



ADHERENCE OF TUBERCULOSIS PATIENTS UNDERGOING DOTS PLUS TREATMENT

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<p>Article history Received 12/6/2014 Available online 15/07/2014</p> <p>Keywords: Adverse Drug Reactions, Antitubercular drugs, DOTS plus, Tuberculosis</p>	<p>ABSTRACT</p> <p>Multi-drug-resistant tuberculosis (MDR-TB) is a growing problem around the world especially in countries where the prevalence of TB is high. MDR-TB develops in treatable TB, when the course of antibiotics is interrupted and the levels of drug in the body are insufficient to kill 100% of bacteria. The total 5849 patients were studied, out of those 2834 (48.45 %) were successfully cured. 365 (6.24%) patients completed treatment, 1384 (23.66%) patients were reported as defaulter while 683 (11.67%) were died, 332 (5.67%) patients failed to cure, surgery were performed in 3 (0.051%) patients, 110 (1.88%) patients transferred to other places and LAMA were seen in 98 (1.67%) patients. It was observed that non compliance of patients was a major cause for the decrease in cure rate of MDR-TB treatment. Due to various reasons like adverse drug reactions, long duration of treatment etc., patient compliance to treatment decreases, as a result poor outcome may occur. These are the major reasons for treatment discontinuation.</p>
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INTRODUCTION

Multi-drug-resistant tuberculosis (MDR-TB) is a growing problem around the world especially in countries where the prevalence of TB is high ^[1]. Multi-drug-resistant tuberculosis (MDR-TB) is defined as tuberculosis that is resistant to at least isoniazid (INH) and rifampicin (RMP), the two most powerful first-line anti-TB drugs. Isolates which multiply resistant to any other combination of anti-TB drugs but not to INH and RMP are not classed as MDR-TB ^[2].

MDR-TB develops in treatable TB, when the course of antibiotics is interrupted and the levels of drug in the body are insufficient to kill 100% of bacteria. This can happen for a number of reasons: Patients may feel better and halt their antibiotic course, drug supplies may run out or become scarce, patients may forget to take their medication from time to time or patients do not receive effective therapy. Most tuberculosis therapy consists of short-course chemotherapy which is only curing a small percentage of patients with multi-drug resistant tuberculosis. Delays in second line drugs make multi-drug resistant tuberculosis more difficult to treat. MDR-TB spreads from person to person as readily as drug-sensitive TB and in the same manner.

In order to fully cure infectious diseases, such as Tuberculosis, we need a plan to ensure equal access to health care ^[3].

- WHO estimates 650,000 MDR-TB prevalent MDR-TB cases in 2010 and in 2008, that MDR-TB caused 150,000 deaths.
- Over 85% of the world's estimated number of incident MDR-TB and XDR-TB cases occur in 27 countries.
- Nearly 50% of the world's burdens of MDR-TB cases are found in China and India (highest absolute numbers).
- In parts of north-west Russia, and in some eastern European countries, up to 25% of new TB patients have MDR-TB ^[4].

METHODOLOGY

The total of 31 articles were included in the study from referred sources. Study was carried out from 22nd October 2013 to 31st March 2014 for the period of 6 months. Previously reported articles were searched. We evaluated 50 articles from various sources like print journals, online journals and databases like science direct, Medline etc. As per study criteria, we shortlisted 31 articles. Evaluation of articles had been done thoroughly. We assessed rate of outcome of MDR TB treatment and classified as Cured/ Completed/ Defaulted/ Died/ Failed/ Surgery/ Transferred Out and LAMA.

RESULTS

The total 5849 patients were studied, out of those 2834 (48.45 %) were successfully cured. 365 (6.24%) patients completed treatment, 1384 (23.66%) patients were reported as defaulter while 683 (11.67%) were died, 332 (5.67%) patients failed to cure, surgery were performed in 3 (0.051%) patients, 110 (1.88%) patients transferred to other places and LAMA were seen in 98 (1.67%) patients.

