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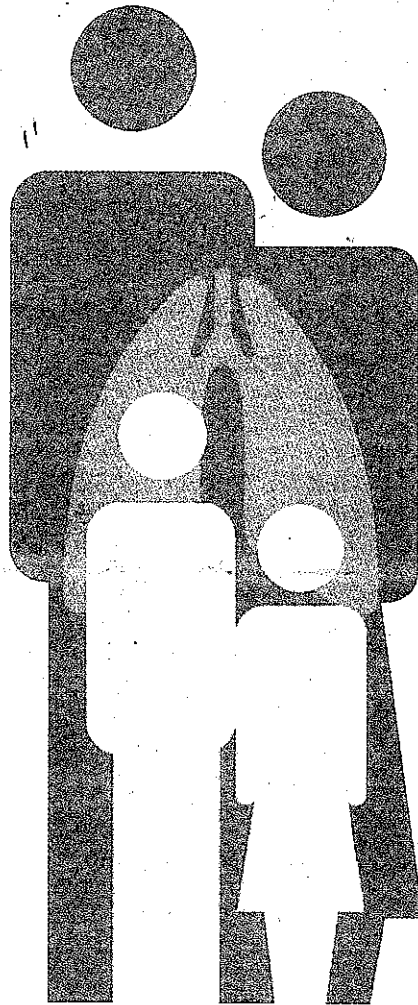International Primary Care Respiratory Group

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Respiratory Care in Low Resource Settings: Practical Approaches

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PP-23. Exhaled Carbon Monoxide and Carboxyhemoglobin levels of Adult Male Tobacco smokers in Sri Lanka: A preliminary results.

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Aim:

Tobacco smoking is one of the major preventable causes of death in the world. Tobacco kills 50% of its users. Level of Tobacco smoking can be measured by carbon monoxide (CO) levels in breath and are known to correlate closely with blood carboxyhaemoglobin concentration. Exhaled CO concentration can be measured using standardized calibrated CO smokerlyser.

To determine the severity of smoking by measurement of the breath Carbon monoxide (BCO) levels of Tobacco smokers.

Method:

Current male tobacco smokers (n=30) aged 21-56 were randomly selected and compared with non-smoking control subjects. Breath Carbon Monoxide (BCO) and Carbohyhemoglobin (COHb %) were measured using a portable Bedfont piCO+Smokerlyzer (Bedfont Scientific, UK, http:// www.bedfont.com). BCO cutoff of ≥7 ppm was used and analysis was performed minimum after 10 minutes of last cigarette as recommended by the manufacturer.

Results:

The mean age of the smokers was 37.1 years (±10.2 SD) and the mean age of the nonsmokers was 32.3 years (±8.2 SD). The mean BCO level of the smokers 17.4 ppm (±11.1 SD) was significantly higher than the mean BCO level of the non-smokers 2.8 ppm (±0.79 SD)($p < 0.05$). The mean COHb% level of the smokers was 3.6 ppm (±1.9 SD) significantly higher than the mean COHb% level of the non-smokers 1.1 ppm (±0.1SD)($p < 0.05$).

Conclusion:

BCO levels and COHb% levels effectively monitor CO levels amongst smokers. The BCO levels correlated significantly with duration and frequency of smoking in this population. Thus these tests can be used effectively to determine the severity of smoking in populations.

References & Clinical Trial Registry Information

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