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## **The Risk Factors of Lung Cancer on Smokers**

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### **ABSTRACT**

Smoking is considered one of the harmful substances on the human body. It affects the smokers as well as the people around them. It is the inhalation of the vapors of the burned plant materials such as tobacco which is the most common substance used in cigarettes. Moreover, tobacco contains nicotine which causes sedative physiological effects that lead to its addiction. Despite the harmful effects of smoking, and the various campaigns that are organized by the ministry of health to raise awareness about smoking effects, there are many people who cannot quit smoking. Smokers and non-smokers can be affected by these vapors. Since smokers can be susceptible to heart attacks, strokes, and lung cancer. Non-smokers can be affected by bronchitis, pneumonia, and heart diseases. Thus, the purpose of this research is to raise awareness among people about the risks of lung cancer resulting from smoking on the individual as well as the social level. A questionnaire was created to determine whether people are aware of the smoking risks. Depending on the results of the questionnaire, people are aware that lung cancer is caused by smoking. However, they also might experience nicotine addiction.

**Keywords:** smoking, lung cancer, smokers.

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### **1. Introduction**

Smoking may cause various diseases. However, the number of smokers increases continuously. Smoking is no longer harmful only to smokers, but also to non-smokers, since they are affected by vapors. As studies have proven that the passive smoker is more affected than the smoker himself, or what is commonly called the active smoker. Smoking plays an important role in the pathogenesis of many diseases and systemic malignancies, such as diseases that include the cardiovascular diseases and the respiratory diseases (Shanna, Zawawi, Talouti & Othman, 2022). Tobacco is one of the most important factors that lead to cancer as studies have proven that 70% of people have lung cancer, and 20% of them have are affected because of tobacco smoking. Moreover, tobacco is considered one of the main reasons of lung cancer as well as other types of cancer. Since lung cancer is one of the most common cancers in the world (Tobacco Smoke and Involuntary Smoking, WHO International Agency for Research on Cancer. 83.2004). However, many studies have been conducted in the kingdom of Saudi Arabia including Mecca, Al-Kharj, and Madina to study the phenomenon of smoking among middle and high school students. Which helped to reduce this phenomenon and to educate families and students about the danger of lung cancer and smoking. However, since

smoking is considered fundamental reason in causing lung cancer and other diseases, this study seeks to understand the effect of smoking on the smokers themselves and the people around them. Moreover, it sheds light of how lung diseases are related to smoking.

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### **2. Method**

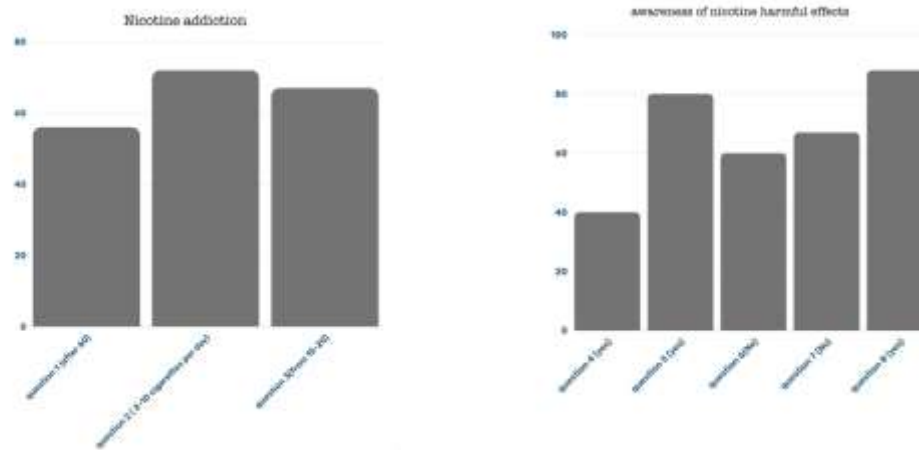
This study used a questionnaire to assess if the society in Saudi Arabia (Riyadh) are aware that smoking can lead to lung cancer and other serious diseases. The purpose of this questionnaire is to raise awareness among smokers to understand smoking risks on their health and the health of the people around them. As a result, the questionnaire contained eight multiple-choice questions (appendix 1 "the questionnaire template")

An online survey tool was used to create the questionnaire, and the survey link was then distributed to random people. Data was gathered online (91 responses). The collected data was then categorized into two categories: Nicotine addiction, and awareness of nicotine harmful effects. Eventually, data was examined people's awareness towards smoking and the potential effects they might experience after smoking.

