbia University College of Physicians and Surgeons.

Watching a child struggle to breathe during an asthma attack is frightening for any parent. So it is only natural that most moms and dads will try just about anything—including spending a lot of money—to keep an attack at bay. Worst of all was the number of smokers with asthmatic children who didn't even try to quit or at least limit themselves to smoking outdoors rather than just moving to another room or the garage. Secondhand smoke has been proved, over and over again, to be a major trigger of asthma attacks. Many smoking parents purchased expensive air filters that have what Cabana called “questionable utility.” Keith King did a survey of 390 randomly selected adult smokers' willingness to protect children and find that most were committed to protecting children by smoking outside of rooms or asking visitors to smoke outside.

Research has linked secondhand smoke with child's dental hygiene. An article in the Good Housekeeping

said exposure to secondhand smoke lead to a number of children who have developed cavities. The study, which appeared in the March 12 edition of Journal of American Medical Association, took data from the Centers for Disease Control and Prevention's Third National Health and Nutrition Examination Survey, showing that children who are exposed to secondhand smoke are nearly twice as likely to get cavities in their primary teeth to children who are not. A 2001 Texas Youth Tobacco Survey showed that half of 8,687 middle school students and two-thirds of 8,696 high school students reported secondhand smoke exposure within the 7 days preceding the survey.

It is found that people who are the least exposed have the lowest disease rates; those exposed for the longest amount of time to the highest concentrations of smoke have the highest rates. Spouses of smokers, workers regularly exposed at the worksite, and people who frequent smoke-filled bars, restaurants, and casinos are at high risk. Of course, infants and children of parents and caregivers who smoke are at high risk as well. Exposure of babies and children to tobacco smoke in an automobile should never happen.

In 2001, the Pan American Health Organization (PAHO) launched the Smoke-Free Americas Initiative to build capacity to achieve smoke-free environments in Latin America and the Caribbean. The finding of airborne nicotine in critical locations in Latin America provides a basis for enforcing smoke-free initiatives and for strengthening the protection of the public from unwanted exposure to secondhand smoke. A 2002 Survey showed that 3 out of 4 New Yorkers favor legislation to protect all workers from secondhand smoke in the workplace. The article also mentioned that more than 70 localities around the country already have banned smoking in restaurants and bars. A new California study concludes that vitamin C may help reduce oxidative stress in people exposed to secondhand smoke. But this study should not be interpreted to mean that vitamin C will prevent smoke-related heart disease or cancer.

#### **Objectives:**

To create awareness regarding effects of passive smoking among general population of Bedian Road Lahore

#### **Research Methodology**

#### **Variable:**

Dependent: passive smoking

Independent: Working environment, Overcrowding, socioeconomic status, education, poverty

**Study Design:** Descriptive cross sectional study will be done

**Study Universe:** Lahore

**Study Population:** General population of Bedian Road Lahore

**Study Setting:** Bedian Road Lahore

**Duration of Study:** Commencement time: 6<sup>th</sup> January, 2016

Completion time: 17<sup>th</sup> February, 2016

**Sample Size:** Estimated using WHO software S size and by using formula of estimating the population proportion with specified relative precision. At confidence level of 95 % with anticipated population proportion of 70% and relative precision of 10% the minimum sample size was taken as 100.

**Sampling Technique:** Simple random sampling

**Study selection criteria:**

Inclusion criteria: Those who are exposed to passive smoking having age group from 20-50 years

Exclusion criteria: Those who are unexposed to passive smoking include infants, mentally retarded people and the people of less than 20 years of age and more than 50 years of age.

**Ethical Consideration:**

- Take written permission from the authorities of Avicenna Medical College
- Validity consent will be taken
- Identity will not be disclosed
- Data will not be disclosed
- Data will not put on any electronic device
- No religious and political issue will be discussed

**Data Collection Procedure:** Questionnaires will be handed out to the participants and their answers will be sorted out to analyze the different variables under study.

**Data Analysis and Compilation Plan:** By using SPSS software version-22 data will be analyzed by using appropriate statistical techniques.

