

## **Pulmonary function of jute mill workers from West Bengal, India**

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### **ABSTRACT**

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**Background:** Jute industry workers constantly exposed themselves to jute dust and are at risk of impairment of lung function. Investigation on various studies revealed the effects of exposure to jute dust but limited studies so far undertaken regarding its bearing on pulmonary function of jute workers of West Bengal, India.

**Purpose:** To evaluate the respiratory status of jute mill workers of West Bengal exposed to occupational hazards.

**Materials and Methods:** This cross sectional study was conducted on 203 male jute mill workers of age range 18 – 60 yrs. from West Bengal and a control group of 141 men of similar age. Dynamic pulmonary function parameters were carried out including physical parameters, respiratory abnormalities, year of exposure and smoking history.

**Results:** FVC, FEV<sub>1</sub>, FEF<sub>200-1200</sub> and PEF values of higher age group non smoker of low dust zone were significantly higher in comparison to the non smoker of high dust zone. The prevalence of chest tightness

was 33.49% and liver dysfunction was 41.9% in dusty zone workers of jute mill in comparison to less dusty zone. Again, incidence of chest tightness and cough was highest (35.44%) in higher age group workers and prevalence of byssinosis like symptoms and chronic bronchitis was 30- 37% after 10 – 30years of exposure. But occurrence of bronchial asthma was 11.9% in workers of greater than 20 years of exposure. Prevalence of all the above respiratory abnormalities was higher among smokers than non-smokers.

**Conclusions:** Concentration of jute dust exposure had been associated with decrease in FVC, FEV<sub>1</sub>, and PEF with a higher risk of developing chronic bronchitis, bronchial asthma, byssinosis and other respiratory symptoms. This indicated high occupational health hazards which would create an alarming situation, if remained unchecked.

**Key words:** Pulmonary function, jute workers, restrictive/obstructive, respiratory symptoms, odds ratio

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