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### **3. Results**

The results section discusses the essential findings in this paper. The findings are divided into two categories: Nicotine addiction, and awareness of nicotine harmful effects



(Table1) Fatal diseases positively associated with smoking — study of male British doctors

| Disease  | life-long non-smoker | current cigarette smoker | relative risk |
|--|----------------------|--------------------------|---------------|
| <b>(i) Increased risk largely or entirely caused by smoking cancer of:</b> | (a)                  | (b)                      | (a/b)         |
| <b>Lung</b>  | 14                   | 209                      | 15.0          |
| <b>Upper respiratory sites</b>   | 1                    | 24                       | 24.0          |
| <b>Bladder</b>   | 13                   | 30                       | 2.3           |
| <b>Pancreas</b>  | 16                   | 35                       | 2.2           |
| <b>Ischoemic heart disease</b>   | 572                  | 892                      | 1.6           |
| <b>Chronic obatructive lung disease</b>                                    | 10                   | 127                      | 12.7          |
| <b>(ii) increased risk partly caused by smoking cancer of:</b>             |                      |                          |               |
| <b>Stomach</b>   | 26                   | 43                       | 1.7           |
| <b>Kidney</b>  | 9                    | 13                       | 2.1           |
| <b>Leukemia</b>  | 4                    | 7                        | 1.8           |
| <b>Stroke</b>  | 152                  | 203                      | 1.3           |
| <b>Pneumonia</b>   | 71                   | 138                      | 1.9           |

#### 4. Discussion

Some studies have reported higher vulnerability to the deleterious effects of tobacco among smokers. These results include negative effect on lung growth, lower lung function in adulthood, increased bronchial responsiveness, higher rate of hospitalisation for chronic obstructive pulmonary disease, and higher risk of respiratory symptoms. There are, however, conflicting reports on sex differences for the negative effect on lung function of tobacco smoking. Even if there are sex-related differences in perception, reporting and interpretation of respiratory symptoms and diseases, a symptom like shortness of breath is found to be associated with quality of life and to predict mortality equally well in both sexes. It has therefore been proposed that respiratory symptoms are more related to general health in females and are more specific for respiratory and cardiac diseases in males. The objective of this study was to analyse the effect of tobacco smoking on lung function, and to study the association between respiratory symptoms, lung function and global self-rated health (SRH) in males and females (Langhammer, A., Johnsen, R., Gulsvik, A., Holmen, T. L., & Bjermer, L. 2003). However, there are various fatal diseases that are associated with smoking (Table1). This table assures that smoking can cause serious health problems that would lead to lung cancer

or other diseases. It should be noted that this study is focusing on the awareness that people have about the fatal disease and negative consequences of smoking. As results show, those who smoke, they probably experiencing nicotine addiction, but they are not aware of that. Even though, their awareness is positive towards smoking negative consequences, they cannot stop smoking.

## 5. Limitations

There are limitations to this study. It should be noted that respondents might have different answers if they they were interviewed rather than using a questionnaires because they had to attempt specific answers. However, this study provides an overview of smoking negative effects awareness and the relationship of these effects on lung cancer.

## 6. Conclusion

The process of quitting nicotine should not proceed in a single path, but rather it must be within a comprehensive development plan that takes into account various aspects, so that results can be more positive. This means that anti-smoking programs should be a part of a flexible and comprehensive plan in determining the desired goals. Viewing smoking as only a health problem, or an economic or environmental problem is a limited perspective, and unless the problem is looked at from a comprehensive perspective, the results will be very modest. Thus, smoking problems should be taken into consideration.

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## Appendix 1

This questionnaire aims to understand the risk factors of lung cancer and other diseases resulting from smoking. Your answers will help to understand the current awareness among the Saudi society.

To what extent to you agree with the following statements:

To what extent to you agree with the following statements:

1) When do you smoke your first cigarette after waking up ?

In 5 minutes  After 60 minutes  From 6-30 minutes  I don't smoke after waking

2) How many times do you smoke daily?

1-3  2-10  I use a full smoking packet  More than one

3) How long have you been smoking?

less than 14 years  15 to 20 years  25 to 30 years  More than 35 years

4) Did you feel any smoking negative symptoms?

Yes  No  I don't know

5) Have you tried to quit smoking?

Yes  No  I don't know

6) Do you avoid reading about the harmful risks of smoking?

Yes  No  I don't know

7) Did you go to smoking cessation centers?

Yes  No  I don't know

8) Do you think that your family and friends are affected by your smoking vapors?

Yes  No  I don't know

Thank you for participating in our questionnaire.