**Data Collection Tool:** A semi structured questionnaire (close ended and open ended questionnaire) will used to collect information from public

**Pretesting:** Before carrying out the actual exercise of data collection, questionnaire will be tested on 5 subjects on experimental basis to observe any deficiency in questionnaire and ensure its ethical and social acceptability

#### Work plan

Activity	1 <sup>st</sup> Week	2 <sup>nd</sup> Week	3 <sup>rd</sup> Week	4 <sup>th</sup> week	5 <sup>th</sup> Week	6 <sup>th</sup> Week
Finalized and approval of synopses	January 6 <sup>th</sup> -11 <sup>th</sup>					
Data collection		January 12 <sup>th</sup> -17 <sup>th</sup>				
Data compilation			January 18 <sup>th</sup> -23 <sup>th</sup>			
Data analysis				January 24 <sup>th</sup> -31 <sup>st</sup>		
Report writing					February 1 <sup>st</sup> -11 <sup>th</sup>	
Report presentation						February 12 <sup>th</sup> -17 <sup>th</sup>

**Administrative plan**

<b>Activity</b>	<b>Personnel</b>
Supervisor	Dr. Rana M Akhtar
Responsibility	Group Members
Selection of problem	Group Members
Preparing finalizing and presenting research protocol	Group members
Preparing questionnaire	Dr Saad Ahmad
Data collection	Dr Aqsa Liaqat
Data compilation and analysis	Dr Sarosh jameel

**Budget**

<b>Material</b>	<b>Cost (Rs)</b>
Print	200
Binding	200
Stationary	250
Travelling Dues	2000
Others	1000
<b>Total</b>	<b>3650</b>

**RESULTS:****Table 1:****Age of population selected for the research**

		Respondents age		Valid Percent	Cumulative Percent
		Frequency	Percent		
Valid	age group b/w 20-30	60	60.0	60.0	56.0
		20	20.0	20.0	
		20	20.0	20.0	
	age group b/w 30-40	100	20.0	100.0	44.0
	age group b/w 40-50		20.0		100.0
	Total		100.0		

**Results:**

It states that:

- 60% people belongs to 20-30 years age group
- 20% people belongs to 30-40 years age group
- 20% people belongs to 40-50 years age group

**Table 2:****Gender percentage of representing population**

		Respondents sex			
		Frequency	Percent		
				Valid Percent	Cumulative Percent
Valid	female	20	20.0	20.0	40.0
	male	80	80.0	80.0	100.0
	Total	100	100.0	100.0	

**Results:**

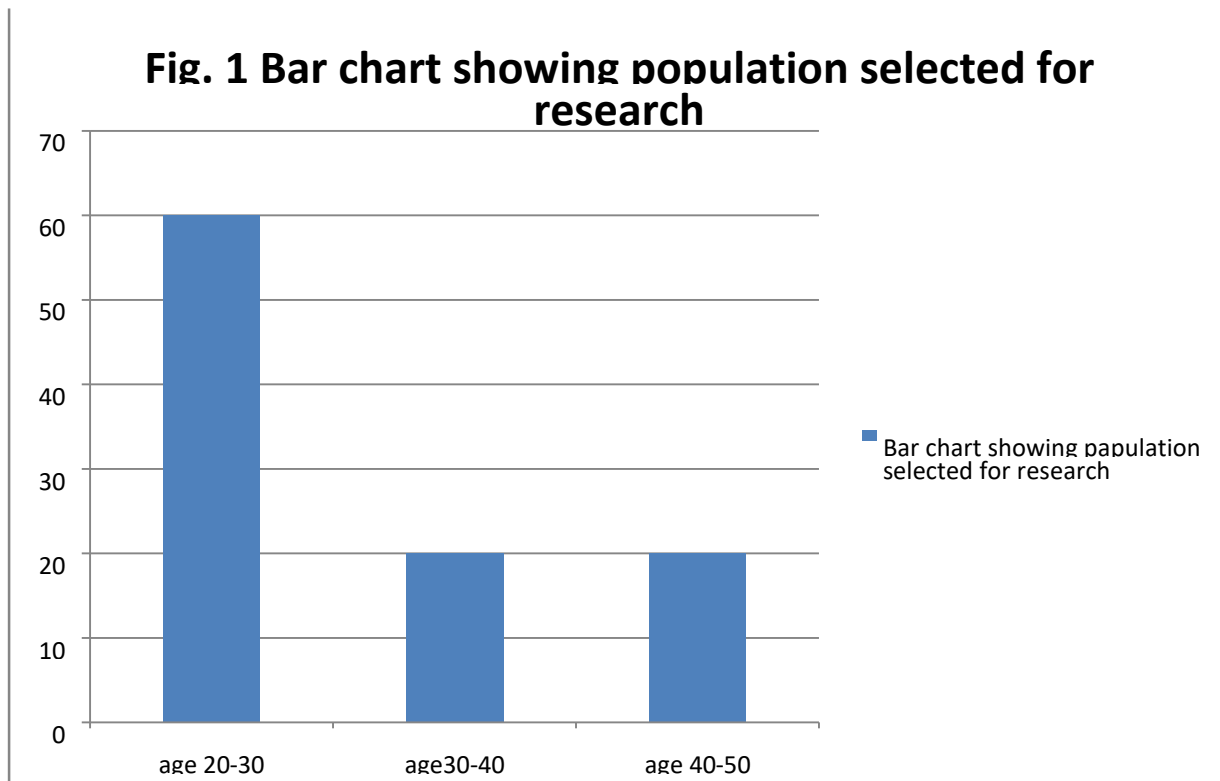
It states that:

