



## Prevalence of different categories of COPD in a tertiary care teaching hospital in Kerala

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### Abstract

**Background:** Chronic Obstructive Pulmonary Disease (COPD) is a common, preventable and treatable disease that is characterized by persistent respiratory symptoms and airflow limitation. It should be considered in any patient who has dyspnoea, chronic cough or sputum production and/or a history of exposure to risk factors for the disease.

Assessment by ABCD classification in GOLD 2011 is useful in the management of the disease. This study aims to find out the number and percentage of patients in each group of COPD among patients who visited the pulmonary medicine outpatient department of a tertiary care center in South Kerala during a 1 year period.

**Methods:** 112 COPD patients who attended the outpatient department were grouped into A,B,C and D according to GOLD classification 2011. The percentage in each group was also calculated.

**Results:** After applying the 'ABCD' classification to the 112 COPD patients, 14 patients were in A group, 26 patients were in B group, 40 patients were in C group and 32 patients were in D group.

**Conclusion:** The choice of medications in COPD differs for each group. There is relatively low prevalence in group A patients. 35.7% of COPD patients in this study belonged to A or B, in whom inhaled corticosteroids are indicated.

### Introduction

Chronic Obstructive Pulmonary Disease (COPD) is a common, preventable and treatable disease that is characterized by persistent respiratory symptoms and airflow limitation that is due to airway and/or alveolar abnormalities usually caused by significant exposure to noxious

particles or gases<sup>1</sup>. Possibility of COPD is to be considered when a patient has long term respiratory symptoms and/or risk factors for the disease. The most important risk factor is tobacco smoking. Non smokers may develop COPD. Air pollution, indoor or outdoor, is a known risk factor. Asthma is also a risk factor for the

development of COPD<sup>2</sup>. The reported prevalence estimates for India have ranged from 2 to 22% in men and from 1.2 to 19% in women<sup>3</sup>.

COPD should be considered in any patient who has dyspnoea, chronic cough or sputum production, and/or a history of exposure to risk factors for the disease. Spirometry is essential for the diagnosis<sup>4</sup>. A post bronchodilator FEV<sub>1</sub>/FVC ratio less than 0.7 confirms persistent airflow limitation. Assessment of COPD helps to guide its treatment.

In 2011 the GOLD committee (global initiative for chronic obstructive lung disease) modified the earlier recommendations for determining disease severity for patients with COPD. The earlier spirometry based system was now replaced by a categorization of patients into 4 categories (A,B,C,D) which incorporated disease symptoms and exacerbations along with spirometry to classify patients. This proposal by the GOLD committee has profound implications on the management of individual patients. The basic premise of the ABCD system is that patients who have more symptoms (dyspnoea, cough etc) need bronchodilators and those who are at risk of repeated exacerbations would benefit from inhaled corticosteroids. So patients were grouped into these 4 categories.

Patient Category	Characteristics	Spirometric Classification	Exacerbations per year	CA T	mM RC
A	Low Risk, Less Symptoms	GOLD 1-2	≤1	< 10	0-1
B	Low Risk, More Symptoms	GOLD 1-2	≤1	≥ 10	≥ 2
C	High Risk, Less Symptoms	GOLD 3-4	> 2	< 10	0-1
D	High Risk, More Symptoms	GOLD 3-4	> 2	≥ 10	≥ 2

Medications in COPD are used to reduce symptoms, reduce the frequency and severity of exacerbations, and improve health status and exercise tolerance. None of the drugs used in the

treatment of COPD modifies the long-term decline in lung function that invariably occurs in this disease<sup>5,6,7</sup>. Group A patients are treated usually with short acting bronchodilators as required. Group B patients are treated with one or two long acting bronchodilators. Inhaled corticosteroids are useful in C and D groups. It is used along with one or two long acting bronchodilators. Regular use of inhaled corticosteroids has been found to improve the symptoms of COPD patients. It also improves the lung function and the quality of life. It also significantly reduces the risk of exacerbations<sup>8-13</sup>. Long term use of inhaled corticosteroids is not to be used outside their indications due to the risk of pneumonia<sup>14</sup> and bone fractures<sup>15</sup>.

