



شبكة المعلومات الجامعية
التوثيق الإلكتروني والميكروفيلم

بسم الله الرحمن الرحيم



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شبكة المعلومات الجامعية
التوثيق الإلكتروني والميكروفيلم



شبكة المعلومات الجامعية التوثيق الإلكتروني والميكروفيلم



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التوثيق الإلكتروني والميكروفيلم

جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

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Assessment of Household Catastrophic Total Cost of Tuberculosis and Its Determinants in Cairo; Prospective Cohort Study

Thesis

*Submitted for Partial Fulfillment of MD Degree in
Public Health*

By

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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

قالوا

سبّحانك لا علم لنا
إلا ما علمتنا إنك أنت
العليم العظيم

صدق الله العظيم

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List of Abbreviations

Abb.	Meaning
CHE	Catastrophic Health Expenditure
EP	Egyptian Pound
EMR.....	The Eastern Mediterranean Region
EMRO	The WHO Regional Office for the Eastern Mediterranean
FDA	Food and Drug Administration
DS	Drug sensitive
DR	Drug resistant
MOHP.....	Ministry of Health and Population
NHS	The National Health Service
NIH	The National Institute of Health
NTP	National Tuberculosis control Program
OOP.....	Out of Pocket Payment
SPSS	Statistical package for the social sciences
TB.....	Tuberculosis
WHO	World Health Organization

Abstract

Background: One goal of the End TB Strategy is to see no tuberculosis (TB) affected households experiencing catastrophic costs. Therefore, it is crucial for TB elimination programs to identify catastrophic costs and their main drivers to establish appropriate health and social measures. **Objectives:** To measure the percentage of catastrophic costs experienced by Egyptian TB patients and to identify its determinants. **Methods:** A prospective cohort study was conducted with 151 Egyptian TB patients recruited from two chest dispensaries from the Greater Cairo starting from May 2019 until May 2020. A validated WHO TB patient cost tool was used to collect data on patients' demographic information, household income, and direct and indirect expense of seeking TB treatment. We considered catastrophic TB costs to be total costs exceeding 20% of the household's annual income. **Results:** Of the patients, 33% experienced catastrophic costs. The highest proportion of total came in the pre-treatment stage. Borrowing money and selling property were the most-often reported coping strategies adopted. **Conclusion:** Despite the availability of free TB care under the Egyptian National TB Program, nearly one-third of the TB patients incurred catastrophic costs. Job loss and being the main breadwinner were among the significant predictors of catastrophic costs. **Recommendation:** Social protection mechanisms, including cash assistance and insurance coverage, are necessary to achieve the goal of the End TB Strategy.

Keywords: Tuberculosis, Catastrophic Costs, Determinants, Coping.

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**What is already known on this subject? AND
What does this study add?**

Tuberculosis morbidity and mortality pose a significant economic burden to patients, households, and society. Globally it is estimated that a range from 27% to 71% of TB patients and their households experience catastrophic expenditures on health. To our knowledge, in Egypt, there are scarce data available regarding the incidence of the catastrophic cost of TB. This study aims to measure the incidence of catastrophic cost by TB patients in different phases of the treatment and to identify its determinants in order to improve the quality of services and life of these patients.

1.INTRODUCTION/ REVIEW

Tuberculosis (TB), is an infectious disease, causing a major public health concern around the world(1). In 2015, TB affected about 10.4 million individuals globally, 6–7% of the global cases were in the Eastern Mediterranean Region. In Egypt, the prevalence is 25 cases per 100,000 population in 2014(2–4). Tuberculosis morbidity and mortality pose a significant economic burden to patients, households, and society. Each year, a TB patient loses on average 3 to 4 months of work and up to 30% of household earnings. But fortunately, tuberculosis is a treatable and curable disease (4,5). Between 2000 and 2014, WHO supported the implementation of the DOTS (Directly Observed Treatment, Short course) and Stop TB Strategy by Member States resulting in a decline in the mortality rate from 3.5 to 0.41 per 100,000 population in Egypt(5).

In Egypt, the National TB Control Program of the government, had been offering free treatment to TB patients (TB-DOTS), as recommended by WHO since 2003(2). This treatment package covers diagnostic tests and medications. However, the package does not cover all costs as “out of pocket” expenses and indirect costs. Out of pocket spending is the major payment strategy for healthcare in most low and middle-income countries. (2,6,7).

The WHO Regional Office for Eastern Mediterranean has also developed a regional plan for implementing the End TB Strategy in the Region. One of the three targets of the End TB Strategy is that no TB patient or their household should face “catastrophic total costs” due to TB, with this target will be achieved by 2030 (5,8). To date, there is, however, no unifying international definition for catastrophic costs(9). In 2016, the WHO adopted a definition which demarcates the catastrophic cost threshold as 20% or more of a household’s total annual income in out-of-pocket and lost income-based costs due to TB(6,10).

Catastrophic total costs reflect the economic burden of TB and barriers which negatively influence accessing TB care for individuals suffering from it. Catastrophic cost includes direct and indirect costs. Direct cost may be medical as cost of additive drugs (e.g., vitamins) and non-medical as travel, lodging charges, food and nutritional supplements during illness episodes. Indirect patient costs refer to the costs associated with time lost by the patient. This loss of time included visits to the health care facilities and hospitalization as

well as other time lost due to the inability to work as a result of the illness. The magnitude of the burden posed by the costs and the coping strategies adopted by the families creates an adherence barrier to diagnostic procedures and treatment. This results in poor outcomes and financial suffering(3,8).

To overcome access and adherence barriers, and to minimize the economic burden for TB-affected patients (and their households), it is therefore crucial for TB elimination programs to identify the main cost drivers, monitor financial hardship, to establish which further health and social policy measures should be taken (7,8,10). For this reason, this study aims to measure the incidence of catastrophic total costs caused by TB, in addition to identifying its determinants among a sample of Egyptian patients.

2.AIM/ OBJECTIVES

1. To measure the percent of catastrophic cost experienced by TB patients in different phases of the treatment.
2. To identify the determinants of the household catastrophic cost of TB.

3.METHODOLOGY:

Patients and Methods/ Subjects and Methods/ Material and Methods

- **Type of Study:** Prospective cohort study.
- **Study Setting:** Six chest dispensaries from Cairo governorate will be randomly selected.
- **Study Period:** The expected period is up to one year duration. TB patients will be interviewed 4 times (at the start of treatment, after 2 months, after 4 months and at the end of the treatment)