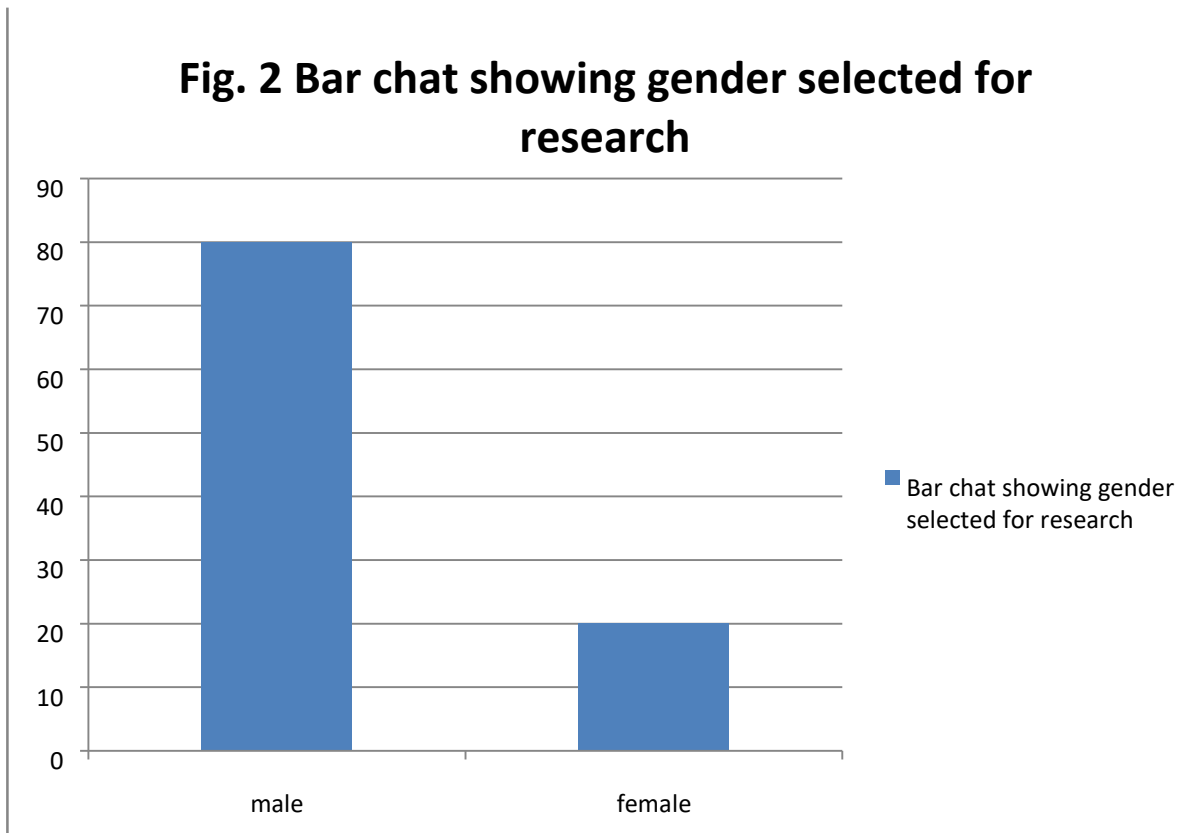
- 20% people were female
- 80% people were male

