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# FATIGABILITY IN URBAN AND RURAL SMOKERS

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#### **ABSTRACT**

Rural smoking prevalence rates vary by state. Kentucky, a tobacco growing state, is a national leader in rural adult smoking prevalence at 31.8%, which is higher than the state and national averages and rates found in rural areas of other states. Rural areas of Utah, for example, Have A much lower level of adult smoking. The aim of the study is to compare the fatigability between the rural smokers and urban smokers. The p values of both the urban and rural smokers in pull up and squat test is <0.0001 and comparing the mean values of both groups. The study reveals that urban smokers tends to get fatigue more than the rural smokers.

#### **KEY WORDS**

Rural smokers, Urban Smokers, mean values of both groups.

#### INTRODUCTION

A person who smokes tobacco regularly is known as a smoker. Smoking probably caused about 700,000 deaths in India during the year 2000, including about 550,000 among middle aged men and about 110,000 among older men.

Cigarette smoking has been associated with higher serum level of cholesterol, coronary vasomotor reactivity, platelet aggregation, and a prothrombotic state. Smoking also leads to acute respiratory disease, tuberculosis and asthma in younger age groups and non-communicable disease such as chronic lung disease, cardiovascular diseases and cancer in middle and older age (1).

Rural smoking prevalence rates vary by state. Kentucky, a tobacco growing state, is a national leader in rural adult smoking prevalence at 31.8%, which is higher than the state and national averages and rates found in rural areas of other states. Rural areas of Utah, for example, Have A much lower level of adult smoking.

Prevalence at 12.5%. These authors also found that low socioeconomic status (as measured by educational level, income, and employment) was associated with higher smoking prevalence in a national rural study and explain part of the disparity in tobacco use among rural residents (2). Regardless of location, rural population are disproportionately affected by tobacco use, exposure to second hand smoke, and smoking-attributable disease and death.

Unique cultural and social factors that exist in rural communities may affect tobacco use and treatment. For example, some communities may have social norms supportive of tobacco use (i.e., tobacco-growing communities), or be exposed to tobacco industry marketing campaigns such as sponsorships of rural sporting events. Proximity to tobacco growing in rural areas is another potential barrier to tobacco control effects (3).

Tobacco-growing regions of the country often have fewer tobacco-related (laws) and fever anti-smoking programs. However, all rural areas are not alike. Interventions that work well in one rural area may not necessary translate to other rural areas (4).

### **AIM OF THE STUDY**

The aim of the study is to compare the fatigability between the rural smokers and urban smokers.

#### **OBJECTIVE OF THE STUDY**

The objective of the study is to assess the fatigability in rural and urban smokers



### **NEED AND BACKGROUND OF THE STUDY**

- Smoking and tobacco use are major determinants of health and leads to health inequities.
- Comparison of fatigability in rural and urban smokers.

# **HYPOTHESIS**

### **NULL HYPOTHESIS:**

There is no significant difference between fatigability in urban and rural smokers.

# **ALTERNATE HYPOTHESIS:**

There is significant difference between fatigability in urban and rural smokers.



#### **METHODOLOGY**

STUDY DESIGN -EXPERIMENTAL STUDY

**STUDY METHOD-** COMPARATIVE STUDY

STUDY TYPE-OBSERVATIONAL

**STUDY DURATION - 2 MONTHS** 

STUDY SETTING-

TODAYS PHYSIOTHERAPY, THIRUVANAMALAI

**STUDY SAMPLE** - 80 SUBJECTS

**URBAN-40 (GROUP A)** 

RURAL-40 (GROUP B)

### **INCLUSION CRITERIA**

- Age 30-50
- · Gender- males
- Smokers:
- Persons having the habit of smoking for the past 3 years above

#### **EXCLUSION CRITERIA**

- · Cardio diseases
- Musculoskeletal
- · Physical training, Yoga

#### **OUT COME MEASURE**

Pull up test - upper limb Squat test- lower limb

### **PROCEDURE**

 All the 80 participants met the inclusion criteria and signed the consent letter. They randomly assigned to one of the two groups. They were divide in to group A (40) urban and group B (40) rural smokers. The participants were allocated in to observed by PULL UP AND SQUAT TEST • The test were performed between 7am and 8am before talking breakfast both the groups were explained about pull and squat test. Participants started the pull up test first and were instructed to do pull-ups as many repetitions as possible without any break. it was followed by a one-minute break for the participants then the participants performed squat test and were instructed to do as many repetitions as possible without any break. The number of repetition and the duration of test performed were record and used for further statistical analysis.