### Aim of Study

To find out the prevalence within each group (classified by the new GOLD 'ABCD' classification) of COPD patients who attended the OP of Pulmonary Medicine Department of a tertiary care centre in south Kerala over a period of 1 year.

### Study design

Hospital based prevalence study.

### Study population

Patients with COPD symptoms (cough, dyspnea on exertion or recurrent chest infections) who met the spirometric criteria for COPD as defined by the GOLD committee (Post bronchodilator FEV<sub>1</sub>/FVC ratio less than 0.7)

### Exclusion criteria

1. Patients with post bronchodilator FEV<sub>1</sub> reversibility of > 12% and/or 200ml.
2. Patients with other lung diseases like bronchiectasis and tuberculosis.

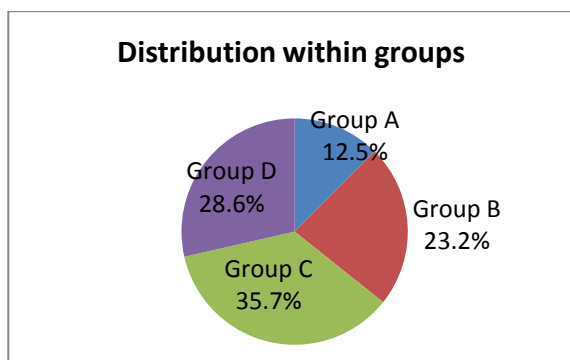
### Methodology

112 patients, who attended the outpatient department of Pulmonary Medicine in a 1 year period, diagnosed as COPD by spirometric criteria defined by GOLD were selected. They were grouped according to the 'ABCD' classification of COPD described in the GOLD guidelines.

## Results

The number and percentage of COPD patients in each group were as follows:

Group A	14	12.5%
Group B	26	23.2%
Group C	40	35.7%
Group D	32	28.6%
Total	112	100%



## Discussion

COPD is a treatable and preventable disease. Usually patients ignore symptoms of mild COPD (group A) ignoring as 'smoker's cough'. This may also be true of physicians who fail to recognise these early symptoms. Advice for smoking cessation may also be neglected at this stage. In our study 14 out of the total 112 patients (12.5%) were of group A.

The two main categories of medications are bronchodilators and inhaled corticosteroids<sup>16</sup>. The latter is not recommended for all COPD patients. This is because it increases the risk of pneumonia and osteoporosis related complications. GOLD recommends its use in group C and group D patients but not for groups A and B. The distinction between Asthma and COPD is obvious in this aspect. Physicians treating COPD patients must be aware of this fact. The cost of therapy is also high when inhaled corticosteroid is included in the treatment. In this study 40 of 112 patients (35.7%) belonged to group A or B. 64.3% belonged to C or D, in whom inhaled corticosteroids are recommended. This is also true for the use of short acting versus long acting bronchodilators and the choice of long acting bronchodilators - long acting beta 2 agonist and/or long acting muscarinic antagonist.

## Conclusion

Of the 112 COPD patients, 14 patients (12.5%) belonged to Group A, 26 patients (23.2%) Group B, 40 patients (35.7%) Group C and 32 patients (28.6%) Group D.

As COPD is a progressive disorder most patients are assumed to progress from milder forms of the disease to the more severe forms. The relatively low prevalence of Group A patients in this study probably reflects the fact that many patients may not be seeking treatment early in the disease attributing these symptoms to multiple other factors rather than a disease entity. However if they do seek treatment in the earlier stages then strategies like exposure modification is more likely to be effective and to preserve lung function for a longer period of time. Part of this delay in seeking care can probably be attributed to the fact that the awareness of COPD is low in the general public and increasing awareness may result in patients seeking earlier treatment and thus better outcomes for these patients.

35.7% of COPD patients belonged to group A or B and in these patients, in whom inhaled corticosteroids are not recommended.

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