**Table 3:****Awareness in the community regarding Passive smoking**

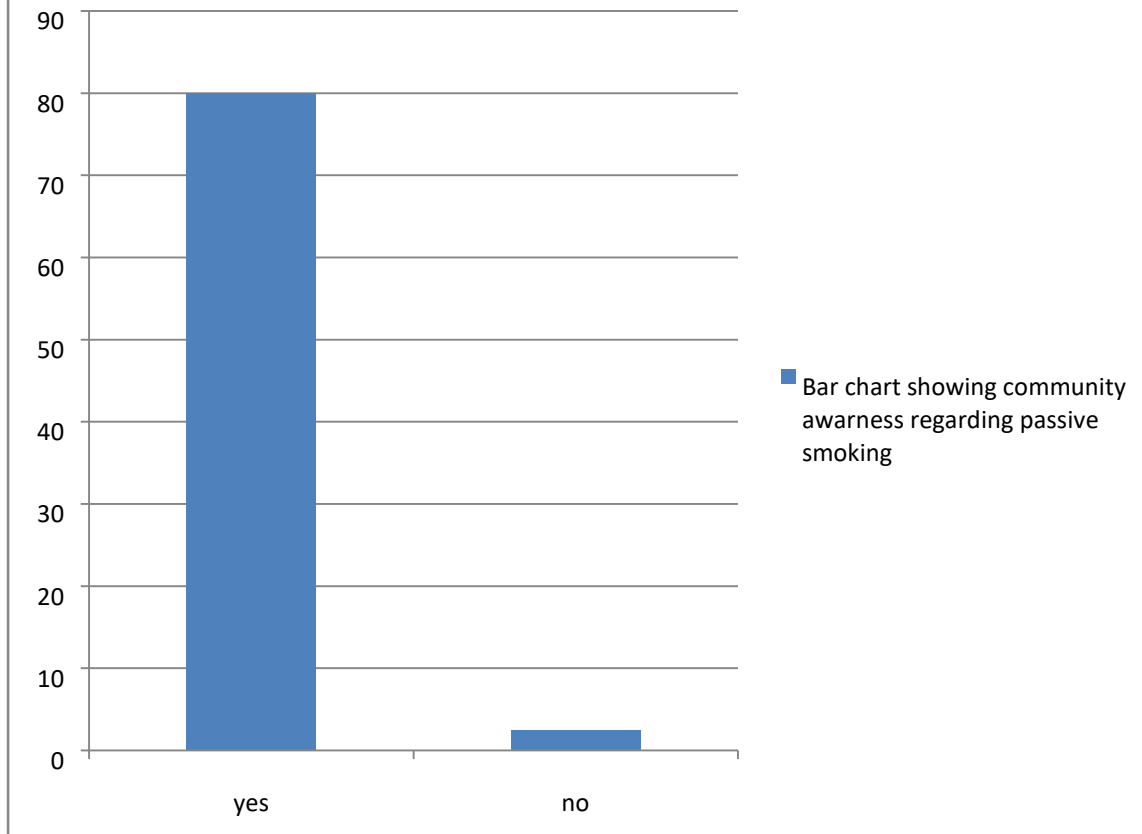
		Awareness of Passive smoking			
		Frequency	Percent		
				Valid Percent	Cumulative Percent
Valid	no	20	20.0	20.0	42.0
	yes	80	80.0	80.0	100.0
	Total	100	100.0	100.0	



