100 AN INVESTIGATION INTO THE EFFECTS OF SMOKING ON PHYSICAL FITNESS PARAMETERS IN ADOLESCENTS

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Smoking is associated both prognostically and aetiologically with numerous diseases of the respiratory system. Tobacco smoking is a major cause of an accelerated decline in ventilatory function and physical fitness. As most of the people take to smoking when they are young, it will be informative to study the effects of smoking on lungs in the initial stages. The aims of this study were to investigate the effects of smoking on forced vital capacity (FVC), forced expiratory volume in 1 s (FEV₁) and maximal oxygen consumption (VO₂max) in adolescent smokers.

Methods An experimental study subject design was carried out on 15 smoking and 15 non-smoking volunteers within the age group of 18–30 years who were recruited from the college campus. The non-smokers formed the control group. All the subjects underwent spirometric analysis and maximal treadmill test (Bruce protocol) for the estimation of VO₂max. Appropriate statistical tests were performed to study the effects 30 min after smoking a cigarette.

Results There was a statistically significant difference in the mean spirometric values of FVC/FEV₁ of the smokers and the non-smokers; however, there was no statistically significant difference in the mean VO₂max value in smokers and non-smokers. There was a statistically significant difference in the mean FVC/FEV₁ of the smokers before and 30 min after smoking a cigarette. Again there was no statistically significant difference in the mean VO₂max values before and after smoking a cigarette in the smokers.

Conclusion Cigarette smoking does have a significant effect on the spirometric values of FVC/FEV₁; however, its effect on the maximal oxygen consumption (VO₂max) could not be ascertained accurately in adolescent smokers.