Assessment of Self-Medication in Chronic Obstructive Pulmonary Disease and Bronchial Asthma Patients

Thesis

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By

Dalia Abd El Sattar Muhammad El Embaby
M.B., B. Ch.

Under Supervision of

Professor/Muhammad Abd El Sabour Faramawy
Professor of Chest Diseases
Ain Shams University

Doctor/ Hesham Atef Abd El Halim
Lecturer of Chest Diseases
Ain Shams University

Faculty of Medicine
Ain Shams University
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تقييم العلاج الذاتى في مرضي السدة الرئوية المزمنة و الربو الشعبي

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الطبيب/ داليا عبد الستار محمد الإمبابي

بكالوريوس الطب و الجراحة

تحت إشراف

أ.د. محمد عبد الصبور فرماوى

أستـــاذ الأمـــراض الصدريـــة

كليـة الطـب – جامعـة عين شمس

د. هشام عاطف عبد الحليم

مدرس الأمـــراض الصدريـــة

كليـة الطـب – جامعـة عين شمس

كليـة الطـب

جامعـة عين شمس

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Summary and Conclusion

- Two hundred patients were surveyed to study and assess self-medication in COPD and Bronchial asthma at Ain Shams University Hospitals. From that survey the following were obtained:
- Two hundred patients; 94 had a clinical diagnosis of asthma and the remaining 106 patients had a clinical diagnosis of COPD. Seventy five were inpatients at the Pulmonary Medicine Department of Ain Shams University Hospitals, while 125 patients were attending the outpatient clinic during the period between September 2010 and July 2011. They were 132 males and 68 females with a mean age of 47.3±13.4 years.
- It was found that forty two percent of patients were previously admitted at the hospital due to their chest condition either due to asthma or COPD exacerbation.
- Also, it was found that there was no statistically significant difference as regard the mean frequency of admission between the patients who were adherent to medical instructions and those who were not. While, there was statistically significant difference in the mean frequency of admission between the patients who were following up at OPC and those who were not. Also, there was highly

LIST OF ABBREVIATIONS

Abbreviation	*Detail*
ACE	Angiotinsin converting-enzyme
ACTH	Adrenocorticotrophic hormone
ACC	Acetylcysteine
AE COPD	Acute exacerbation of obstructive pulmonary disease
BA	Bronchial asthma
BDP	Budesonide dipropionate
B.i.d	Bis in die (twice a day)
CAE	Certified Asthma Educator
CD	Cluster differentiation
CO	Carbon monoxide
CO_2	Carbon dioxide
COPD	Chronic obstructive pulmonary disease
CRE	Certified Respiratory Educator
CT	Computed tomography
ER	Emergency room
FEV_1	Forced expiratory volume in first second

FEV_1/FVC	Forced expiratory volume in first second/ forced vital capacity
FP	Fluticason dipropionate
FVC	Forced vital capacity
GERD	Gastro esophageal reflux disease
GSL	General sales list medicine
HPA	Hypothalamic–pituitary–adrenal –axis
g	gram
M	Muscurinic receptor
MDI	Metered dose inhaler
mg	Milligram
µg	Microgram
MKS	Mucokinitics
N	Number
NHS	national Health Service
NIPPV	Noninvasive intermittent positive pressure ventilation
NIV	Noninvasive ventilation
NO	Nitric oxide
OPC	Outpatient clinic

OTC	Over-the counter
P	pharmacy medicine
$PaCO_2$	Arterial partial pressure of carbon dioxide
PaO_2	Arterial partial pressure of oxygen
PDE	phosphodisterase inhibitors enzyme
PEF	Peaked expiratory flow rate
POM	prescription only medicine
TNF	Tumor necrotic factor
UV	Ultraviolet

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Introduction

Chronic Obstructive Pulmonary Disease (COPD) is a major cause of chronic morbidity and mortality throughout the world. Many people suffer from this disease for years and die prematurely from it or its complications. COPD is the fourth leading cause of death in the world, and further increases in its prevalence and mortality can be predicted in the coming decade ***(Lopez et al., 2006).***

The clinical course of COPD is one of gradual impairment and episodes of acute exacerbations that contribute to the deterioration of patients' health status. COPD is now well recognized as placing a heavy burden on patients and on the health-care system. In the later stages of disease, health services use increases, with frequent hospitalizations at substantial cost **(*Wouters, 2003).***

Asthma is a serious health problem throughout the world, affecting people at any age. When uncontrolled, asthma can place severe limits on daily life, and is sometimes fatal **(*GINA, 2009).***

Prevalence of asthma continues to increase in many countries; the economic burden of asthma, which is considerable, there are physical, emotional and social effects, leading to reduce quality of life in patients and their families ***(Masoli et al., 2004).***

Self-medication is defined as the use of drugs to treat self-diagnosed disorders or symptoms or the intermittent or continued use of a prescribed drug for chronic or recurrent disease or symptoms. Over-the counter drugs are a form of self medication. The buyer diagnoses his own illness and buys a specific drug to treat it **(*WHO, 2001).***

Self-management interventions involve collaboratively helping patients acquire and practice the skills needed to carry out disease-specific medical regimens, change their health behavior to adjust their roles for optimal function, improve day-to-day control of their disease, and improve their well-being **(*Bourbeau et al .,2009).***

Chronic nature of COPD and the similarities between the medical treatment of asthma and COPD, it seemed reasonable to hypothesize that self-management may be effective in the long-term management of patients with COPD **(*Monninkhof et al., 2007).***

Chronic Obstructive Pulmonary Disease

Definition:

Chronic obstructive pulmonary disease (COPD) is a preventable and treatable disease with some significant extra pulmonary effects that may contribute to the severity in individual patients. Its pulmonary component is characterized by airflow limitation that is not fully reversible. The airflow limitation is usually progressive and associated with an abnormal inflammatory response of the lung to noxious particles or gases ***(Soriano et al., 2008)***.

Newer guidelines do not specifically include chronic bronchitis and emphysema in the definition of COPD; but makes it clear that they are considered the predominant causes of COPD (***Agusti, 2006***).

Chronic bronchitis is defined clinically as chronic productive cough for 3 months in each of 2 successive years in a patient in whom other causes of productive chronic cough have been excluded.

Emphysema is defined pathologically as the presence of permanent enlargement of the airspaces distal to the terminal bronchioles, accompanied by destruction of their walls and without obvious fibrosis (***Agusti, 2006***).

(Table 1): Stages of COPD ***(GOLD, 2010)***

Stage	Characteristics
I : Mild COPD	FEV_1 /FVC < 70% FEV_1 > 80% predicted With or without chronic symptoms (cough ,sputum production)
II: Moderate COPD	FEV_1 /FVC < 70% 50% < FEV_1< 80% predicted With or without chronic symptoms (cough ,sputum production)
III: Severe COPD	FEV_1/FVC < 70% 30% < FEV_1< 50% predicted With or without chronic symptoms (cough ,sputum production)
IV: Very severe COPD	FEV_1/FVC < 70% FEV_1< 30% predicted or FEV_1< 50% predicted Plus chronic respiratory failure

Classification based on post bronchodilator FEV_1. *FEV_1*: forced expiratory volume in one second; *FVC*: forced vital capacity.

Management of COPD:

(1) Assessment and monitoring of disease:

A) Medical History:

❖ **Symptoms:**

Cough: chronic cough, usually the first symptom of COPD to develop, intermittent at the beginning then