#### **PULL UP TEST:**

Grasp the overhead bar using either and over hand grip (palm facing towards body,) with arms fully extended. The subject the raises the body until the chin clears the top of the bar, then lowers again to a position with the arms fully extended. The pull ups should be done in a smooth motion. Jerky motion, swinging the body, and kicking or bending the legs is not permitted. As many full pull ups as possible are performed the purpose of the test is to measure upper body muscle strength and endurance

### **SQUAT TEST:**

The test is performed with feet shoulder width apart remind them to keep their weight in the heels, knees in line with their ankles and hands out for counter balance. The purpose of this test is to know the endurance of lower body muscles.



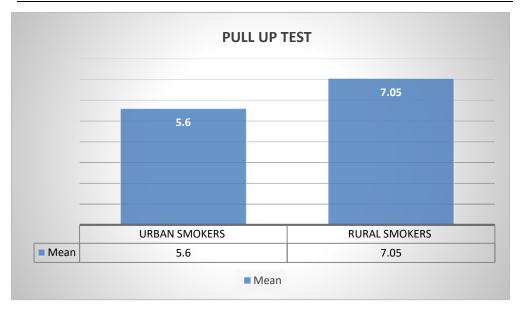
# STATISTICAL ANALYSIS

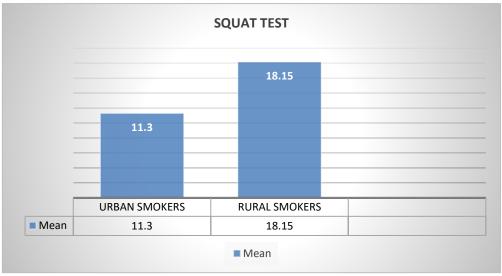
# **Group A (URBAN SMOKERS):**

| OUTCOME MEASURE | MEAN VALUE | STANDARD DEVIATION | t-VALUE | p-VALUE |
|-----------------|------------|--------------------|---------|---------|
| Pull up test    | 5.60       | 2.75               | 12.8647 | <0.0001 |
| Squat test      | 11.30      | 4.11               | 17.3939 | <0.0001 |

# **Group B (RURAL SMOKERS):**

| OUTCOME MEASURE | MEAN VALUE | STANDARD DEVIATION | t-VALUE | p-VALUE |
|-----------------|------------|--------------------|---------|---------|
| Pull up test    | 7.05       | 3.26               | 13.686  | <0.0001 |
| Squat test      | 18.15      | 16.43              | 18.985  | <0.0001 |







#### **RESULT**

The p values of both the urban and rural smokers in pull up and squat test is <0.0001 and comparing the mean values of both groups

PULL UP TEST
GROUP A (URBAN SMOKERS) IS 5.60
GROUP B (RURAL SMOKERS) IS 7.05
SQUAT TEST
GROUP A (URBAN SMOKERS) IS 11.30
GROUP B (RURAL SMOKERS) IS 18.15

Data shows fatigability is more in urban smokers compared to rural smokers

#### **DISCUSSION**

Fatigue is more common in urban smokers. Pull up and squat test shows considerable fatigue level in urban smokers. Is evident from the data values. the present study suggested that some life style factors that show a significant relation with the subjective symptoms of fatigue differ between the regions. Comparison of functional capacity of smoker's vs nonsmokers by using a sub maximal test in young healthy subjects There is a significant difference between the distance covered by the subjects and shows that no smokers covered a greater distance as compared to smokers thus proving that non-smokers when compared to smokers possess a better functional capacity than smokers who were in this case. Despite an absence in changes in contractile properties and muscle weakness of smokers where, More fatigable. These effects were similar in urban and rural smokers. Previously we have that young smoking men show greater fatigability (morse et al 2007) and here effect would increase with increasing smoking volume. The absence of co relation between muscles fatigability and any measure of smoking volume contradicters and suggests that the effect of smoking on skeletal muscle fatigability

### **CONCLUSION**

The study reveals that urban smokers tends to get fatigue more than the rural smokers. There are variety

of reason for this. Among them the environment, occupation, work stress life style is some of the factors

# LIMITATION OF THE STUDY

- Small sample size
- Selected location or particular area of urban and rural smokers were not selected

#### **RECOMMENDATION OF THE STUDY**

- Further studies can be done comparing factors that causes fatigue in rural and urban smokers
- Fatigue ability in short term tobacco users and long-term tobacco users.

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