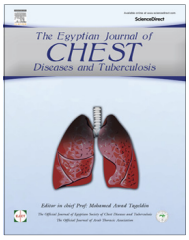
Egyptian Journal of Chest Diseases and Tuberculosis (2016) **65**, 211–217

HOSTED BY

The Egyptian Society of Chest Diseases and Tuberculosis

Egyptian Journal of Chest Diseases and Tuberculosis

www.elsevier.com/locate/ejcdt
www.sciencedirect.com



ORIGINAL ARTICLE

Tuberculosis situation in Ismailia governorate (2002–2012) before and after Direct Observed Therapy Short Course Strategy (DOTS)

Medhat F. Negm, Gehan F. Al mehy, Tahany M. Ali *, Safwa S. Abd Elfadil

Department of Chest Diseases, Benha Faculty of Medicine, Benha University, Egypt

Received 19 August 2015; accepted 16 September 2015
Available online 23 November 2015

KEYWORDS

TB;
DOTS;
Ismailia

Abstract *Background:* Tuberculosis (TB) is a major cause of illness and death worldwide, especially in Asia and Africa. In the early 1990s tuberculosis control in Egypt faced many problems. Major progress in global tuberculosis control followed the widespread implementation of the DOTS strategy.

Aim: The objective of this work was to study the tuberculosis situation in the Ismailia governorate from 2002 to 2012 before and after Direct Observed Therapy Short Course Strategy (DOTS).

Methods: This was a retrospective clinical cohort study carried out at the Ismailia governorate. The registered data about all TB cases over a period of 10 years (2002–2012) before and after the application of DOTS were collected from the chest hospital and TB registration units.

Percentages of cure treatment significantly increased after DOTS (55.3%) than before (40.5%) ($P < 0.01$). On the other hand, complete, failure, death, default and transfer out decreased after DOTS (32.5%, 1.3%, 6.3%, 2.5% and 2.0% respectively) than before it (38.7%, 3.1%, 6.9%, 7.2% and 4.0% respectively), the results were not significant ($P > 0.05$) for all of them. The mean values of incidence rates (new and relapse cases, all cases and new smear positive pulmonary TB cases) of TB highly significantly ($P < 0.01$) decreased after the application of DOTS for all of them except new smear positive pulmonary TB cases ($P > 0.05$). Also, the cure rate and treatment success rate significantly increased ($P < 0.05$), while retreatment TB cases rate, default rate, transfer out rate and retreatment failure rate did not significantly decreased ($P > 0.05$) for all of them except retreatment failure rate (chronic TB rate) ($P < 0.05$). Finally new pulmonary TB cases with no smear result significantly ($P < 0.05$) decreased after DOTS.

* Corresponding author.

Peer review under responsibility of The Egyptian Society of Chest Diseases and Tuberculosis.

http://dx.doi.org/10.1016/j.ejcdt.2015.09.005

0422-7638 © 2015 Production and hosting by Elsevier B.V. on behalf of The Egyptian Society of Chest Diseases and Tuberculosis.
This is an open access article under the CC BY-NC-ND license (http://creativecommons.org/licenses/by-nc-nd/4.0/).

Conclusion: The introduction of DOTS in the Ismailia governorate has led to a significant increase in the treatment success (88.07%) which is higher than the WHO target (85%), and a decrease in the default and failure rates.

© 2015 Production and hosting by Elsevier B.V. on behalf of The Egyptian Society of Chest Diseases and Tuberculosis. This is an open access article under the CC BY-NC-ND license (http://creativecommons.org/licenses/by-nc-nd/4.0/).

Introduction

Tuberculosis (TB) is an infectious disease that remains a major global health problem. It causes ill-health among millions of people each year and ranks as the second leading cause of death from an infectious disease worldwide, after the human immune-deficiency virus (HIV). In the latest estimates there were 8.6 million new TB cases in 2012 and 1.3 million TB deaths [15]. Most of the estimated numbers of TB cases in 2009 occurred in Asia (55%) and Africa (30%), with India and China combined accounted for 35% of all TB cases. The 22 high-burden countries (HBCs) that have received the particular attention at the global level since 2000 accounted for 80% of all estimated TB cases worldwide [15].

