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SHORT COMMUNICATION
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COPD;
AN ALARMING HEALTH AND ECONOMIC BURDEN

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ABSTARCT: Due to high occurrence of COPD the health care providers faced multiple challenges in reducing COPD burden worldwide. In this review we compiled informations related with features, risks, occurrence, health and economic burden of COPD and strategies adopting for reducing the COPD burden on patients.

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INTRODUCTION

According to Gold[1] definition COPD (Chronic Obstructive Pulmonary Disease) is a treatable and preventable having in constraint airflow which is not completely reversible. The restraint in airflow is generally progressive and usually associated with an unusual inflammatory lung response to toxic particles or gases. COPD causing economic burden affecting 64 million people worldwide.[2] It was reported that in 2004 it was the fourth highest cause of death i.e. 5.1 % or three million deaths around the world.[3]

The major indications are cough, production of sputum and dyspnoea are commonly observed.[4] The usual co-morbidities of COPD are dysfunction of skeletal muscle, osteoporosis, lung cancer and diabetes.[5] COPD progression is usually associated with regular periods of rising symptoms which is considered as exacerbations so a continuous worsening of the condition of patients is defined as a COPD exacerbation.[4]

RISK FACTORS

Genetics exposures, long-term smoking, occupational factors also as well as alteration in demographics in several countries are the common risk factors associated with COPD. In third world countries smoke of biomass fuels (wood, dung, and grasses) are also a major risk factor too.[6]

OCCURRENCE

Scientists reported prevalence based studies which showed wide alterations in several regions of the world this is due to the variations in criteria and methods used.[7] Halbert et al.[8] conducting prevalence based study and found that 9.2 % cases were diagnosed by COPD using spirometry. In western countries scientists determined that rates of prevalence are stable in age-specific patients and sometime reduced in men as compared to women.[9] Prevalence of COPD especially in Europe is found to be 4%–10%.[10-11]

HEALTH BURDEN OF COPD

MORTALITY AND MORBIDITY

COPD is related with a major impairment in quality of life particularly in severe stages. Therefore, it produces an important impact related with morbidity. It was reported that COPD is one of the major cause of disability in developed countries. Due to the significant rise in prevalence, the COPD burden is also found to be proportionally high.[12] Several researchers analyzed that risk factors associated with environment are likely to affect poor countries, particularly in Africa and Asia, accounting almost 90 % total COPD deaths across the globe.[10] Multiple studies conducted on several patients discharged from different hospital reported that 1yr mortality rates were found to be 22 % - 23 %, and 2 yr mortality rates were found to be 29.3 % - 35.6 %.[13]

OTHER FACTORS

Risk of COPD is higher in smokers. It was found that approximately 20 % of smokers are more vulnerable to any progressive lung disease but was estimated that the absolute risk of exhibiting COPD in smokers is found to be 25 %. In the USA, the frequency of limitation in airflow were 14.2 % in white smoker patients, in ex – smokers and non- smokers the percentage occurrence were found to be 6.9 % and 3.3 % respectively.[14]

Studies conducted in advanced countries found that the frequency of COPD is reported to be less among the patients under 45 but found high in elderly. Precisely, gender related risk of mortality and prevalence for COPD are considered to be country specific. In Canada and in Northern Europe, there is slight variation between death rates by sex.[15]

ECONOMIC BURDEN OF COPD

Economic assessments are used to facilitate decision makers to allocate funds in particular field of interest. In England, total costs for COPD were found to be £486 - £848 million if productivity costs were included the total COPD costs were around £982 million.[16] For Iceland and Germany; COPD (total direct) costs were consecutively found to be €19 million and €6,000. Similarly for Norway and Italy reported COPD (total direct) costs per patient were ranged from €323 and €3,637 respectively.[17] As severity of COPD raises the treatment costs proportionally high researchers estimates the direct cost of mild, moderate and severe stages of COPD were € 232, € 477 and € 2026 respectively. The treatment costs of a patient with severe COPD were approximately 3 - 4 times high as compared to the patients having less complicated COPD stage. Similarly, hospitalizations (40 – 45 %) and medications (25 – 35 %) are also the cost enhancing factors during the treatment of COPD.[18]

From total health care costs exacerbations accounts in between 35 % - 40 %. It was analyzed that in UK approximately 90,000 hospital admissions were due to the cases of COPD exacerbations. Authors found that cost per exacerbation were ranged of €95 - €8,500 while severe and mild to complicated exacerbation costs were ranged of €4,520 - €9,710 and €44 - €650 respectively.[19]

STRATEGEIS FOR TREATING COPD

It was established that utilizing various preventive interferences, smoking cessation, adopting current pharmacotherapeutic strategies, monitoring and treating co-morbidities related to COPD could minimize the economic burden on patients.[20] Different strategies i.e. for the treatment of mild, moderate and severe exacerbation, use of short-acting, long-acting bronchodilators and inhaled glucocorticosteroids are recommended. For non-pharmacological treatment perspective pulmonary rehabilitation, oxygen therapy or surgery (lung transplantation) is often suggested.[21] Also interventions based on self-management improves several clinical results for different. Researchers stated that by developing disease management program and conducting patient education program about COPD exacerbation (treatments and symptoms) helps in reducing hospitalization cost.[22]

CONCLUSION

The risk associated with COPD morbidity and mortality is increasing worldwide, so in developing countries like Pakistan there is a need to take

effective action in reducing COPD consequences.

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"Don't let small minds convince you that your dreams are to big."

Unknown

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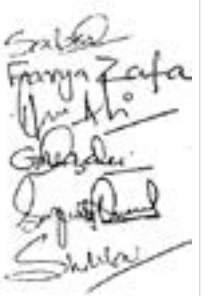
1	Saba Ajaz Baloch	Alla authors have equal contribution.	
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