



Treatment outcome among cases of multidrug-resistant tuberculosis (MDR TB) in Western India: A prospective study



Sangita V. Patel^{a,*}, Kapil B. Nimavat^{b,1}, Patel B. Alpesh^c,
Lipy K. Shukla^{d,2}, Kalpita S. Shringarpure^{a,3},
Kedar G. Mehta^{e,4}, Chakshu C. Joshi^{f,5}

^a Department of Preventive and Social Medicine (PSM), Baroda Medical College, India

^b Government of Gujarat, India

^c Department of Preventive and Social Medicine (PSM), Smt. N.H.L. Municipal Medical College, Ahmedabad, India

^d PDU General Hospital, Rajkot, India

^e Department of Preventive and Social Medicine (PSM), GMERS, Gotri, India

^f UNICEF, Palanpur, India

Received 3 August 2015; received in revised form 2 November 2015; accepted 10 November 2015

KEYWORDS

Treatment outcome;
Defaulter;
Treatment success
rate;
Multidrug-resistant
tuberculosis

Summary Multidrug-resistant TB has become a significant public health problem in a number of countries and an obstacle to effective TB control. Therefore, the present study sought to determine the treatment outcome in patients with MDR TB in seven districts and to examine the factors affecting the treatment outcome. A prospective cohort study was carried out by enrolling all the registered patients in DOTs Plus center of Vadodara district from February 2010 to December 2010. A total of 142 patients were interviewed using a pre-tested semi-structured questionnaire at the DOTs centers of seven districts of Gujarat or at their homes in cases of defaulters/death. After 24 months, of those 145 patients, 48 (33.10%) were declared cured, 8 (5.50%) had completed their treatment, 43 (29.70%) patients died

* Corresponding author at: 5, Gokul Society, Sindhavaimata Road, Pratapnagar, Vadodara, India. Tel.: +91 9825552478.

E-mail addresses: sangita-psm@yahoo.co.in (S.V. Patel), kapilnimavat@gmail.com (K.B. Nimavat), dralpesh16@yahoo.co.in (P.B. Alpesh), drlipyshukla@gmail.com (L.K. Shukla), kshringarpure@gmail.com (K.S. Shringarpure), kedar.mehta20@yahoo.co.in (K.G. Mehta), chakshujoshi88@gmail.com (C.C. Joshi).

¹ Tel.: +91 9909979711.

² Tel.: +91 8980442898.

³ Tel.: +91 9824673141.

⁴ Tel.: +91 9879036835.

⁵ Tel.: +91 8238009848.

during the treatment, and 32 (21.10%) patients defaulted during treatment. Factors associated with a significant difference in the outcomes were income, marital status, and education. Only education significantly affected treatment outcome upon applying logistic regression. Therefore, proper counseling on drug adherence should be applied at the programmatic level.

© 2015 King Saud Bin Abdulaziz University for Health Sciences. Published by Elsevier Limited. All rights reserved.

Introduction

TB is a disease of major public health importance. The global annual incidence estimate is 9.4 million cases, of which it is estimated that 2 million cases originate from India [1]. The emergence of resistance to drugs used to treat tuberculosis, specifically multidrug-resistant TB (MDR-TB), has become a significant public health problem in a number of countries and an obstacle to effective TB control. India has second highest MDR-TB burden in the world after China [2].

Relative to untreated TB patients, the probability of treatment resistance was over 4-fold higher for previously treated patients, and that of MDR-TB was over 10-fold higher [3]. Multidrug-resistant tuberculosis (MDR-TB) is defined as resistance to isoniazid and rifampicin [4]. Because these patients need to be treated with expensive and toxic second-line drugs and may require hospitalization to manage their toxic reactions and other complications, they utilize a sizeable proportion of health care resources [5].

Patient management, including the duration of treatment and final treatment success, is based on the conversion of sputum smears to an acid-fast bacilli-negative status [6]. For treatment of multidrug-resistant TB or TB with an isolate resistant to at least isoniazid and rifampicin, the status of mycobacterial cultures is generally used to guide therapy for patients treated in resource-limited settings and is considered the most important interim indicator of the efficacy of treatment for multidrug-resistant TB [7,8].

The DOTS Plus site in Vadodara, the second in the state, was established in February 2010 for the treatment of patients on MDR-TB treatment. The mismanagement of MDR-TB may lead to the development of extensively drug-resistant TB (XDR-TB). Baseline information and adequate information on epidemiological factors, treatment response during the course of treatment, various side effects of drugs, and reasons for default from previous treatment are required for disease control and effective

treatment [9]. Therefore, the present study was performed to determine the treatment outcome in patients on MDR TB treatment according to the RNTCP regimen for MDR-TB at seven districts of central Gujarat and to examine the factors affecting the treatment outcome.

Material and methods

A prospective cohort study was carried out between March 2010 to January 2013 at the DOTS Plus site of Shree Sayaji General Hospital (SSGH), Vadodara, Gujarat, India, which receives an inflow of patients from seven districts, namely Vadodara (rural, urban and tribal), Narmada, Bharuch, Panchmahal and Dahod. All patients registered between February 2010 to December 2010 at the above-mentioned DOTS Plus sites were included in the study (sample size calculation was not required). Data collection was carried out by obtaining information from treatment cards and by interviewing patients. Patients were confirmed to have MDR-TB according to drug sensitivity testing (DST) results. Seriously ill patients who were unable to undergo an interview, patients who refused to provide consent, patients under the age of 18 years, pregnant women, and patients with a concurrent major psychiatric illness were excluded from the study.

A total of 146 patients from the 7 aforementioned districts were registered from February to December 2010. Of these 146 patients, one patient refused to give consent, and 3 patients moved and their treatment details were not available. Information about the deceased patients was obtained from their relatives; a few of the patients who were critically ill at the time of interview were approached after their health improved and interviews were obtained. Therefore, complete data were available for 142 patients. All the patients were followed for 24 months to determine the final outcome.

Pre-treatment investigations included complete blood count, renal and liver function tests, sputum

Download English Version:

<https://daneshyari.com/en/article/3405905>

Download Persian Version:

<https://daneshyari.com/article/3405905>

[Daneshyari.com](https://daneshyari.com)