

## Abstract

**Background:** Evaluating how different lung function measures relate to each other helps us had better understand respiratory health, especially in young adults. While spirometry provides several useful parameters, it is important to know which ones truly reflect lung performance.

**Aim:** This study aimed to explore the relationships among common pulmonary function measures—like FEV1, FVC, FEV1/FVC, FEF25–75, PEFR, MVV, BMI, and lung age—and identify which ones best predict ventilatory performance.

**Methods:** We analysed spirometry data from healthy individuals using correlation and regression techniques to examine how closely these variables are linked and which ones can serve as reliable predictors.

**Results:** FEV1 and FVC showed a very strong positive relationship, with over 80% of FEV1 variability explained by FVC. The FEV1/FVC ratio was also a good predictor of both mid-expiratory flow (FEF25–75) and peak flow (PEFR), confirming its value in assessing airflow. In contrast, BMI and lung age had little to no meaningful connection with key ventilatory measures like MVV, suggesting limited predictive value.

**Conclusion:** The findings show that core spirometry values such as FEV1/FVC and FVC are strong indicators of lung function, while BMI and lung age offer little insight into ventilatory performance. These results support the continued use of spirometry as a practical and reliable tool in respiratory assessment.

## Table of Contents

| <b>SR. No.</b> | <b>Description</b>   | <b>Page No.</b> |
|----------------|----------------------|-----------------|
| 1              | Introduction         | 1 - 2           |
| 2              | Literature Review    | 3 - 5           |
| 3              | Aims & Objective     | 6 – 7           |
| 4              | Material and Methods | 8 – 11          |
| 5              | Results              | 12 – 15         |
| 6              | Discussion           | 16 – 17         |
| 7              | Conclusion           | 18 – 19         |
| 8              | Future Scope         | 20 – 21         |