Medication Adherence and Treatment Satisfaction in Chronic Obstructive Pulmonary Disease and Bronchial Asthma

Thesis

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﴿بسم الله الرحمن الرحيم﴾

قَالوا سُبْحَانَكَ لاَ عِلْمَ لَنَا إِلاَّ مَا عَلَّمْتَنَا
إِنَّكَ أَنتَ الْعَلِيمُ الْحَكِيمُ

صدق الله العظيم

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LIST OF Abbreviations

BLVR	Bronchoscopic Lung Volume Reduction
COPD	Chronic Obstructive Pulmonary Disease
CPAP	continuous positive airway pressure
CT	Computed tomography
FEV_1	Forced Expiratory Volume in the first second
FEV_1/FVC	Forced Expiratory Volume in the first second/forced vital capacity
ICS	Inhaled corticosteroids
IgE	immunoglobulin E
kPa	a unit of pressure equal to 1000 pascals
LABA	Long Acting B2 Agonist
LTRA	Leukotriene receptor antagonist
LVRS	Lung Volume Reduction Surgery
MARS	Medication Adherence Report Scale
MDIs	Metered Dose Inhalers
MMAS	Morisky Medication Adherence Scale
mMRC	Modefied Medical Research Council(dyspnea scale)
NIV	Non-invasive ventilation
PaO_2	Partial pressure of oxygen in arterial blood.
PEF	Peak Expiratory Flow
VA/Q	Ventilation perfusion ratio
RV	Residual volume
SABA	Short Acting B_2 Agonist
SaO_2	percentage of oxygen saturation of arterial blood
TLC	Total lung capacity
TS-M	Treatment Satisfaction- Medication
TSQM	Treatment Satisfaction Questionnaire Medication
WHO	World Health Organization

LIST OF TABLES

LIST OF FIGURES

LIST OF CONTENTS

Introduction

Chronic obstructive pulmonary disease (COPD) is life-threatening lung disease. Although COPD is preventable and can be managed, it continues to be an important cause of morbidity, mortality, and health-care costs worldwide. It is currently the fourth leading cause of death worldwide and the WHO predicts it will rise to third leading cause by 2030.[1]

Bronchial asthma is a chronic inflammatory disorder of airways. Chronically inflamed airways are hyper responsive, they become obstructed and airflow is limited when airways are exposed to various risk factors. Asthma causes episodes of wheezing, breathlessness, chest tightness, and coughing particularly at night or in the early morning. Asthma is one of the most common chronic diseases with an estimated 300 million individuals affected worldwide.[2]

Asthma and COPD are long-term conditions requiring prolonged treatment. It is important that patients feel confident with the medication they are using and the treatment is adequate in controlling symptoms and side effects of treatment are minimal and well tolerated .If these conditions are not met, it is likely that patients will not comply with the prescribed treatment regimen.[3]

Treatment Adherence is defined as “the extent to which a person’s behavior (in terms of taking medications, following diets, or executing lifestyle changes) coincides with medical or health advice.[4]

Adherence to treatment is one of the most important factors that guarantee the success of the COPD and asthma treatment. Several factors

may influence adherence to treatment in Asthma and COPD such as patients' knowledge about their disease, cultural and socioeconomic aspects, and poor perception of symptoms, adverse events, and skills in use inhaler devices. In addition, compliance with medical prescriptions tends to decline steeply over time.[5]

Also patient satisfaction is an important measure that should be included in healthcare evaluations, it is important to know how patients feel about treatment regimens actually adopted. Such information may assist the definition of optimal medical care for the individual patient.[6]

Aim of Work

The purpose of the present study is to assess the medication adherence and treatment satisfaction among some Egyptian patients with chronic obstructive pulmonary disease and bronchial asthma.

Chronic Obstructive Pulmonary Disease (COPD)

Chronic Obstructive Pulmonary Disease (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 co-morbidities contribute to the overall severity in individual patients. The chronic airflow limitation characteristic of COPD is caused by a mixture of small airways disease (obstructive bronchiolitis) and parenchymal destruction (emphysema), the relative contributions of which vary from person to person. Chronic inflammation causes structural changes and narrowing of the small airways. Destruction of the lung parenchyma, also by inflammatory processes, leads to the loss of alveolar attachments to the small airways and decreases lung elastic recoil, in turn; these changes diminish the ability of the airways to remain open during expiration. Airflow limitation is best measured by spirometry, as this is the most widely available, reproducible test of lung function.[7]

Only one of several structural abnormalities present in patients with COPD. Chronic bronchitis, or the presence of cough and sputum production for at least 3 months each of two consecutive years, remains a clinically and epidemiologically useful term. However, it is important to recognize that chronic cough and sputum production (chronic bronchitis) is an independent disease entity that may precede or follow the development of airflow limitation and may be associated with development and/or acceleration of fixed airflow limitation. Chronic bronchitis also exists in patients with normal spirometry.[7]

Burden of the Disease

COPD is one of the most important causes of death in most countries. The global burden of disease study projected that COPD, which ranked sixth as a cause of death in 1990, will become the third leading cause of death worldwide by 2020; a newer projection estimated COPD will be the fourth leading cause of death in 2030. This increased mortality is mainly driven by the expanding epidemic of smoking, reduced mortality from other common causes of death (e.g. ischemic heart disease, infectious diseases and aging of the world population).[7]

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. Most of the information available on COPD prevalence, morbidity and mortality comes from high-income countries. Even in those countries, accurate epidemiologic data on COPD are difficult and expensive to collect. It is known that almost 90% of COPD deaths occur in low- and middle-income countries.[8]

COPD was more common in men, but because of increased tobacco use among women in high-income countries and the higher risk of exposure to indoor air pollution (such as biomass fuel used for cooking and heating) in low-income countries, the disease now affects men and women almost equally.[8]

In 5 years study (1972-1976) 13.6% of patients admitted to shams chest section were COPD suffers.[9]