

## **TITLE OF RESEARCH ARTICLE:**

Pulmonary functions test in Adult's male of Auto rickshaw drivers of Shimoga City and comparing with general individuals.

## **Introduction:**

The development of our country has brought many changes that include industrialization, civilization and improved transportation facilities jobs in various fields. Rapid urbanization led to increased use of automobiles that is aggravating environmental pollution. Experimental studies indicate that airborne contaminants lead to injury to the airways and lungs in subjects who are exposed to it. Numerous epidemiological studies have documented decrements in pulmonary function and various other health problems associated with long term air pollution exposure. To meet the present day requirement, there is an increase automobile use and because of the predominant role of gasoline as a motor vehicle fuel, the effects of gasoline engine emissions are potentially even greater problems. In the persons exposed to these pollutants, pulmonary function tests are used as screening tests to determine their effects. Therefore, the present study is taken up to evaluate the changes in Pulmonary Function Tests (PFTs), like Forced Vital Capacity (FVC), Forced Expiratory Volume in the first second(FEVI), FEVI/FVC ratio, Peak Expiratory Flow Rate(PEFR), Peak Inspiratory Flow Rate (PIFR), Forced Expiratory Flow in 25-75% of vital capacity (FEF<sub>25-75</sub>), Forced Expiratory Flow at 50% of vital capacity(FEF<sub>50</sub>) and Maximum Voluntary Ventilation(MVV) of auto rickshaw drivers in Shimoga City.

## **OBJECTIVES & STUDY:**

1. To assess the pulmonary functions test in Auto rickshaw drivers of Shimoga city.
2. Comparing the same with general individuals.

## **MATERIALS & METHOD:**

### **SOURCE OF DATA:**

- Type of study – Cross sectional comparative study.
- Site of study – SIMS, Shimoga.

## **SELECTION OF STUDY GROUP & CONTROL GROUP:**

**STUDY GROUP:** Fifty non smoker male Auto rickshaw drivers in the age of 20 – 50 years for more than 5 years of Auto driving experience formed the study group.

**CONTROL GROUP:** Age and sex matched individuals not exposed to Auto rickshaw driving formed the control group.

Comparison of mean values of the age, height, weight of the subjects of study & control groups		
Parameters	Study group	Control group
Age (years)	35 ± 10.2	30.1 ± 10
Height ( cm)	165.2 ± 8.1	170.1 ± 8.1
Weight	70.2 ± 8.1	62 ± 8.2

The Present study will be conducted in Physiology department of Human Physiology lab, SIMS, Shimoga city. Shimoga is located to the western region of south Karnataka of South India. Ethical permission from the Institutional Ethical Committee not yet got.

The study group consisted of 40 males in the age group of 20 to 50 years who are being driven the auto rickshaw for 8 hours / day more than 5 years in Shimoga City. Control group consisted of 50 males of the same age group of normal healthy individual selected who were not exposed to Auto rickshaw driving. The subjects in the study & control group have inclusive & exclusive criteria.

Here in this case we are going to see or asses what percentage of parameters value of pulmonary functions test are changed in Auto rickshaw drivers and comparing with normal healthy individuals.

### **INCLUSIVE CRITERIA:**

Male subject Age group between 20 to 50 years with subject no history of allergic disorders, respiratory disorder's like, Asthma or any systemic diseases, no history of smoking, chewing tobacco & intake of alcohol.

### **EXCLUSIVE CRITERIA:-**

Subject with age group less than 20 years & more than 50 years, alcoholics, person with systemic diseases, smokers, who had chest wall deformity, severe obesity, previous thoracic surgery and females are excluded from the study.

All pulmonary functions test will be done during day time by using recording spirometry and digital computerized spirometry.

### **METHOD OF COLLECSTION OF DATA:-**

#### SELECTION OF STUDY GROUP:

A list of Auto rickshaw drivers will be selected from the city municipal corporation, Shimoga

#### SELECTION OF CONTROL GROUP:

Normal healthy individuals are selected from the Shimoga City with corresponding age, sex and height of the study group.

Following parameters is to be taken for consideration for pulmonary functions test.

1. Forced vital capacity (FVC)
2. FEV1 / FVC
3. FEV2 / FVC
4. FEV3 / FVC
5. FEF (25-75%)
6. PEF
7. MVV
8. RMV

## **STATISTICAL ANALYSIS:**

Statistical Analysis will be done using the unpaired 't' test.

## **Note:**

The lung functions of the subjects will be measured by a non invasive procedure using recording & computerized Spirometry.

## **REFERENCES:**

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