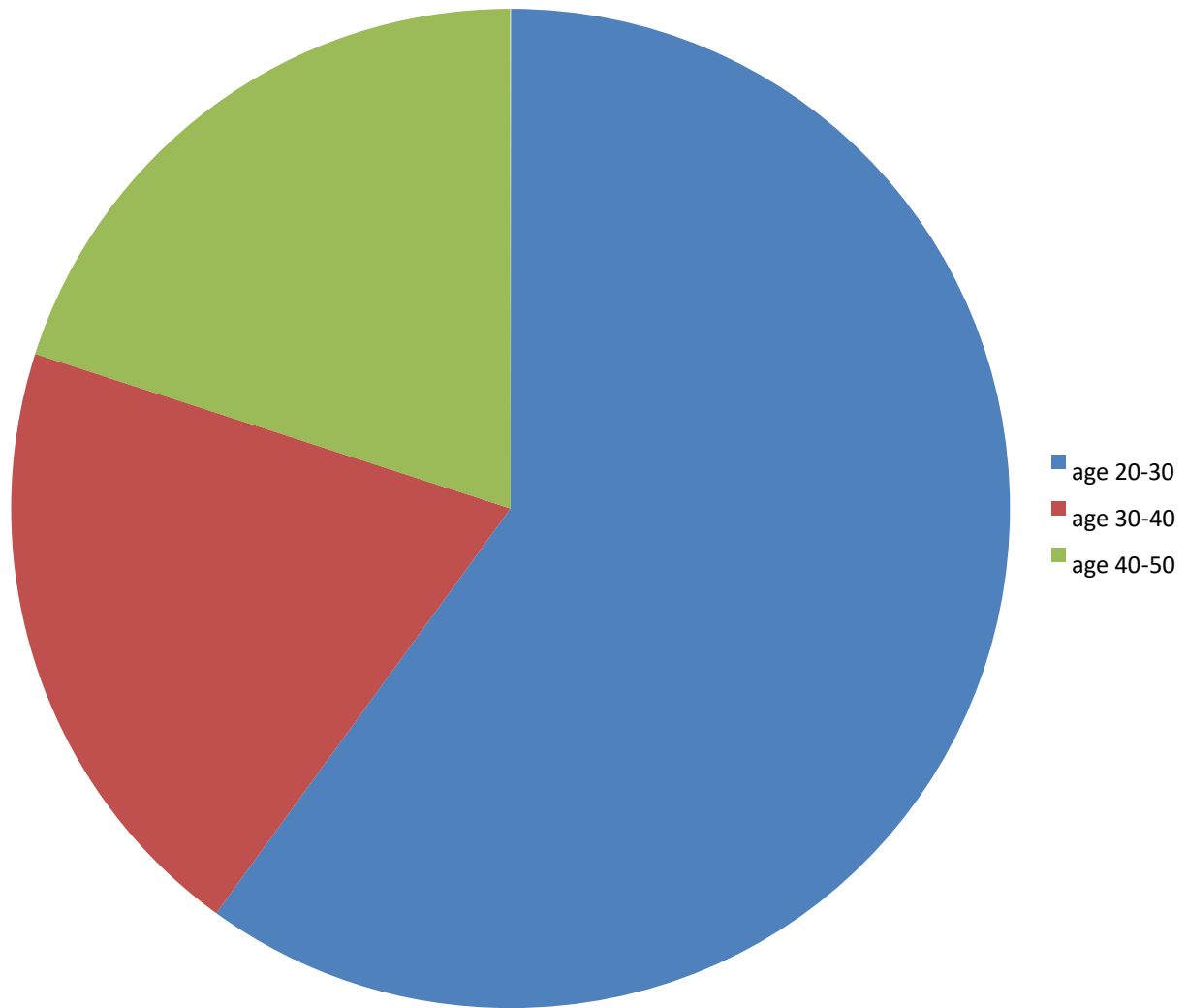




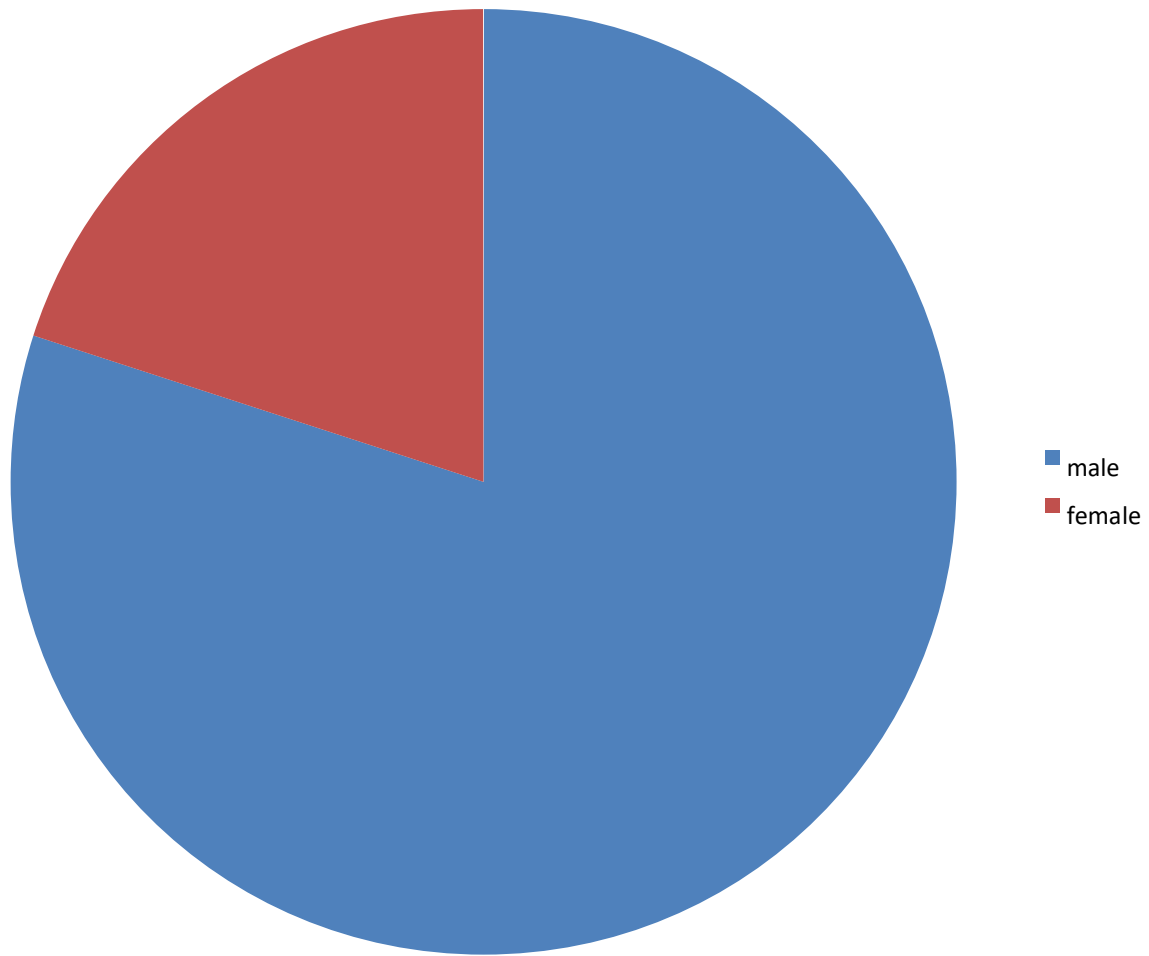
**Fig. 3 Bar chart showing community awareness regarding passive smoking**



