Original Research Article

Clinical profile of patients with chronic obstructive airway disease attending tertiary care hospital

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Abstract

The prevalence of COPD is expected to rise over the next 30 years because of the increasing prevalence of smoking in developing countries, and aging populations in high- income countries. It has been predicted that by the year 2030, 4.5 million COPD related deaths occur annually. The subjects recruited directly from the department of pulmonary medicine based on the inclusion and exclusion criteria. Minimum 60 subjects needed for the study. The parameters of lung volumes (SVC, FVC, FEV1, FEV1/FVC%, FEV1/SVC%) recorded by ATS standardized MEDISOFT® spirometry. Out of 38 patients, 32 patients were smokers (84.21%), 5 patients who exposed to bio mass fuel were females (13.16%) and 1 patient had occupational exposure (2.63%). Out of 41 patients, 35 were having allergy (85.4%), 6 were not having allergy (14.6%).

Keywords: COPD, asthma, allergy

Introduction

About 384 million COPD cases estimated in 2010. Estimated global prevalence is 11.7% (95% CI 8.4%-15.0%). Chronic Obstructive Pulmonary Disease (COPD) kills more than 3 million people every year, making it the 4th largest cause of death in the world [1].
The prevalence of COPD is expected to rise over the next 30 years because of the increasing prevalence of smoking in developing countries and aging populations in high-income countries. It has been predicted that by the year 2030, 4.5 million COPD related deaths occur annually. COPD will become the third biggest cause of death. According to the World Health Organisation, COPD kills more people than HIV-AIDS, Malaria and Tuberculosis all put together in the South East Asian region [2].
Disability-Adjusted Life Year (DALY) = sum of years lost because of premature mortality and years of life lived with disability, adjusted for the severity of disability. COPD is an increasing contributor to disability and mortality around the world. In 2013 COPD was 5th leading cause of DALYs lost.

Systematic review and meta-analysis of Halbert *et al*., 2006 included studies carried out in 28 countries between 1990 and 2004. Prevalence of COPD was higher in smokers and ex-smokers compared to non-smokers. Higher in age group ≥ 40 years compared to those < 40. More common in men than women [3].

Asthma is one of the most common chronic diseases worldwide with an estimated 300 million affected individuals. Prevalence is increasing in many countries, especially in children. Asthma is a major cause of school and work absence. Health care expenditure on asthma is very high. Developed economies might expect to spend 1-2 percent of total health care expenditures on asthma. Developing countries likely to face increased financial demand due to increasing prevalence of asthma. Poorly controlled asthma is expensive. However, investment in prevention medication is likely to yield cost savings in emergency care [4].

Methodology
Sources of data

Patients with COPD & BA presenting to the department of pulmonary medicine.

Research design

Cross sectional study design.

Sampling techniques

Convenient sampling technique.

Sample

Total sample consisted of 79 subjects which includes 38 COPD patients & 41 BA Patients.

Inclusion criteria

- Age group between 12-80 years.
- Both males and females.
- Patients with high index of clinical suspicion of COPD & BA.
- Patients willing to give written informed consent to participate in the study.

Exclusion criteria

- Test performances that do not meet ATS criteria during the procedure.
- Patients with chronic lung diseases other than COPD, ASTHMA.

Methods of data collection

- The subjects recruited directly from the department of pulmonary medicine based on the inclusion and exclusion criteria.
- Minimum 60 subjects needed for the study.
- The parameters of lung volumes (SVC, FVC, FEV1, FEV1/FVC%, FEV1/SVC%) recorded by ATS standardized MEDISOFT® spirometry.
- The parameters analyzed descriptively.
- The comparison of obtained data between the ratios analyzed separately.

Results

Table 1: Gender Distribution of Asthma Patient Studied

Sex	Frequency	Percent
Male	28	68.3
Female	13	31.7
Total	41	100

Out of 41 patients 28 patients were males (68.3%) and 13 patients were females (31.7%).

