

**Study of the pattern of chest diseases
including tuberculosis
in Qena Chest Hospital**

(2006- 2007)

Thesis

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in Chest Diseases and Tuberculosis**

**Presented by
Ahmed Abdel fattah Ali**

**Under Supervision of
Prof. Mohamed Awad Tageldin**

Professor of Chest Diseases

**Faculty of Medicine
Ain Shams University**

Dr. Gehan Mohamed Elassal

**Lecturer of Chest Diseases
Faculty of Medicine
Ain Shams University**

**Faculty of Medicine
Ain Shams University**

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Introduction

Respiratory diseases continue to be one of the most important causes of morbidity and mortality across the world (**Stephen 2004**)

Respiratory illness is the most common reason for consultation with a doctor, The respiratory diseases of high incidence include lower respiratory tract infection, bronchial asthma, COPD, Tuberculosis and pleural effusion of different causes (**Stephen 2004**).

Pneumonia is a common illness in all parts of the world. It is a major cause of death among all age groups. In children, the majority of deaths occur in the newborn period, with over two million deaths a year world. (**Stedman 2007**).

The World Health Organization estimates that one in three newborn infant deaths are due to pneumonia and WHO also estimates that up to 1 million of these deaths are caused by the bacteria *Streptococcus pneumoniae*, and 90 % of these deaths take place in developing countries. (**WHO 2007**)

Bronchial asthma is predominantly a disease of childhood, and current research suggests that the prevalence of childhood asthma has been increasing.

According to the Centers for Disease Control and Prevention National Health Interview Surveys, some 9 % of US children below 18 years of age had asthma in 2001, compared with just 3.6 % in 1980. The World Health Organization reports that some 8 % of the Swiss population suffers from asthma today, compared with just 2 % some 25 - 30 years ago. (**WHO 2005**)

Although asthma is more common in affluent countries, it is by no means a problem restricted to the affluent, the WHO estimate that there are between 15 and 20 million asthmatics in India. In the US, urban residents, Hispanics, and African Americans are affected more than the population as a whole. Globally asthma is responsible for around 180,000 deaths annually. (**WHO 2007**)

Asthma prevalence, morbidity, mortality, and drug response vary greatly across populations, There is an almost 30 fold difference in asthma prevalence between some of

the countries included in the International Study of Asthma and Allergy in Childhood, with a trend toward more developed and westernized countries having higher asthma prevalence. Westernization cannot explain the entire difference in prevalence between countries, however, and the disparities may also be affected by differences in genetic, social and environmental risk factors. **(Gold & Wright 2005)**

According to the World Health Organization (WHO), 80 million people suffer from moderate to severe COPD and 3 million die due to it in 2005. The WHO predicts that by 2030, it will be the 4th largest cause of mortality worldwide. **(WHO 2007)**

Chronic obstructive pulmonary disease (COPD) is increasingly recognized as a major health care problem and the number of publications in the scientific literature is a reflection of this increased awareness. **(Fabbri, et al 2005)**

Since COPD is not diagnosed until it becomes clinically apparent, prevalence and mortality data greatly underestimate the socioeconomic burden of COPD **(American Thoracic Society 2005)**.

In the UK, COPD accounts for about 7 % of all days of sickness related absence from work. **(Kumar & Clark 2005)**.

According to the World Health Organization (WHO), nearly 2 billion people - one-third of the world's population - have been exposed to the tuberculosis pathogen. **(NIAID 2006)** .. Annually, 8 million people become ill with tuberculosis, and 2 million people die from the disease worldwide **(Centers for Disease Control 2006)**.

In 2004, around 14.6 million people had active TB disease with 9 million new cases. The annual incidence rate varies from 356 per 100,000 in Africa to 41 per 100,000 in the Americas **(WHO 2006)** Tuberculosis is the world's greatest infectious killer of women of reproductive age and the leading cause of death among people with HIV/AIDS. **(Stop TB Partnership 2006)**

In 2005, the country with the highest estimated incidence of TB was Swaziland, with 1262 cases per 100,000 people. India has the largest number of infections, with over 1.8 million cases. (**Global TB control 2007**).

