

Cardio-respiratory status of stone grinders and brick field workers from west Bengal, India

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ABSTRACT

Introduction: Quartz crushing and brick making industry are informal and demands heavy manual labour. They are socio-economically backward and are unable to avail of social security's scheme meant for protection of the health and welfare of Indian workers.

Purpose: To evaluate cardiovascular and respiratory status of stone grinders and brickfield workers and to compare the above parameters with the control group.

Materials and methods: This cross-sectional study was carried out among 94 stone grinders and 82 brick field workers of West Bengal. They are mainly exposed to stone dust particles, silica dust and fumes. Pulmonary function and cardiovascular parameters were measured, and respiratory impairments were assessed by questionnaire.

Results: Pulmonary function parameters, including breath holding time significantly reduced among these occupational groups of workers. But maximum oxygen consumption values were significantly higher than any other industrial

workers of West Bengal. Workers of the above mentioned occupation showed restrictive type of lung impairment and prevalence of chest pain, and chronic cough (chronic bronchitis) were much higher than the control group workers. Stone grinders (42.6%) and brick field workers (78%) were in the pre-hypertensive state which is much higher than other industrial workers of West Bengal. BMI and skinfold thickness values of the above mentioned occupational workers were much lower than controls as well as other industrial groups of workers indicating severe nutritional deficiency among them.

Conclusion: Thus the environmental stress and nutritional status of these two occupational groups of workers affect the cardio-respiratory status among them, which can be prevented by use of protective gadgets, use of modern engineering techniques, proper health education and awareness.

Key words: Cardio-respiratory status, stone grinders, brickfield workers