Table 2: Allergy in Asthma Patients Studied

Allergy	Frequency	Percent
Present	35	85.4
Absent	6	14.6
Total	41	100.0

Out of 41 patients, 35 were having allergy (85.4%), 6 were not having allergy (14.6%).

Table 3: Occupation of Asthma Patients Studied

Occupation	Frequency	Percent
Home maker	8	19.5
Farmer	6	14.6
Construction worker	3	7.3
Labourer	5	12.2
Student	6	14.6
Professional	7	17.1
Business	6	14.6
Total	41	100.0

Out of 41 patients, 8 patients were home makers (19.5%) followed by 7 patients who were professionals (17.1%).

Table 4: Gender Distribution of COPD Patients Studied

Sex	Frequency	Percent
Male	34	89.5
Female	4	10.5
Total	38	100.0

Out of 38 patients, 34 patients were males (89.5%) and 4 were females (10.5%).

Table 5: Smoking and Exposure in COPD Patients Studied

Exposure	No of Patients	%
Smoking	32	84.21%
Bio mass fuel	5	13.16%
Occupational	1	2.63%
Total	38	100.00%

Out of 38 patients, 32 patients were smokers (84.21%), 5 patients who exposed to bio mass fuel were females (13.16%) and 1 patient had occupational exposure (2.63%).

Table 6: Occupation of COPD Patients Studied

Occupation	Frequency	Percent
Home maker	3	7.9
Farmer	11	28.9
Construction worker	6	15.8
Labourer	7	18.4
Student	0	0
Professional	8	21.1
Business	3	7.9
Total	38	100.0

Out of 38 patients, 11 patients were farmers (28.9%), followed by 8 patients who were professionals (21.1%).

Discussion

Table 7: Number of Cases Studied in Different Studies

Studies	Place	Year of Study	Number of Patients Studied
Chhabra SK et al., [5]	India	1998	80
Nathell et al., [6]	Europe	2007	3,887
Rasheed et al., [7]	U.S.A	2011	497
Barros et al., [8]	Europe	2013	1,084
Our study	Bangalore	2014	79

In the present study, the number of patients studied were 79 which was close to Chhabra SK et al., India (1998).

Table 8: Comparision of Age Distribution in Different Studies

Studies	Place	Mean age/median age
Chhabra SK et al., [5]	India	-
Nathell et al., [6]	Europe	51.2 (Mean)
Rasheed et al., [7]	U.S.A	55 (Median)
Barros et al., [8]	Europe	-
Our study	Bangalore	46.63 (Mean)

In the present study, the mean age of patients was 46.63 which was close to Nathell et al., (2007).

Table 9: Comparison of Gender Distribution in Different Studies

Studies	Place	Male	Female	M: F
Chhabra SK et al., [5]	India	-	-	-
Nathell et al., [6]	Europe	1763	2124	0.83:1
Rasheed et al., [7]	U.S.A	188	228	0.65:1
Barros et al., [8]	Europe	547	537	1.02:1
Our study	Bangalore	62	17	3.65:1

$FEV1/SVC$ diagnosed obstruction in 69 out of 79 patients (87.34%) compared to $FEV1/FVC$ which diagnosed obstruction in 43 out of 79 patients (54.43%). The discrepancy is 32.91%. The discrepancy observed in our study is greater than that observed in the study conducted by Barros et al., The sample comprised 1,084 individuals. The $FEV1/FVC$ revealed the presence of airway obstruction in 476 individuals (43.9%), compared with 566 individuals (52.2%) by

FEV1/SVC ratio. The discrepancy is 8.3%. In Rasheed *et al*., the overall discordance noted is 17%.

Conclusion

- Out of 79 patients, 41 were asthma patients and 38 were COPD patients.
- Out of 79 patients, 62 patients were males (78.48%) and 17 were females (21.52%). In asthma group, 28 patients were males (68.3%) and 13 patients were females (31.7%). In COPD group, 34 patients were males (89.5%) and 4 were females (10.5%).

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