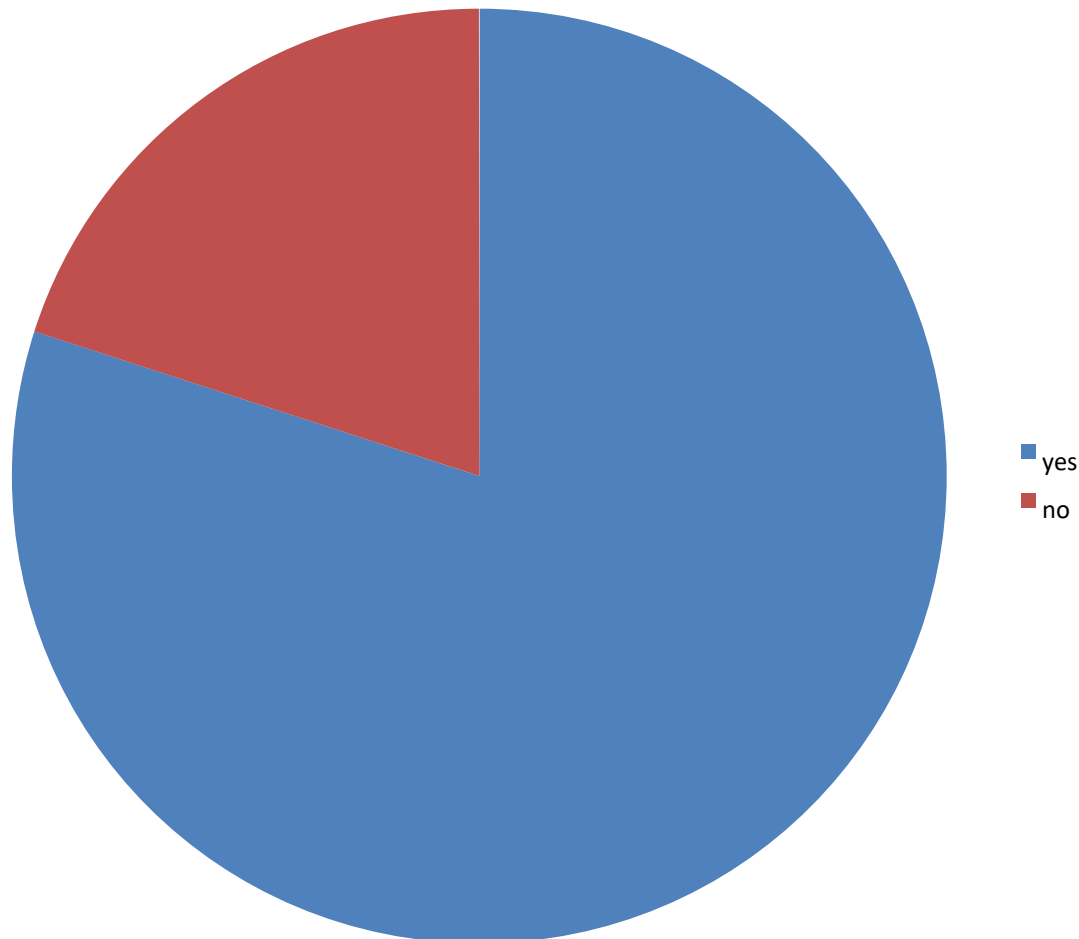
**Fig.4 Population selected for research**



**Fig. 5 Gender % selected for research**



**Fig. 6 Community awareness regarding passive smoking**



#### **DISCUSSION:**

The study was conducted regarding the awareness of effects of passive smoking among the general population of Bedian Road Lahore. A group of 100 people were selected for the research that includes 80 % male respondents and 20 % female respondents. The output of the research shows that the population between the age group of 20 to 30 years is 60 % and the population between 30 to 40 years is 20 %. The population between 40 to 50 years of age is 20 %. According to conclusion of research study, 80% people are aware and 20% people are not aware about the harmful effects of passive smoking. People of age group between 20-30 years have more awareness about harmful effects of passive smoking as compared to other age group.

The respondents divided into 3 different age groups. First age group consists of respondents between the ages of 20 to 30 years and second age group comprises of the respondents between the ages of 30 to 40 years. The third group has the respondents between the ages of 40 to 50 years old. The study also shows about the frequency of three different age groups. The first group between 20-30 years of age has the 60% of the total respondents and among them 50% are male and 10 % are female respondents. The second group of 30-40 years of age has the 20% respondents and among them 15% are male and 5% are female. The third group of 40-50 years of age has 20% respondents in which 15% are male and 5% are female. The respondents consist of both male and female participants. The respondents have 80% male frequency and 20 % female frequency. The results

regarding awareness shows that 80% of the people are aware about it where as only 20% of the people are not aware about passive smoking. Also among the people who are aware, 70% are males and 10% are females and in non-aware people the percentage of male and female are 10 % respectively.

The Questionnaire has been formulated to know about the awareness about the passive smoking in which we address the occupation, living standard and exposure to smoking. The purpose of the survey is to know about how much the population of Bedian road is aware of the effects of passive smoking and how many of them take the preventive measures to protect themselves from passive smoking.

The conclusion of the survey shows that majority of the community have the awareness about the passive smoking but they are ignorant about their health and reluctant to prevent themselves from passive smoking.

### CONCLUSION:

Study conducted on awareness regarding the effects of passive smoking among general population of Bedian Road Lahore. 100 people were selected for study and study was conducted at Bedian Road Lahore by a team of 5 members and data was analyzed through SPSS-22 software. Our study concluded that:

- 80% people were aware of effects of passive smoking
- 20% people were not aware of effects of passive smoking
- People of age group between 20-30 years of age have more awareness of effect of passive smoking as compared to other age groups.

