EXHALED CARBON MONOXIDE LEVELS AMONG MALAYSIAN MALE SMOKERS WITH NICOTINE DEPENDENCE

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Abstract. We studied the use of exhaled carbon monoxide (CO) to identify nicotine dependence among adult Malaysian male smokers. We conducted a cross-sectional study among 107 male smoking staff at a university hospital. We measured their exhaled CO using a piCO⁺ Smokerlyzer and diagnosed nicotine dependence using a Mini-International Neuropsychiatric Interview (MINI). The optimal cut-off value for exhaled CO was determined. The correlation between exhaled CO level and the Fagerstrom Test for Nicotine Dependence (FTND) was also assessed. The mean exhaled CO level among subjects with nicotine dependence (15.78 ppm) was significantly higher than subjects without nicotine dependence (9.62 ppm). The cut-off value used to identify smokers with nicotine dependence was set at 10 ppm (specificity=0.721, sensitivity=0.731, positive predictive value=0.817 and negative predictive value=0.617). Psychometric properties were stable with various durations of smoking. Exhaled CO correlated positively with FTND scores (Pearson’s rho=0.398, p=0.01). Our findings show exhaled CO can be used to identify nicotine dependence among adult Malaysian male smokers.

Keywords: exhaled carbon monoxide, smoker, nicotine dependence, male, validation

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