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## A Comparative Study of PFT in Obese and Non-Obese Young Male Students

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## Abstract

Background: Obesity has been recognized as the main etiological factor for several metabolic diseases. They are also prone particularly to develop respiratory ailments. The male pattern of fat deposition around the thoracic wall and increased abdominal mass leads to reduced compliance and altered ventilation. The study aimed to determine whether significant changes occur in obese young male subjects as compared to normal subjects of the same age group. **Methods:** This study was conducted in the Department of physiology, RIMS, Adilabad. The subjects were classified as Normal if BMI was between 18.5 - 25.0 kg/m<sup>2</sup> Overweight BMI between 25 – 30 kg/m<sup>2</sup> Obese with BMI 30 – 35 kg/m<sup>2</sup>. Pulmonary function tests were done with a computerized spirometer. The parameters were evaluated and compared Forced Vital Capacity FVC, Forced Expiratory Volume In 1 Sec - FEV1, FEF 25 -75% - FEF 25 - 75%, and Peak Expiratory Flow Rate (PEFR). Results: The Forced Vital capacity FVC (liters) was measured in all three groups. The highest mean FVC was in subjects of the normal BMI group and the lowest was found in the obese category. The ANOVA analysis between the group indicated that the values were significantly different between the group and the p values were less than 0.05. The FEV<sub>1</sub>/FVC values were recorded in each group and the mean of each group was determined and denoted in table 4. The highest mean values 98.55 were in the obese category followed by the overweight category 96.29 and the least values were in the normal weight category 94.35. The p values were found to be significant. Conclusion: obesity affects the pulmonary functions by causing a reduction of FVC and FEV<sub>1</sub>/FVC which are due to restrictive effects on the respiratory system. Obesity also increases the tone of the upper respiratory tract which leads to increase airway resistance. Obesity increases the requirement of oxygen and reduces the compliance of the chest wall.