

RESEARCH ARTICLES

A study on pulmonary function tests among rice mill workers in Mysuru, Karnataka

Uma Vijayashankar¹, Rajeshwari L²

^{1,2}Department of Physiology, JSS Medical College, JSSAHE & R, Mysuru, Karnataka, India

(Received: February 2019 Revised: May 2019 Accepted: June 2019)

Corresponding author: **Rajeshwari L.** Email: lrajeshwari@jssuni.edu.in

ABSTRACT

Introduction and Aim: Rice is the largest consumed food grain in south India. Rice cultivation, harvesting and milling is done since ages in India. Respiratory diseases are greatly induced by the occupational dusts that are influenced by the duration of exposure. A large amount of dust is produced from rice milling process and hence the workers breathe air mixed with dust into their lungs every day. This study aims to assess the effect of rice mill dust on lung functions among rice mill workers.

Materials and Methods: Fifty non-smoking male adult workers from rice mills were selected for the study and fifty age and sex matched from the general population who were not exposed to such occupational hazard were included as controls. Pulmonary function parameters (FVC, FEV₁, FEV₁/FVC, PEF and MVV) were recorded using computerized RMS Helios Spirometer during their working hours in both the groups and were statistically analyzed by using student's 't' test. Further the cases were classified according to the duration of exposure and inter group comparisons were made using one-way Anova.

Results: Rice mill workers showed a significantly greater percentage of decline in FVC, FEV₁, PEF, MVV and also a significant decrease in FEV₁/FVC ratio suggestive of obstructive pulmonary disorder. Also, there is a negative correlation between duration of exposure and deterioration of the lung function.

Conclusion: The respiratory parameters were significantly declined among rice mill workers compared to controls.

Keywords: Pulmonary function; rice mill; occupational dusts; harvesting; milling.
