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Research Article

Effect of smoking on lungs function: Survey based study

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Abstract

This article is based on damage of lung in smokers. Damage to the lung begin in smokers very early and these cigarette have less lung function than non-smokers of the same age. Lung function worsen continue as long as smoking continue when quit so it improves. These lung diseases are not diagnosed early. Smoking is a cause of many diseases from heart diseases to lung diseases like bronchitis, asthma, emphysema and as severe as lung cancer. So in smokers need extra attention on lung function for this purpose this study was performed. This study carried out on 100 male individuals of different age groups from which 50 were smokers and 50 were non-smokers. All of them were asked to hold their breath and time was noticed. Result shows that smokers have less breath holding capacity than smokers that is due to damage in lungs. It is an alarming sign and easiest way to check lung function. These effects can be preventing by quit smoking. Chi-Square Tests shows significant difference between smoker and non smoker on breathing time the p value < .005 with df=2.

Key words: Smoking, lung diseases, breath holding capacity, lung function

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1. Introduction

Smoking affects all organs of body which reduce health of smokers and cause of many diseases. When people smoke cigarettes so chemicals enter in lungs than pass in the body. Some of these chemical substances are nicotine, Carbon monoxide and tar. These chemicals interfere in mechanism of air filtering and cleaning of lungs. This smoke leads to lung irritation and mucus over production. Smoking causes various changes in lung and airways, from these some last for short time and sudden eg: pneumonia and cold, some last for long time like for rest of life these changes are chronic eg: emphysema.[1, 2] However 90% of overall lung cancer cause by smoking and 80% of overall deaths from COPD are due to smoking. It increases risk of death due to various issues. Smokers as compare to non-smokers have more risk of heart diseases, stroke and lung diseases and lung cancer. Smoking increases risk of heart disease and stroke for 2-4times and

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risk of lung cancer increases 25times. Smoking cause damage in airway and alveoli which become the cause of lung diseases include emphysema, COPD and bronchitis. If patient have asthma smoke of tobacco may triffer attack or can worsen the attack. Smoke paralyse cilia that is present in air way and responsible for cleaning of dust and dirt due to this paralysis mucous and toxic substances accumulate result in lungs congestion due to this they have bronchitis which is also known as smoker's cough .when exposed to smoke the air passage become narrow. Walls elasticity of air ways broken down so it reduce availability of lung tissue for oxygen transfer from air to blood.[3] This condition is also known as emphysema.[4] This emphysema in some extent and in different degrees present in mostly smokers, if long term smokers so condition more worse means severity depend upon count of cigarettes smoked and number of years of smoking. As age increases normally your lung work decreases but due to smoking your lung age faster. The lung destroys when its tissue destroyed. In lung due to smoking air spaces ana blood vessels elasticity decreases so less oxygen carriage to body. The natural defense of lungs against infection decreases due to smoking, due to this smoke normal cells convert into cancer cells. This damage of lung is irreversible but can be prevented by stop smoking.[5] Smoking quiting reduce cardiovascular diseases and lung diseases and cancer risk with in 1 year. Due to these all causes the lung function of smokers and non-smokers varies and lung function of smokers is less than non-smokers.[2, 5, 6]

2. Methodology

I have observed the breath holding time in male individuals of different age groups. It is done simply by stopping the breath and calculate the time till they are able to it. I have selected total 100 individuals all are male but in these 50 individuals are smokes and 50 are non-smokers. Then compare this time between these groups.

3. Result

The result obtain are as in smokers 29 individuals have in between 0-30sec breath holding time, 21 individuals have in between 31-60sec breath holding time, no individual have duration of 61-90sec. Results are given in table 1 and 2 and figure 1.

In non-smokers 7 individuals have duration in between 0-30sec, 38 individuals have duration in between 31-60sec and 5 individuals have duration in between 61-90sec breath holding time.

4. Discussion

The article is based basically on effect of smoking on lungs. Cigarettes smoking produce many changes in body especially in lungs. Some of these effects are acute but some are chronic. It affects lungs by changing mucous production and consistency, paralysis of cilia, inflammation and irritation in lungs. Narrow air flow passages. This effect is simply checked by breath holding time or capacity. I asked the individuals to hold their breath and note down the time. This is carried out on 100 male individuals of different age groups and from these 50 individuals are non-smokers. We divide the time interval into three intervals 0-30sec, 31-60sec and 61-90sec. compare the difference between smokers and non-smokers group.

In smokers group from 50 individuals 29 individuals have time in between 0-30sec and 21 individuals have time of breath holding in between 31-60sec. In non-smokers group from 50 individuals, 7 individuals have capacity in between 0-30sec, 38 individuals have duration in between 31-60sec and 5

individuals have capacity in between 61-90sec by comparing both groups of smokers and non-smokers it is observe that in first time interval which is least that is 0-30 sec. Mostly smokers have breath holding capacity in this duration but less non-smokers have as much least duration and some of them having any lung disease or abnormality or allergy or geriatric. The second time interval which is 31-60 sec remaining smokers have this duration and mostly non-smokers have this duration. In 3rd interval which is 61-90sec not a single smoker have this much breath holding but some of non-smokers have this capacity. So through these results we can say that this smoking effect lungs badly and reduce the breath breath holding time that is a signal or alarming sign of lung function disturbance. As the lung effect the person is not able to hold his breath for long duration and feel breathlessness on heavy exercise. This article proves that smoking effects lungs mostly with the passage of time and when aged patient or chain smokers so their lungs effect badly. P value indicates the significant difference between smokers and non smokers that is 0.00.

		TIME in Seconds			
		0-30 seconds	31-60seconds	61-90 seconds	Total
SMOKERS/NONSMOKERS	SMOKERS	29	21	0	50
	NON SMOKERS	7	37	6	50
Total		36	58	6	100

Table 1:Times of breathe of smokers and non smokers

Table 2:Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	23.858[a]	2	.000
Likelihood Ratio	27.228	2	.000
Linear-by-Linear Association	23.520	1	.000
N of Valid Cases	100		

a. 2 cells (33.3%) have expected count less than 5. The minimum expected count is 3.00.

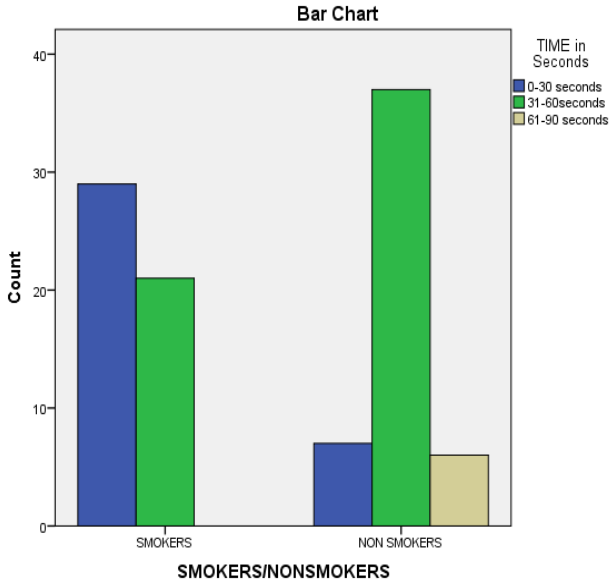


Figure 1:Times of breathe of smokers and non smokers

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