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Research Article

THE FREQUENCY OF GERD IN COPD PATIENTS**Dr. Muhammad Masroor Sadiq, Dr. Ahsan Malik, Dr. Muhammad Ziam Khalid**
Sheikh Zayed Medical College and Hospital, Rahim Yar Khan**Abstract:****Objective:** *The study is done to assess the percentage of the GERD in the patients of COPD.***Study Design and place:** *It is retrospective type of cross-sectional study done at the department of Pulmonology in the Sheikh Zayed Hospital, Rahim Yar Khan. The study is conducted in the duration from June- 2017 to July, 2018.***Methodology:** *112 patients were enrolled in our study who fulfilled the criteria for inclusion and established diagnosis of the COPD i.e. patients having age more than 40, with history of >20 pack years of smoking and FEV/FVC less than 0.7.***Results:** *In this study 36% of the patients were in the age group 41-55 years and 64% were of age more than 55 years. The mean age of patients was 56.86±7.51, out of 112 patients, the percentage of males was 83% and that of females 17%.***Conclusion:** *It was assessed from the study results that the 43% of the COPD patients also suffered from GERD. So to put a control on repeated Exacerbations of the disease proper surveillance of the GERD should be initiated of every COPD patient on his first arrival.***Key Words:** *Exacerbation, Vagal Nerve stimulation, COPD, Disease Surveillance, Pulmonary**** Corresponding author:****Muhammad Masroor Sadiq,**
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INTRODUCTION:

COPD is a serious health concern of the developing and the developed world. It is estimated to be third leading cause of total disease burden of the world by 2035. The disease is characterized by persistent and progressive limitation of air flow to the lungs and hyperactive inflammatory response shown by the tissues of respiratory system to gases or noxious Particles. The exacerbations of the disease determine the quality of life of the patient. The exacerbations are characterized by acute increase in frequency of dyspnea, cough, severity, and change in the color/amount/smell of the sputum. The exacerbations have high morbidity and they limit activity of the patient badly consequently affecting the quality of life of the patient besides causing burden on the patient monetarily, psychologically and physically. There are a number of risk factors that exacerbate COPD, one of the important is Gastro esophageal Reflux disease. our study is based to assess the prevalence of the COPD patients who are affected by GERD. GERD is characterized by reflux of the gastric contents into esophagus due to incompetency of lower esophageal sphincter. This may cause a lot of pulmonary complications like chronic, cough, exacerbation of bronchial asthma and COPD, aspiration pneumonia and fibrosis. Moreover, the Vagal Nerve stimulation (that causes Broncho spasm) and Micro Aspirations Also Contribute to Pulmonary complications. According to our study, 43% patients of COPD are affected by GERD. The percentage is even higher in a study done locally and it was assessed that the COPD patients who have frequent GERD symptoms have more episodes of exacerbations as compared to control group and are candidates of intensive therapy for the COPD. This focus of the study is to explore and record the prevalence of GERD in COPD patients to highlight an important risk factor of this disease that may help the health professionals to manage the disease more appropriately and morbidity of the disease be decreased.

DEFINITIONS: For the patients to be enrolled GOLD's criteria was used. According to it, a patient to be labeled as case of COPD should have,
 1. Age > 40 years
 2. Smoking history more than 20 pack years
 3. FEV1/FVC < 0.7

GERD: The frequency of the GERD symptoms was evaluated on the preformed questionnaire. Four options were written and one to be chose, ranging from 0 for none to 4 for always, to evaluate the frequency of the GERD. And patients who scored more than 8 were considered as GERD positive.

INCLUSION CRITERIA: All patients who fulfilled GOLD criteria definition of the COPD were included. Exclusion criteria: Patients who are diagnosed cases of Bronchial asthma, other pulmonary diseases and esophageal diseases e.g Achalasia cardia, Gastric/Esophageal carcinoma and peptic ulcer disease.

