

**DIAGNOSIS, TREATMENT AND COMORBIDITIES OF
CHRONIC OBSTRUCTIVE PULMONARY DISEASE
PATIENTS IN QENA CHEST HOSPITAL**

Thesis

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In Chest Diseases

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Abstract

Introduction:

Chronic Obstructive Pulmonary Disease (COPD) is a progressive disease which is distinguished by permanent limitations of airflow through the respiratory tract.

Patients and Methods:

This study included all COPD patients at Qena Chest Hospital in the period from December 2014 to December 2015.

Results:

The mean age of the patients in the study was 65.0 ± 7.5 and most patients were males 87.9%, HTN, DM, and IHD were the most common comorbidities associated with COPD patients, theophylline was the most common bronchodilator used.

Keywords:

COPD, Qena

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List of Abbreviations

\$	Dollar
AECOPD	Acute exacerbation of chronic obstructive pulmonary disease
AMP	adenosine monophosphate
BAL	Bronchoalveolar lavage
BMI	Body mass index
CAP	Community-acquired pneumonia
CB	Chronic bronchitis
CHF	chronic heart failure
COPD	Chronic obstructive pulmonary disease
CPAP	Continuous positive airway pressure
CRP	C-reactive protein
DLCO	Diffusing capacity of the lung for carbon monoxide
DM	Diabetes Mellitus
DNA	Deoxyribonucleic acid
EMPs	Endothelial microparticles
ERS	The European Respiratory Society
FEV₁/FVC	Forced expiratory volume in first second/ forced vital capacity
FEV₁	Forced expiratory volume in first second
FFM	Fat-free mass
GER	Gastroesophageal reflux
GERD	Gastroesophageal reflux disease
GOLD	Global Initiative for Chronic Obstructive Lung Disease
H. influenzae	Haemophilus Influenza

List of Abbreviations

HF	Heart failure
HRCT	High - resolution computed tomography
HRQoL	Health-related quality of life
ICS	Inhaled corticosteroids
IgA	Immunoglobulin A
IgE	Immunoglobulin E
IgG	Immunoglobulin G
IgLC	immunoglobulin free light chains
IL-1	Interleukin 1
IL-6	Interleukin 6
IL-8	Interleukin 8
kPa	Unit of pressure. It is equivalent to one newton per square metre
LAACs	Long-acting anticholinergics
LABA	Long-acting beta-agonist
LVRs	Lung volume reduction surgery
M. catarrhalis	Moraxella catarrhalis
Mg	Milligram
NE	Neutrophil elastase
NIV	Non-invasive ventilation
OSA	Obstructive sleep apnea
PaCO₂	Arterial partial pressure of CO ₂
PaO₂	Arterial partial pressure of oxygen
PE	Pulmonary embolism
pH	Measure of the acidity or alkalinity of an aqueous solution
PH	Pulmonary hypertension

List of Abbreviations

PHT		Pulmonary hypertension
Prn		As needed
RV		Right ventricular
S. pneumonia		Streptococcus pneumonia
SABA		Short-acting beta-agonist
SAMAs		Short-acting muscarinic antagonists
TB		Tuberculosis
TNF-α		Tumour necrosis factor- α
VAP		Ventilator-acquired pneumonia
VO2 max		Maximal oxygen consumption
WHO		World Health Organization
α1AT		Alpha 1 Antitrypsin

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Introduction

Chronic Obstructive Pulmonary Disease (COPD) is a progressive disease which is distinguished by permanent limitations of airflow through the respiratory tract. Chronic symptoms deteriorate the quality of life and limit the occupational and social lives of patients (*Wiśniewski et al., 2014*).

Chronic obstructive pulmonary disease (COPD) is an important cause of death and disability worldwide and is expected to be the 3rd and 5th leading cause of mortality and morbidity respectively in 2020 (*Aryal et al., 2012*).

Chronic obstructive pulmonary disease (COPD) is one of the most frequent causes of chronic morbidity and mortality in the world. It poses a serious problem to public health, and it is a frequent cause of hospitalization and early disability of patients (*Wiśniewski et al., 2014*).

Tobacco smoking is the major cause of the disease, although only a minority of smokers develop clinically significant symptoms. Other factors, such as indoor and outdoor air pollution, infection in childhood, asthma, genetic factors and occupational dust have been reported to contribute to the development of COPD (*Andreou et al., 2014*).

Exacerbations of COPD is a major cause of morbidity. In particular, they greatly contribute to decline of health-related quality of life, increase in symptoms and breathlessness, progression of the disease, and increased risk of mortality (*Wang, 2010*).

Comorbidities in general have a significant impact on health status, healthcare utilization, all-cause hospital admissions and mortality in COPD patients. COPD patients are more likely to die from a comorbid disease than COPD itself (*Patel and Hurst, 2011*).

Aim of the Work

The purpose of the present study is to assess the diagnosis, treatment, and comorbidities of COPD patients in Qena Chest Hospital in the period from December 2014 to December 2015.

REVIEW OF LITERATURE

Definition

COPD, a common preventable and treatable disease, is characterized by persistent airflow limitation that is usually progressive and associated with an enhanced chronic inflammatory response in the airways and the lung to noxious particles or gases. Exacerbations and comorbidities contribute to the overall severity in individual patients (*Vestbo et al., 2013*).

Prevalence

Prevalence of clinically significant COPD (GOLD stage 2 or higher) is estimated to be 10.1% according to the results of an international population-based investigation. It was estimated that 1 every 4 men and 1 every 6 women without COPD at the age of 55 years will eventually develop COPD at some time during their further life.

Prevalence rates of COPD are expected to increase in the next decades, notably among women and in developing countries populations (*Spyratos et al., 2012*).

In 5 years study (1972-1976) 13.6% of patients admitted to Ain Shams Chest Section were COPD sufferers(*El Waraki et al., 1992*).

It was found that the prevalence of chronic obstructive lung disease was 23.1% in an elderly population living in a rural area in Minya Governorate (*Shaabaan et al., 1997*).

Burden of COPD:

Chronic obstructive pulmonary disease (COPD) is the fourth leading cause of mortality and morbidity worldwide in both industrialized and developing countries which, accounts for 5% of all death globally (*Shrestha et al., 2015*).

According to WHO estimates, 65 million people have moderate to severe chronic obstructive pulmonary disease (COPD). More than 3 million people died of COPD in 2005, which corresponds to 5 % of all deaths globally.

Total deaths from COPD are projected to increase by more than 30 % in the next 10 years unless urgent action is taken to reduce the underlying risk factors, especially tobacco use (*WHO, 2015*).

Morbidity