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Original Article

Impact of Comorbidities on Chronic Obstructive Pulmonary Disease Patients

Nakibul Alam[1*]
Xue Yuwen[1]
Tang Xinghua[1]
Li Huanhuan[1]
Xu Yun[1]
Qu Jiajia[1]
M Jalal Uddin[2]

[1]Department of Respiratory Medicine
Shandong Medical University, China.

[2]Department of Community Medicine
Chattogram Maa-O-Shishu Hospital Medical College
Chattogram, Bangladesh.

Abstract

Background: *Many studies were conducted on the subject at home and abroad but there is none in Chattogram region of Bangladesh. To unveil the facts and figures on the subject we have conducted the study.*

Methods: *It was a descriptive study conducted in 2017 at different Private Hospitals of Chattogram. Sample size was purposively determined. Data were collected with a pretested checklist. SPSS version 20 was used for data management.*

Results: *Total 1490 patients were studied. Mean age was 45±6.3 years. Comorbidities were found in 924(62%) cases. Leading comorbidities were Diabetes 66%, Diabetes plus Hypertension 47%, Peptic ulcer diseases 36%, Ischaemic heart disease 15% and others 11%. Chronic Obstructive Pulmonary Disease (COPD) patients with comorbidity stayed longer in hospital (14 days versus 8 days). They also paid more than that of patients without comorbidity (USD 1176 versus 353).*

Conclusion: *COPD with comorbidities cost more than COPD without comorbidities. So, focus should be given more to prevent comorbidities as far as possible.*

Key words: COPD; Comorbidities; Impact.

INTRODUCTION

Chronic Obstructive Pulmonary Disease (COPD) is a chronic respiratory disease that is equally present in developed and developing countries. Previously emphasis was focused on smoking. But with more available diagnostic facilities, COPD is being diagnosed more accurately and hence prevalence is increasing. It has become a significant health problem throughout the world. The epidemiological, clinical and socio-economical impact of comorbidities of COPD has been studied by many[1,2]. Importance of comorbidities in COPD increases due to the fact that COPD is projected to be 3rd leading cause of death in the world by 2030 and 7th as a burden of disease[3,4]. COPD can progressively affect functions of multiple organs thus several comorbidities prevail in elderly patients. As a result management complexity, costing and hospital stay increasing significantly than that of COPD without comorbidities.
The objective of present study is to detect comorbidities, costing and average hospital stay at Private Hospital setting of Chattogram.

MATERIALS AND METHODS

It was a descriptive study conducted in 2017 at 4 major Private Hospitals (Over 100 bedded) of Chattogram. Properly diagnosed (History, clinical features, spirometry and others) all COPD case records were studied. Asthma, Emphysema with bulla and oncogenic cases were excluded. Sample size was 1490 and it was determined purposively considering resources. Trained data collectors collected data with a pretested checklist. Professional data manager managed data. SPSS version 20 was used.

*Correspondence to:
Dr. Nakibul Alam
Resident
Department of Respiratory Medicine
Shandong Medical University, China.
Mobile : +88 01711 39 24 06
Email : nakibalam2017@yahoo.com

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RESULTS

A total of 1490 COPD patient records were studied. Male female ratio was 5:1. Mean age was 45±6.3 years. Prevalence of comorbidities was 924(62%). Common comorbidities were: Diabetes 66%, Diabetes plus Hypertension 47%, Peptic ulcer diseases 36%, Ischaemic heart disease 15% and others 11%. COPD patients with comorbidity stayed longer in hospital (14 days versus 8 days). They also paid more than that of patients without comorbidity (USD 1176 versus USD 353 per hospitalization).

Table I : Frequency of comorbidities

Name of comorbidity	Frequency
Diabetes mellitus	610 (66%)
Diabetes mellitus with Hypertension	434 (47%)
Peptic ulcer diseases	333 (36%)
Ischaemic heart disease	139 (15%)
Others	102 (11%)

Source: Hospital records 2017

Table II : Hospital stay and Expenditures

	With comorbidity	Without comorbidity
Duration of Hospital stay*	14±1.8 days	8± 1.5days
Average cost / Hospitalization*	USD 1176±172	USD 353±103

Source: Hospital records 2017 *Difference is significant

DISCUSSION

COPD is a major cause of morbidity and mortality across the globe. It is increasing and its socio-economic impact is grave. Many studies were conducted on the subject worldwide to measure prevalence and pattern of comorbidities. Present findings conform with that studies[5,6]. The highest comorbidity is diabetes mellitus and it is quite logical because it is ever increasing in this region. It complicates Hypertension, Ischaemic heart disease etc.

Frequency of hospitalization, average duration of hospital stay and costing all are significantly more in COPD cases with comorbidities (p=.03, CI=95%). We found that during COPD exacerbation management of comorbidities become difficult even with aggressive therapy. This is particularly true in cardiac and diabetic patients. This could be due to over cautious effort not to destabilize either COPD symptoms or comorbidity symptoms. This leads to longer stay in hospital in comorbidity group.

CONCLUSION

Prevalence and pattern of comorbidities have been focused. Every physician must know about it and should be equipped well to manage COPD and its comorbidities.

DISCLOSURE

All the authors declared no competing interest.

REFERENCES

1. Mannino DM, Higuchik, Yu TC, Zhou H, Li Y, Tian H, Suh K. Economic burden of COPD in the presence of comorbidities. Chest. 2015;148(1):138-150.
2. Burgel PR, Escamilla R, Perez T, Carri P, Caillaud D, Chanez p, et al. Impact of comorbidities on COPD. Respir Med. 2013;107(2): 233-241.
3. Mathers CD, Loncar D. Projection of global burden of disease from 2002 to 2030. Plos med. 2006;3(11): 442.
4. Golpe R, Rable M Prevalence of major comorbidities in COPD. Respiration. 2017; 94:38-44.
5. Halbert Rj, Natoli JL, Gano A, Badamgarav E, Buist AS, Mannino DM. Global bumder of COPD: Systematic review and meta-analysis. Eur Respi. 2006;28(3):523-532.
6. Frank TL, Gazell ML. The estimated prevalence of COPD in a general practice. Prim care resp. journal. 2007;16:169-173.