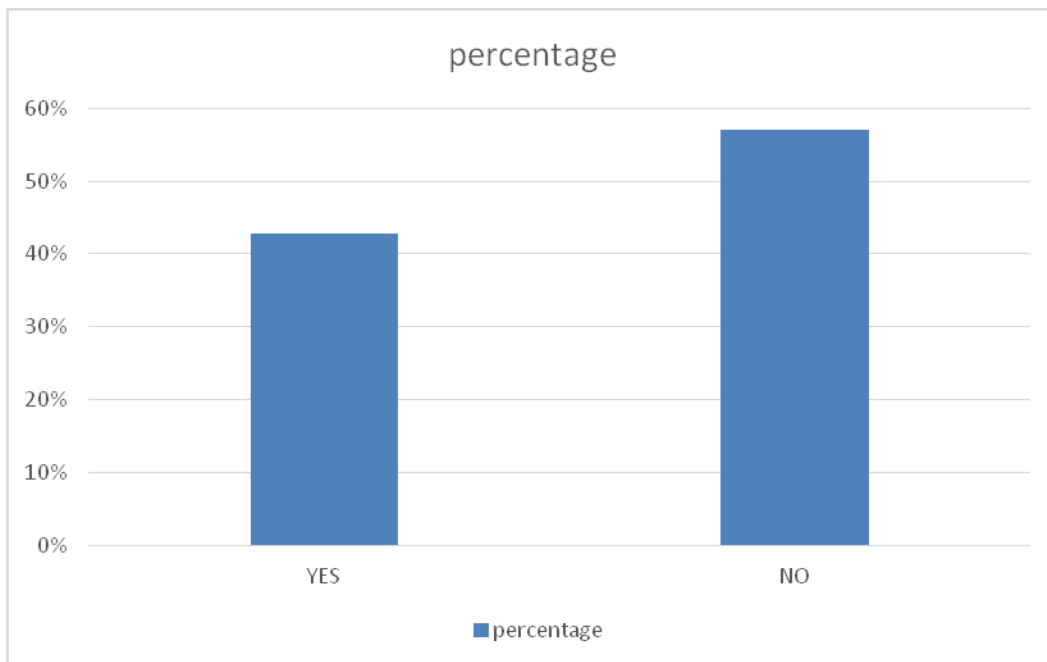
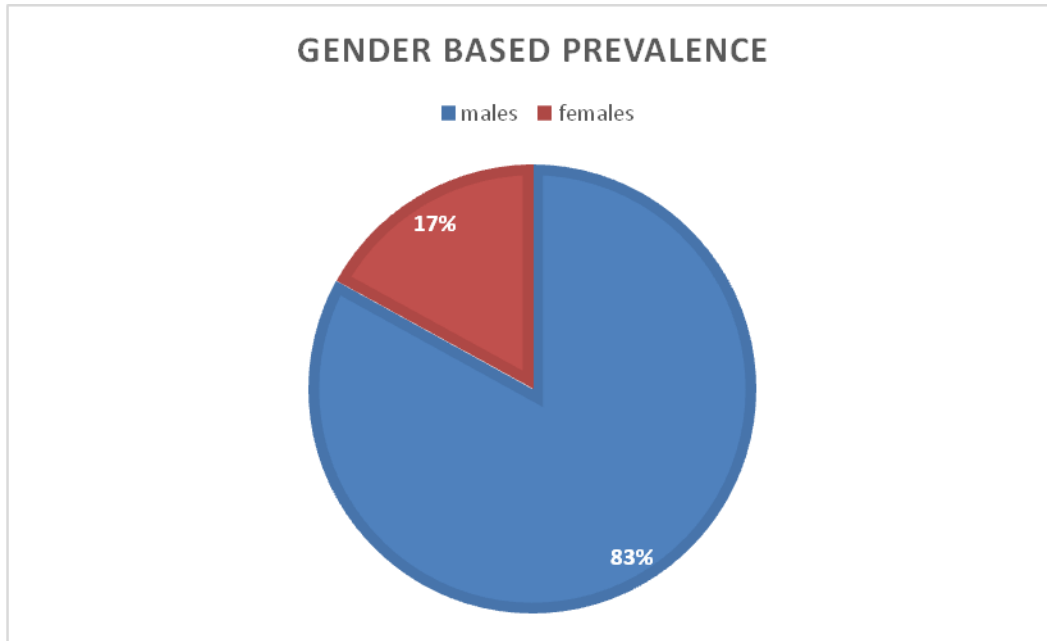
MATERIAL AND METHODS:

It is retrospective type of cross-sectional study done at the department of Pulmonology in the Sheikh Zayed Hospital, Rahim Yar Khan. The study is conducted in the duration from June- 2017 to July, 2018. 112 patients were enrolled in our study who fulfilled the criteria for inclusion and established diagnosis of the COPD i.e. patients having age more than 40, with history of >20 pack years of smoking and FEV1/FVC less than 0.7.

