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Research Article

**PREVALENCE AND QUALITY OF LIFE OF PATIENTS
WITH COPD IN SARGODHA****Muhammad Mustafa Qamar, Muhammad Zohaib Nasir, Ali Rizwan, Waqas Ahmad,
Ayesha Basharat, Akhtar Rasul**Department of Allied Health Sciences, Sargodha Medical College, University of Sargodha,
Pakistan**Abstract:**

Objective: Chronic obstructive pulmonary disease (COPD) is one of the leading causes of disability and a substantial economic burden on the country. The study was conducted to investigate the prevalence of COPD in Sargodha. Furthermore, we wanted to investigate the quality of life of patients suffering from COPD.

Material and methods: It was a multi-center, cross-sectional, observational study. The data of patients were collected from 8 different hospitals of Sargodha. A survey was conducted to find the prevalence of COPD in Sargodha. The quality of life of diagnosed COPD patients was assessed by using Saint George's respiratory questionnaire (SGRQ).

Results: A total of 700 patients surveyed; Out of these 700 patients, 55 patients were suffering from COPD and were under treatment in different hospitals, which express the total percentage of 7.9%. Quality of life (QOL) was severely compromised in these COPD patients; these patients were unable to perform daily household activities like going shopping, using stairs, and playing sports and games due to exacerbations of dyspnea and chest discomfort.

Conclusion: The prevalence of COPD is 7.9% in Sargodha, but quality of life of patients suffering from COPD is seriously compromised due to exacerbations of dyspnea, cough and chest discomfort.

Keywords: COPD, Prevalence, Quality of life, smoking

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INTRODUCTION:

Developing countries nowadays are facing many health-related issues, but Chronic obstructive pulmonary disease (COPD) is the most prevalent long-drawn and deleterious disease with further co-morbidities, community-related problems, and social issues[1]. The world is on the brink of population explosion so as pollution, which is exponentially increasing with it. This population and pollution boom is making the problem of COPD more weighty hence pushing the patient close various other co-morbidities extending up to level of eventual mortality[1, 2]. Individuals with COPD have increased response to inhaled toxic agents, these toxic chemicals such as cigarette smoke cause an increase in mucus production and destruction of lungs [3].

Neutrophils, macrophages, and lymphocytes are leading cause of triggering inflammatory response in COPD; these cells release inflammatory mediators such as cytokines, chemokines, and chemo-attractants [4]. In cigarette smokers; pathology of COPD mainly present with lung hyperinflation and air trapping, in COPD patients primary cause of dyspnea is hyperinflation of lungs, narrowing of airways occur due to damaging of elastin eventually leading to entrapment of air in lungs[4, 5].

Among modifiable factors of COPD, cigarette smoking is the most frequent cause of COPD [6]. Smooth muscles, sputum, and Bronchoalveolar lavage (BAL) have raised concentration of granulocytes, such as neutrophils in patients of COPD [7]. Lung peripheries are also not spared by attack of granulocytes; neutrophils attack this vulnerable area of lungs, and their concentration in lung parenchyma increases [8]. This increase in neutrophils results in increased production of specialized substances called proteinases. These proteinases destroy lungs; another substance called neutrophil elastase causes increase in epithelial cell activation as well as increase in macrophage concentration. This increase in activated macrophages and activated epithelial cells causes stimulation of goblet cells; these goblet cells produce mucus, which is the hallmark of the COPD [9]. During COPD a protein catabolic process takes place which is an important marker of osteoporosis in chronic patients of COPD. Various cardiovascular anomalies are also associated with COPD; arterial stiffness is one of them which is directly linked with COPD[10]. Various number of patients suffering from COPD are at higher risk of arterial stiffness [11]. When arteries are stiff they lose their elastic recoil capacity, this loss of elasticity is the primary

predictor of hypertension, patients of COPD who are already suffering from cardiac abnormalities will face higher risk of developing ischemic heart diseases or congestive heart failure during the course of COPD [10, 12].

Medical professionals should be aware of the prevalence of COPD, so they can efficiently address standard population about the hazards of the disease and government should be able to allocate proper resources to combat the disease. It is vital to investigate the prevalence of COPD because it imparts serious health issues on socio-economic level.

MATERIAL AND METHODS:

An observational cross-sectional study was conducted. A total of 700 individuals were taken from 8 different hospitals of Sargodha city of Punjab province by a convenient sampling technique. Saint George's questionnaire was used as an instrument.