### Recommendation:

There is awareness in the community regarding passive smoking. More than 80% of research population has knowledge of passive smoking. But following points are recommended:

1. Government should ban the smoking.
2. Encourage people to smoke in isolated environment.
3. Electronic and print media can play its role by making advertisement showing hazardous effects of inhaling tobacco or such poisonous products.
4. The cigarette packing must have the instructions with pictures regarding its effect on health.
5. There should be a law from the government in which the effectiveness of passive smoking can file a case against smokers in the court.
6. Government can control it by claiming every work place to be smoke free.

7. Its hazardous effects should be part of syllabus at initial classes to provide awareness.
8. Banners and sign boards regarding its hazardous effects can also cause awareness against passive smoking.
9. As an important part of community we should play our role by discouraging smokers about smoking.

### REFERENCES:

1. Ana Navas-Acien 6/9/2004, Secondhand Tobacco Smoke in Public Places in Latin America, JAMA: Journal of the American Medical Association, Vol. 291( 22), p2741
2. Bklyn Forum 11/28/2002, Addresses Secondhand Smoke, New York Amsterdam News, Database: Academic Search Premier, Vol. 93, ( 48).
3. Barbara Loecher, Sep 2004, Catch Your Breath and Save Your Life, Prevention,00328006, California Environmental Protection Agency and the US Surgeon General, Vol. 56 .
4. Bethesda, MD , 2004. National Cancer Institute. Health effects of exposure to environmental tobacco smoke: the report of the California Environmental Protection Agency.: US Department of Health and Human Services, National Institutes of Health, National Cancer Institute
5. David Lee et al, Jan/Feb2004, Secondhand smoke exposure and earaches in adolescents: The Florida Youth Cohort Study, Journal of Public Health Management & Practice, Vol. 10( 1), p35.
6. Erik Velasco ,at al , Sep 2004, Exploratory Study of Particle-bound Polycyclic Aromatic Hydrocarbons in Different Environments of Mexico City, Atmospheric Environment, Vol. 38, ( 29), p495
7. Firsthand 8/9/2004, Evidence of Secondhand Smoke Effects, Pediatric Alert, 01600184, , Database: Academic Search Premier, Vol. 26, (15) Good Housekeeping, July 2003, Vol. 237, ( 1), p63.
8. Harder, B 1/15/2005, , Living in a Fog, Science News, 00368423, Vol. 167
9. Henderson, A.J. 2008. The effects of tobacco smoke exposure on respiratory health in school-aged children. Paediatric Respiratory Reviews Vol. 9, 21-28.Consulted: 22.11.2010
10. IARC 2004(exposure to secondhand or 'environmental' tobacco smoke Keith King at al, Sep/Oct. 2003, Smokers' willingness to protect Children from secondhand smoke, American Journal of Health Behavior, Vol. 27, (5), p554

11. Patrick Perry et al, Jul/Aug2002, Tobacco: making a Killing, Saturday Evening Post, 00489239, Database: Academic Search Premier, Vol. 274, (4)
12. Peachick TF et al Commentary 8/30.2004, How acute and reversible are the cardiovascular risks of secondhand smoke, Vol.164, (9).
13. Sanjay Gupta, 2003, Asthma-Proofing Your Home, Secondhand Smoke Linked to Tooth Decay, Journal of Dental Hygiene, Spring Secondhand Smoke Exposure Among Middle and High School Students, Vol. 77, (2), p78 • Secondhand Smoke
14. Protection, Better Nutrition, 0405668X, Nov 2003, Database: Academic Search Premier, Vol. 65(11)
15. Smokers put others at risk, too, USA Today, MAY 26, 2004. Secondhand Smoke More Dangerous Than Thought, Tufts University health & Nutrition Letter, 15260143, Jun 2003, Database: Academic Search Premier, Vol. 21, (4).
16. Tracy Hampton, 11.3/2004, Vol. 292, (17), p2072 Chemical Linked to Bladder Cancer in Smokers May Play Wider Role, Journal of American Medical Association.
17. Tagger, I.B. 2008. The effects of second/hand and direct exposure to tobacco smoke on asthma and lung function in adolescence. Pediatric Respiratory Reviews. Consulted: 07.01.2011, vol.9, (29)-38.