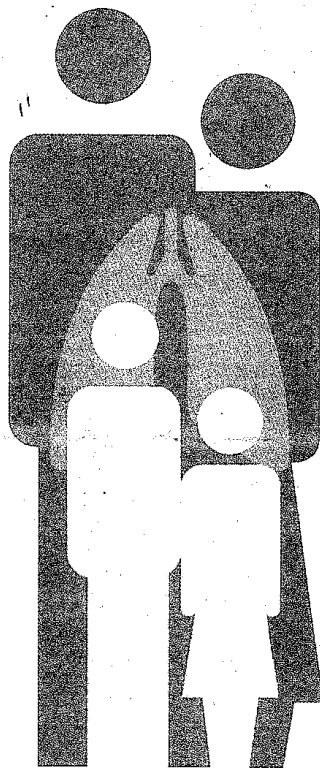




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Respiratory Care in Low Resource Settings: Practical Approaches



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OP-05. Respiratory Symptoms and pulmonary functions among school teachers exposed to chalk dust in Colombo district Sri Lanka

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Aim:

Chalk and board is the most traditional method used in schools for teaching purposes in developing countries like Sri Lanka. Chalk dust is composed of calcium carbonate, a known chemical causing allergic reactions in the respiratory system, skin and eyes. Entry of chalk dust to the respiratory system through nasopharyngeal region and mouth can be extensive among school teachers because of the close proximity to the board when writing on the black board and when opening the mouth during speech. The objectives of the study were to determine the frequency of respiratory symptoms and respiratory functions amongst school teachers, and to determine the association between duration of exposure to chalk dust with pulmonary function tests in this group.

Method:

A comparative study was conducted on 133 teachers exposed to chalk dust and 71 controls matched for anthropometric variables. Respiratory symptoms were determined using a questionnaire and all were clinically examined. Respiratory functions were assessed using a Vitalograph spirometer (Vitalograph 6800 Pneumotrac). Respiratory functions of the study group were compared with a matched control group (SPSS statistical package version 13)

Results:

There was no significant difference in prevalence of symptoms such as wheezing, dyspnoea and cough between the two groups. All lung function parameters (Forced Vital Capacity (FVC), Forced Expiratory Volume in the 1st second, (FEV₁), FEV₁/FVC, and Vital capacity (VC) were significantly decreased in teachers compared to matched controls (p<0.05)

Conclusion:

School teachers using chalk are at increased risk of developing occupational related pulmonary impairment. These deficits may not be detected early as they may be asymptomatic. Measures to control health effects following exposure to chalk dust in the school teaching environment needs to be urgently addressed. Use of other dust free teaching aids instead of chalk should be encouraged as a preventive measure.

Declaration of Interest:

None

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