In developed countries, tuberculosis is less common and is mainly an urban disease. In the United Kingdom, TB incidences range from 40 per 100,000 in London to less than 5 per 100,000 in the rural South West of England. (**Notification rates of TB 2006**), the national average is 13 per 100,000. The highest rates in Western Europe are in Portugal (42 per 100,000) and Spain (20 per 100,000). These rates compare with 113 per 100,000 in China and 64 per 100,000 in Brazil. In the United States, the overall tuberculosis case rate was 4.9 per 100,000 persons in 2004. (**Centers for Disease Control 2006**)

The incidence of TB varies with age. In Africa, TB primarily affects adolescents and young adults (**WHO 2006**) However, in countries where TB has gone from high to low incidence, such as the United States, TB is mainly a disease of older people. (**Centers for Disease Control & Prevention 2007**).

There are a number of known factors that make people more susceptible to TB infection: worldwide the most important of these is HIV. Co-infection with HIV is a particular problem in Sub-Saharan Africa, due to the high incidence of HIV in these countries. Smoking more than 20 cigarettes a day also increases the risk of TB by two- to four-times. (**Davies et al 2006**) .. Diabetes mellitus is also an important risk factor that is growing in importance in developing countries. (**Restrepo 2007**)

Worldwide, lung cancer is the most common cancer in terms of both incidence and mortality with 1.35 million new cases per year and 1.18 million deaths, with the highest rates in Europe and North America. (**Cancer Research UK 2005**) .. The population segment most likely to develop lung cancer is over-fifties who have a history of smoking. Lung cancer is the second most commonly occurring form of cancer in most western countries, and it is the leading cancer-related cause of death. Although the rate of men dying from lung cancer is declining in western countries, it is actually increasing for women due to the increased take-up of smoking by this group. Among lifetime non-smokers, men have higher age-standardized lung cancer death rates than women. (**kabir et al 2007**)

Not all cases of lung cancer are due to smoking, but the role of passive smoking is increasingly being recognized as a risk factor for lung cancer, leading to policy interventions to decrease undesired exposure of non-smokers to others' tobacco smoke. Emissions from automobiles, factories and power plants also pose potential risks (**Parent et al 2007**) Eastern Europe has the highest lung cancer mortality among men, while northern Europe and the U.S. have the highest mortality among women. Lung cancer incidence is currently less common in developing countries With increased smoking in developing countries, the incidence is expected to increase in the next few years, notably in China and India .Lung cancer incidence (by country) has an inverse correlation with sunlight and UVB exposure. One possible explanation is a preventative effect of vitamin D (which is produced in the skin on exposure to sunlight). (**Mohr et al 2008**)

Aim of the work

The aim of the work is to study the pattern of variable chest diseases including tuberculosis in Qena Chest Hospital for all the inpatients admitted in the period from 1/1/2006 to 30/6/2008.

Subjects and methods

The present study will be conducted upon all patients admitted to Qena Chest Hospital in the period between 1/1/2006 and 30/6/2008.

The following data will be collected from the archives of the hospital for each inpatient admitted to the hospital in this period:

- Age**
- Sex**
- Occupation of the patient .**
- Smoking history. _Family history of chest disease.**
- Brief symptoms and signs of the disease.**
- The investigations that had been done for the patient such as chest X-ray, sputum analysis or laboratory investigations .**
- Final diagnosis of the disease.**

For the patient with tuberculosis we will concentrate on two points:

- 1. The particular diagnosis of the patient as it may be: new case, Relapsing T.B or defaulter, etc.**
- 2. The end result of the treatment as:**
 - Completion of treatment.**
 - Failure of treatment.**
 - Multi - drug resistance.**

The study will include

- _Cases died immediate after admission and before diagnosis of the patient a**
- _Cases that are not diagnosed in Qena Chest Hospital and referred to other chest centers.**

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