World Health Organization (WHO) has set the international target value for a treatment success outcome at 85% however the world wide success rates for tuberculosis range from 20% to 87% [7].

The DOTS guidelines recommend a short course regimen for newly diagnosed patients whose sputum shows smear positive results, which start with an intensive phase of four drugs (isoniazid, rifampicin, pyrazinamide and ethambutol) for two months followed by a continuation phase of rifampicin and isoniazid for four months, all given under direct observation of treatment [5].

Under DOTS, treatment may be given daily or three times weekly for both treatment phases. Additionally, in the intensive phase ethambutol may be replaced by the injectable streptomycin [13].

DOTS strategy has five key components as identified by WHO

Government commitment to sustained tuberculosis control activities includes case detection by sputum smears microscopy among symptomatic patients, standardized treatment regimen of 6–8 months for all confirmed sputum smear positive cases with DOTS for at least the initial 2 months, a regular UN interrupted supply of all essential anti-tuberculosis drugs, standardized recording and reporting system that allows assessment of treatment [12].

The primary key of DOTS strategy is the direct observation of tuberculosis treatment (DOT) by a supervisor, usually a health or community worker supervising TB patients to ensure they are taking their medications thus decreasing prolonged morbidity and drug resistance [2].

To date DOTS strategy remains the corner stone of global efforts for tuberculosis control and studies throughout the world indicate that by using DOTS strategy, the success rate of treatment is about 90–95% or even higher [7].

Microbial resistance to anti-tuberculosis drugs has existed since the dawn of the antibiotic era. Multidrug-resistant (MDR) tuberculosis defined by resistance to isoniazid and rifampicin, requires treatment for up to two years with expensive second line drugs and success rates rarely exceed 65–75%. Extensively drug-resistant(XDR) tuberculosis, refers to the disease caused by multidrug-resistant strains that are also resistant to treatment with any fluoroquinolone and any of the injectable drugs used in treatment with second-line anti-tuberculosis drugs (amikacin, capreomycin and kanamycin) [10].

Aim

The objective of this work was to study the tuberculosis situation in the Ismailia governorate from 2002 to 2012 before and after the application of Direct Observed Therapy Short Course Strategy (DOTS).

Methodology

This was a retrospective clinical cohort study carried out at the Ismailia governorate. The registered data about all TB cases over a period of 10 years (2002–2012) were collected from the TB registration units in the Ismailia governorate. This period includes 2 stages; four years (2002–2006) before the application of DOTS and six years (2007–2012) after it.

- **The Collected data included**:

(1) TB registration code and the year.
(2) Socio demographic data which included name, age, sex and residence.
(3) Forms of tuberculosis; Either: Pulmonary (either smear positive or smear negative) or extra pulmonary (and its site as LN, intestine, meninges, breast, renal).
(4) History of previous treatment if present (category of patients or type of the patient); either new, relapse, treatment after failure, treatment after default, transfer in or others.
(5) Schedule of treatment (recommended standardized treatment regimen) according to [8].
(6) The recorded follow up for smear-positive pulmonary tuberculosis included sputum smear microscopic examination for acid fast bacilli, at the end of 2nd month, at end of 5th month and at the end of treatment [8].
(7) Outcome: which included: Cure, treatment completed, treatment failure, died, default and transfer out.
(8) Culture result: The total number of cases examined yearly by culture and its result.

- **TB indicators** were designed by The World Health Organization [14] to determine national TB program (NTP) quality and effectiveness , these indicators are:

Download English Version:

https://daneshyari.com/en/article/3399906

Download Persian Version:

https://daneshyari.com/article/3399906

Daneshyari.com