Table No. 1. Outcome distribution in MDR TB treatment

Total	5,849
Cured	2,834
Completed	365
Defaulted	1,384
Died	683
Failed	332
Surgery	3
Transferred out	110
LAMA	98

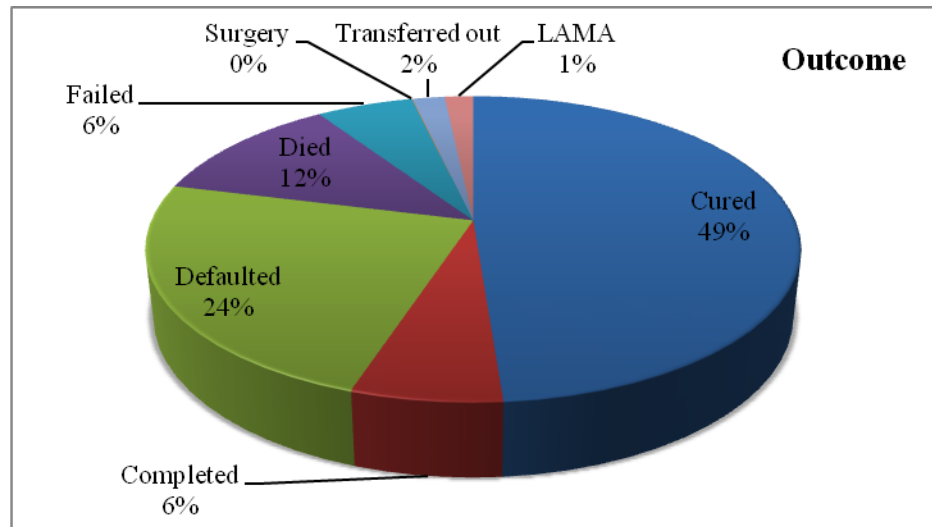


Fig. 1. Outcome distribution in MDR TB treatment

DISCUSSION

Due to lack of a recommended standard MDR-TB treatment regimen, the following mutually exclusive MDR-TB outcome definitions have been designed to fit the wide range of regimens and treatment durations currently in use. These definitions rely on the use of culture.

Treatment Outcome Definitions for MDR-TB Patients

MDR-TB case: A patient who had TB resistant to both isoniazid and rifampicin, with or without resistance to any other anti-tuberculosis drugs.

Cured MDR-TB: A patient starting DOTS-PLUS treatment who completed treatment, was smear and culture negative in the last month of treatment (from months 24-32), and had been culture/smear negative during the preceding 12 months of treatment in the absence of first-line drugs.

Completed: A MDR-TB patient who has completed treatment according to treatment protocol but does not meet the definition of cure or failure due to lack of bacteriologic results.

Death: - A MDR-TB patient who dies for any reason during the course of MDR-TB treatment.

LAMA: - A MDR-TB patient who Left Against Medical Advice.

Surgery: - A MDR-TB patient who has undergone surgical treatment for the treatment of disease.

Defaulted: - A MDR-TB patient whose MDR-TB treatment was interrupted for two or more consecutive months. Additionally, patients who are removed from treatment by clinicians due to persistent, short (< 2 months) interruptions should also receive a default outcome.

Failed MDR-TB: A patient who had persistent positive culture continuously after 16 months. A patient will also be considered a treatment failure if one of the final three cultures taken during treatment is positive, or if s/he is persistently culture-positive and a clinical decision has been made to terminate treatment early. Patients permanently removed from treatment due to drug intolerance will also receive a treatment failure outcome.

Transferred out: A patient who was transferred to another reporting unit with unknown treatment results^[5].

It was observed that non compliance of patients was a major cause for the decrease in cure rate of MDR-TB treatment. Patients with long duration of treatment and multiple drug therapy are prone to non compliance. The study evaluated outcome rate in various regions. About one fourth of the patients were non-compliant. Multiple or intercurrent disease and multiple drug therapy are responsible for increased risk of discontinuation of the treatment. Poor patient compliance to the treatment regimen was major cause for failure of treatment. Pharmacists may be able to enhance patient's compliance and outcome by engaging them in Pharmaceutical care activities like monitoring symptoms, providing medication, counseling and helping patients to resolve drug related problems, facilitating communication with physicians.

CONCLUSION

Due to various reasons like adverse drug reactions, long duration of treatment etc., patient compliance to treatment decreases, as a result poor outcome may occur. These are the major reasons for treatment discontinuation. In management of ADRs, pharmacist has a key role. They are able to enhance the cure rate of treatment outcome by improving patient's trust on the treatment.

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