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Title: Respiratory status of the female workers engaged in the manual brick manufacturing industries of the unorganized sectors of India

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Body: Introduction: Manual brick making units of the unorganized sectors of India employ workers from low socio-economic class and are engaged for a period of eight months (except the monsoons) on contract basis. The key occupational health hazards are associated with dust, from mud, sand, coal dust (used as fuel to bake the bricks) and chimney smoke. Aims and Objective: The aim is to investigate the respiratory status of the female brick field workers exposed to the field dust for the working period. Methods: Forced Vital Capacity (FVC), Forced Expiratory Volume in one second (FEV₁) and as a percentage of FVC (FEV₁%); forced expiratory flows of four intervals (FEF_{25%}, 50%, 75%; 25-75%) and maximum voluntary ventilation (MVV) were recorded using a computerized Spirometer (Maestros Mediline Systems Limited, India) and Peak Expiratory Flow Rate (PEFR) by Wright's peak flow meter (Medicare Equipments, India). The test group and the control group consisted of 216 female workers engaged in manual brick making units and 209 female students of the same age group respectively. Results: Pulmonary Function values significantly differed (p<0.05) in the test group than that of the control group. It was found that only 17% of the female brick field workers were found to have normal respiratory status compared to 78% of the control group. Conclusion: All the subjects were young at age, so alteration in the pulmonary functions in the test group could be attributed to the irritation of the upper respiratory mucosa causing hypertrophy of mucosal cells and formation of mucous plugs resulting in obstruction of exhaled air, caused due to exposure of the dusty environment.