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Correlation between Six-minute Walk Test and Pulmonary Function Test in Chronic Obtructive Pulmonary Disease Patients with Exacerbations: A Feasibility Pilot Trial

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ABSTRACT

Introduction: Exacerbations of Chronic Obstructive Pulmonary Disease (ECOPD) frequently occur in primary care, but diagnosing them accurately and promptly can be challenging. Six-minute Walk Test (6MWT) is a cost-effective and well-documented field test used to assess aerobic capacity, response to medical treatments in cardiopulmonary diseases, and predict cardiorespiratory fitness.

Aim: This study aims to explore the relationship between the 6MWT and pulmonary function variables in COPD patients with exacerbations within the local population.

Materials and Methods: From January to November 2024, 46 consecutive COPD patients with a history of exacerbations were included from a tertiary care hospital. Patients had a post-bronchodilator FEV1/FVC ratio <0.7, and 6MWT were conducted per the American Thoracic Society (ATS) guidelines. Percent predicted 6MWD was calculated, and the correlation between spirometry and 6MWT was analysed. The study was approved by the Institutional Ethical Committee (MMDU/IEC/2700).

Results: Pearson's correlation coefficient (r) determined a positive correlation (r = 0.510) between the 6MWT and FEV1/FVC in COPD patients with exacerbations.

Conclusion: The findings of our study indicate a strong positive correlation between the 6MWT and the spirometry variable (FEV1/FVC) in COPD patients experiencing exacerbations. These results may have clinical significance in assessing disease prognosis and estimating aerobic capacity (VO2 max) in COPD patients during exacerbations.

Keywords: Aerobic capacity, Cardiorespiratory fitness, Exacerbations