RESULTS:

112 patients were enrolled in the study. Among them, 36 % were 41-55 years of age and 64% more than 55 years of age. 17% were females and 83% were males. 43% of the patients were labeled positive with GERD and 57% had no symptoms of GERD.

Age (years)	No. of patients	Percentage
41-55	40	36%
Above 55	72	44%



DISCUSSION:

COPD is one of the major health concern of the world estimated to be more than 20% of the total diseases burden. And the GERD is a common comorbidity of the disease, besides incompetency of the LES the corticosteroids used also play a part in increasing acidity of the stomach. The pressure gradient between the thorax and the abdomen promotes the movement of gastric contents into the esophagus. Transient Lower Esophageal Sphincter relaxations are likely to be followed by reflux

episodes with the presence of a hiatal hernia. Normally, esophageal peristaltic movements facilitate esophageal clearance after reflux episodes. Dysfunctional Peristalsis, with low-amplitude or absent contractions in the distal esophagus, which can be determined by manometry and pH studies, that contributes to prolonged clearance of esophagus, which increases the chances of reflux GERD is one of the main risk factors for the exacerbations of the disease. A number of studies are conducted on this topic and all of them show a correlation of the COPD

and GERD. The results of this study does not only show the correlation but it is also recorded that the GERD is the main cause of the exacerbations of COPD and ASTHMA causing increased morbidity and deteriorating quality of life. A study conducted in Faisalabad by Usman U at el. Shows 41% of the COPD patients suffered from GERD. The percentage of the effected patients is comparable to the percentage of our study.

The study was focused to highlight the GERD as the major cause for acute exacerbation of COPD. So that, it may be helpful to the healthcare professionals to manage the disease in a more appropriate way. A study done by shimuzu et al²² shows that more than 32% of patients of COPD suffer from GERD, the frequency of the affected patients is lower than the frequency in our study as it was noted that 43% of COPD patients also suffered from GERD. It is a heterogenous topic and results can be variable due to duration of treatment, use of corticosteroids use of different diagnostic techniques and criteria and the age factor. The results of our study are in line with another study done by terada et al. which shows the higher incidence of COPD exacerbations in GERD patients. The severity of the GERD symptoms increases as the severity of the COPD increases. There a large number of patients with severe COPD having severe GERD symptoms and this frequency increases as pack year of smoking history increases and the frequency of exacerbations is decreased with the use of PPIs as in a study done by sasaki et al.

CONCLUSION: It is concluded that the prevalence of GERD is directly related to the COPD. So, every patient who presents with COPD should undergo appropriate surveillance and be sorted out for GERD. So that, this treatable disease can be effectively managed.

