

# Significance of determining PEFr in asthma and COPD

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## Abstract

**Introduction:** The incidence of COPD and asthma has increased dramatically over last 2-3 decades in industrialized nations as a result of exposure to air pollution, Tobacco Smoke, diesel exhaust and is common disability<sup>2</sup>. **Objective:** To study comparative peak expiratory flow rate PEFr in asthma and COPD Patient. **Materials and Methods:** The present study was undertaken in chest and T.B dept. A'bad. Total 75 patients are evaluated after clinical examination and detail history. Confirm case of asthma and confirm case of COPD are selected PFER noted. **Results:** This study showed PFER is more significant in the obstructive disease (asthma) than restrictive disease (COPD). **Discussion:** Total 75 patients diagnosed. In our series we have studied PEFr and we have got mean PEFr up to 100 litres in asthma patients, mean PEFr up to 200 litres suggestive of diagnostic value in asthma and COPD patients. **Conclusion:** PFER is reduced in any type of respiratory disease.

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## INTRODUCTION

Asthma and COPD are disease that has become increasing common over last century and now a day's common cause of disability. The incidence of asthma and COPD have increased dramatically over <sup>2,3</sup> decade in industrialized nations as a result of exposure to air pollution, SO<sub>2</sub>, NO<sub>2</sub>, decrease level of Ozone, Tobacco smoke, Diesel exhaust, also other factors includes obesity decreased exercise, change in diet increased viral infection <sup>1</sup> Asthma is a chronic relapsing inflammatory disorder characterized by hyperactive airways leading to episodic reversible broncho constriction owing to increase responsiveness of the tracheo bronchial tree to various stimuli<sup>4,7</sup>. COPD is a common preventable and treatable disease is characterized by persistent airflow limitation that is usually progressive and associated with an

enhanced inflammatory response in the airways and the lung to noxious particles or gases<sup>8</sup>. Symptomimetic inhaled beta 2 agonists are the mainstay of therapy for acute asthma and ipratropim bromide is an anticholinergic bronchodilator commonly use in of COPD more useful in COPD than in asthma<sup>2,3,4</sup> This study design to compare standard assessment of (PFER) in COPD and asthma patient assessed by easy, handy less complicated wright's peak flow meter.

## OBJECTS

To study PEFr abnormalities in asthma and COPD patients. To study comparative PEFr in asthma and COPD patients.

## MATERIALS AND METHODS

The present study was undertaken in chest and T.B. department Aurangabad total 75 no. of patient evaluated according to ATS guide lines<sup>5</sup>. 25 no. of patients of asthma selected and PEFr recorded and 25 patients of COPD selected and PEFr recorded. In normal 25 patients PFER is recorded with help of wrights peak flow meter.

## RESULTS

Determination of PEFr is useful for assessing the respiratory disease especially to differentiate the obstructive and restrictive disease. Generally PEFr is

reduced in any type of respiratory disease. However the reduction is more significant in the obstructive diseases (asthma) than in restrictive diseases (COPD<sup>6</sup>). In normal patients PEFr was recorded up to 400 liters per minute. Thus in COPD the PEFr is average of 200 liters per minute and in asthma diseases it is only 100 liters. Statically (asthma) obstructive diseases PEFr reduced more than (COPD) restrictive disease. Conclusion PEFr is reduced in any type of respiratory disease having diagnostic value in asthma in COPD patients.

## DISCUSSION

- Total 75 patients diagnosed according to the clinical, radiological criteria. The results of this study are analyzed and discussed.
- The functional defect to all asthma is obstruction of the air flow reducing the expiratory flow rates.
- The functional defect to all COPD is obstruction and restriction of flow rates causing disturbances in work of breathing.
- Singh JP, Singh R, Gupta RC and Bharadwaja B conducted study and noticed significant diagnostic value of PEFr.
- In our series we have studied PEFr and we have got mean PEFr up to 100 litres in asthma patients, mean PEFr up to 200 litres and mean PEFr up to 400 litres in normal patients,

suggestive of diagnostic value in asthma and COPD patients.

- Conclusively this study shows PEFr abnormalities in asthma and COPD patients. Both COPD and asthma patients showed air flow limitation. Although comparatively PEFr having more diagnostic value in asthma than in COPD.

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