Data Analysis:

Data were analyzed through SPSS (statistical package for the social sciences), SPSS Inc. Released 2007. SPSS for Windows, version 16.0. Chicago, Illinois. Descriptive statistics were used to demonstrate the prevalence and different questions related to quality of life of patients with COPD.

RESULT:

Seven hundred participants were surveyed from city of Sargodha in Punjab province of Pakistan. Out of record of total 700 patients 72.7% were males and 27.3% were females.

Mostly were of middle-age adults ranging from 40 to 60 years of age, second-most dominant age group was of older adults which comprised of 60 80 years of age, young adults were less as compared to other two groups. Out of 700 patients, 29.6% were urban, and 70.4% were rural inhabitants. There were total 34.1% lower, 59.1% middle and 6.7% were upper-class patients out of record of total 700 patients. Fifty-five patients suffered from COPD. 42 COPD patients have disease duration of less than one year, 12 patients have disease duration of 1 to 3 years, and one patient has more than three years of disease duration. Daily activities like walking upstairs, walking uphill and playing sports and games were stressful for the majority of COPD patients. The majority of patients experienced side effects from their medication, out of 55 patients, 36 patients said that medication interfered with their life a lot and 27 patients did not get any help from their medication, while 49 patients experienced unpleasant side effects from medication. Playing sports and games,

going shopping, and doing daily activities were difficult for many COPD patients.

DISCUSSION:

COPD is a chronic disease of lungs and airways leading to reversible narrowing of airways. Individuals with COPD have increased response to inhaled toxic agents, these toxic chemicals such as cigarette smoke causes an increase in mucus production and destruction of lungs.[3]. Patient experience frequent episodes of wheezing, cough, abnormal sputum production and very poor exercise tolerance.

It is essential to check the prevalence of a highly deleterious diseases in community such as COPD. Such studies give us insight about the effects of specific disease on various levels of community. Furthermore, such studies give information to the government and health sector administrators to allocate needed resources to combat a prevailing disease.

According to data different studies have been conducted to evaluate the prevalence of COPD and quality of life of these COPD patients in various parts of the world. In previous researches, it was concluded that low economic social background has more prevalence of COPD in their regions. In our study clinical record of 700 patients suffering from various chest problems was taken from 8 hospitals of Sargodha. According to our study COPD is more common in smokers and also in non-smokers due to specific environmental issues. Cigarette smoking and older age is a greater risk of COPD [13]. Al zaabi and colleagues conducted a study in Dubai to check the prevalence of COPD; they also concluded that prevalence of COPD increased significantly in smokers and older adults. According to our study also; COPD is more prevailing in older adults and middle-aged adults showing history of previous tobacco use. In our study COPD was more prevalent in rural population. Various other researches also showed some tendency of COPD in rural areas. In China, COPD was highly prevalent disease in rural areas as compared to urban population. (Zhong, Wang (14)), according to our study males were more affected by COPD than females. Occupation is directly involved in causing COPD and other lung diseases[15], In our study if we take a look at occupational aspect of COPD, maximum population were farmers from rural background which experienced COPD, but retired people showed more trend in population even more than farmers. In another study it was concluded Farmers are more prone to COPD due to their nature of job and extensive tobacco use and exposure to biomass.

Economic class is critical in spreading some significant diseases; various diseases are more common in lower and middle economic classes as compared to upper economic class[16]. In our study, majority of patients were from middle and lower class. Our findings are consistent with previous researches; Chronic cough and bronchitis are more common in low socio-economic areas polluted with dust and animal dander [17].

We have noted that COPD directly minimizes the quality of life of patients, they suffer regular breathing issues dyspnea and chest discomfort and are unable to perform their daily tasks effectively. In our research majority of patients said that they were unable to use stairs and performing daily tasks of home was physically exhausting for them. Patients also complained that they experienced frequent episodes of dyspnea

Low efficacy of the medicine is serious issue in today's world. In our research almost half of the COPD patients said that their medicine did not help them a lot. Medicinal side effects are also very common problem for COPD patients nowadays. Exercise intolerance is serious problem for COPD patients. COPD patients faced serious exercise incompetency, and they were unable to perform physical activities like using stairs, playing sports, and going shopping were physically exhausting for patients.

CONCLUSION:

The prevalence of COPD in Sargodha is 7.9%, predominantly covering older adults, rural population and tobacco smokers. Furthermore quality of life of patients suffering from COPD is seriously compromised due to exacerbations of dyspnea and chest discomfort.

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