REFERENCES

1. Global Initiative for Chronic Obstructive Pulmonary Disease [homepage on the Internet] Global Strategy for teh Diagnosis, Management and Prevention of Chronic Obstructive Pulmonary Disease. 2014. [Accessed 24 February, 2015]. Available from: <http://www.glodcopd>.
2. Areias V, Carreira S, Ancaies M, Pinto P, Barbara C. Co-morbidities in patients with glod stage 4 chronic obstructive pulmonary disease. *Rev Port Pneumol*. 2014;20(1):5–11.
3. Garcia Rodriguez L, Ruigomez A, Martin-merino E, Johansson S, Wallander M. Relationship between gastroesophageal reflux disease and COPD in UK primary care. *Chest*. 2008;134(6):1223–1230.
4. El-Serag H, Sonnenberg A. Comorbid occurrence of laryngeal or pulmonary disease with esophagitis in United States Military Veterans. *Gastroenterology*. 1997; 113:755–760.
5. Terada K, Muro S, Sato S, et al. Impact of gastroesophageal reflux disease symptoms on chronic obstructive pulmonary disease exacerbation. *Thorax*. 2008; 63:951–955.
6. Seemungal T, Donaldson G, Paul E, Bestall J, Jeffries D, Wedzicha J. TEMPEffect of exacerbation on quality of life in patients wif chronic obstructive pulmonary disease. *Am J Respir Crit Care Med*. 1998; 157:1418–1422.
7. Pandolfino JE, Kahrilas PJ. Smoking and gastroesophageal reflux disease. *Eur J Gastroenterol Hepatol*. 2000; 12:837–842.
8. Vos T, Flaxman A, Naghavi M. Years lived wif disability (YLDs) for 1160 sequelae of 289 diseases and injuries 1990–2010: a systematic analysis for the Global Burden of Disease Study 2010. *Lancet*. 2012; 380:2163–2196.
9. McColl E. Best practice in symptom assessment: a review. *Gut*. 2004;53(suppl 4):49–54
10. Pauwels A, Decraene A, Blondeau K, et al. Bile acids in sputum and increased airway inflammation in patients wif cystic fibrosis. *Chest*. 2012;141(6):1568–157.
11. Usman U, Irfan M, Faisal M. Frequency of GERD in COPD Patients. *APMC* 2016;10(3):111-114
12. Eryuksel E, Dogan M, Olgun S, Kocak me, Celikel T. Incidence and treatment results of laryngopharyngeal reflux in chronic obstructive pulmonary disease. *Eur Arch Otorhinolaryngol*. 2009;266(8):1267–1271.
13. Orr W, Elsenbruch S, Harnish M, Johnson L. Proximal migration of esophageal acid perfusions during waking and sleep. *Am J Gastroenterol*. 2000;95:37–42.
14. Fortunato G, Machado M, Andrade C, Felicetti J, Camargo J, Cardoso P. Prevalence of gastroesophageal reflux in lung transplant candidates with advanced lung disease. *J Bras Pneumol*. 2008;34(10):772–778.
15. Liang B-M, Feng Y-L. Association of gastroesophageal reflux disease symptoms with stable chronic obstructive pulmonary disease. *Lung*. 2012; 190:277–282.
16. Kempainen R, Savik K, Whelan T, Dunitz J, Herrington C, Billings J. High prevalence of proximal and distal gastroesophageal reflux disease in advanced COPD. *Chest*. 2007;131:1666–1671.
17. Rascon-Aguilar IE, Pamer M, Wludyka P, et al. Role of gastroe-sophageal reflux symptoms in

- exacerbations of COPD. *Chest*. 2006;130:1096–1101.
18. Sasaki T, Nakayama K, Yasuda H, et al. A randomised, single-blind study of lansoprazole for the prevention of exacerbations of chronic obstructive pulmonary disease in older patients. *J Am Geriatr Soc*. 2009;57(8):1453–1457.
 19. Rogha M, Behravesht B, Pourmoghaddas Z. Association of gastroesophageal reflux disease symptoms with exacerbations of chronic obstructive pulmonary disease. *J Gastrointest Liver Dis*. 2010;19(3):253–256.
 20. Shay S, Bomeli S, Richter J. Multichannel intraluminal impedance accurately detects fasting, recumbent reflux events and their clearing. *Am J Physiol Gastrointest Liver Physiol*. 2002;283:376–383.
 21. D'Ovidio F, Singer LG, Hadjiliadis D, et al. Prevalence of gastroesophageal reflux in end-stage lung disease candidates for lung transplant. *Ann Thorac Surg*. 2005;80:1254–1261.
 22. Shimizu Y, Dobashi K, Kusano M, Mori M. Different gastroesophageal reflux symptoms of middle-aged to elderly asthma and chronic obstructive pulmonary disease patients. *J Clin Biochem Nutr*. 2011;50(2):169–175.
 23. Sifrim D, Silny J, Holloway R, Janssens J. Patterns of gas and liquid reflux during transient lower esophageal sphincter relaxation. A study using intraluminal electrical impedance. *Gut*. 1999;44:47–54.
 24. Lee A, Button B, Denehy L, et al. Exhaled breath condensate pepsin: potential noninvasive test for gastroesophageal reflux in COPD and bronchiectasis. *Respir Care*. 2015;60(2):244–250.