SUMMARY AND CONCLUSIONS

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SUMMARY: The wide-ranging ill effects of obesity came to be known much better after the 1950s The economic developments worldwide thereafter, and the sedentary lifestyle has led to a whole new generation of youngsters landing with obesity But the cardiovascular implications of this condition in adolescents, have thus far hogged the limelight Little is yet known with certainty regarding its fallout on the respiratory system. Hence, the present study investigated the relationship between adolescent obesity and lung function parameters.

The thesis consists of

Chapter 1- An introduction to the global epidemic of obesity, causes and complications in adolescents, and its probable effects on their lungs

Chapter 2- Outlines the main objectives of the present study

Chapter 3- Delineates the physiological basis of pulmonary function testing and gives an overview of studies carried out by researchers worldwide, in this age group.

Chapter 4- Describes the materials used for the study and the methods employed for the same

Chapter 5- Summarizes the results in the form of tables and graphs

Chapter 6- Discusses the results, focusing on those which showed a significant variance compared with age matched controls.

Respiratory functions were assessed in 30 obese adolescents and 30 age matched controls The result may be summarized as under:

1 Standard anthropometric measurements with the exception of height and Waist / Hip circumference were significantly higher in the obese group

2 The pulmonary function parameters evaluated were Forced Expiratory and Inspiratory Vital Capacities (FVC and FIVC), Force Expiratory and Inspiratory Volumes at the end of the first second (FEV_1, FIV_1), the ratios to the Respective Vital Capacities, Flow Rates (PEF and PIF, $FEF_{25-75\%}$, $FEF_{50\%}$, $FEF_{75\%}$) and Maximum Voluntary Ventilation (MVV).

Flow rates, especially $FEF_{25-75\%}$ (or Maximum Mid Expiratory Flow Rate) and Maximum Voluntary Ventilation (MVV) are significantly lower in the obese compared to the control group Similarly, Maximum Voluntary Ventilation is significantly lower in the obese population The

ratio of Force Expiratory Volume in the first second to Forced Vital Capacity (FEV_1 / FVC) is also significantly lower in the obese population compared with age matched controls

CONCLUSION. To conclude, we found pulmonary abnormalities to be common among children The abnormalities may be attributed to excess deposition of adipose tissue in the thorax and abdomen, which greatly limits the movement of ventilatory muscles, decreases compliance, ventilatory muscle endurance and increases the work of breathing

The clinical significance of such a finding in this group of asymptomatic obese adolescents remains unknown More so, the small sample size makes it necessary to view the results with caution Hence, it is important to assess the longitudinal changes and tracking into adulthood of such abnormalities to provide appropriate management.