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Adherence is associated with the quality of professional–patient interaction in Directly Observed Treatment Short-course, DOTS

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Abstract

Objective: To investigate the association between the behaviour of health professionals as reported by patients, the quality of communication, patients' communication about their disease, and non-adherence to Directly Observed Tuberculosis Treatment Short-course, DOTS.
Methods: This study was designed as a case–control study based on 50 cases (non-adherents) and 100 controls (adherents), conducted in a hilly western district in Nepal. The participation rate was 80% for 50 cases and 95% for 100 controls. All covariates with p-value ≤ 0.2 were included in a multivariate logistic regression model to identify the factors significantly associated with treatment non-adherence.
Results: The analysis identified that poor-grade communication (OR = 11.2; CI 2.5–50.4) and fair-grade communication (OR = 2.7; CI 1.2–6.3) between patients and dispensers were significantly associated with non-adherence.
Conclusion: Better communication between health professionals, particularly dispensers, and patients is essential for improving treatment adherence in TB treatment, even under DOTS.
Practice implications: Drug dispensers should be trained to develop their communication skills about the use of medications, associated side effects, benefits and risk of non-adherence, as well as to respect the individual patient's autonomy and integrity.

Keywords: Adherence; DOTS; Nepal; Professional–patient interactions; Tuberculosis

1. Introduction

Tuberculosis (TB) is an infectious disease caused by *Mycobacterium tuberculosis*. It is estimated that one-third of the world's population is infected with TB [1], with a total of 8.8 million new cases of TB in 2002, of which 3.9 million (44.3%) were smear positive [2]. TB kills approximately two million people every year [1]. In 1993, the World Health Organization (WHO) declared TB a global emergency because the disease was out of control in many parts of the world; this is still the case, as TB programmes in many countries have failed to control the disease.

TB is one of the most significant health problems in Nepal, with an estimated 45% of the total population being infected [3] The anti-TB programme Directly Observed Treatment Short-course (DOTS) was started in 1996 and by April 2001, it was reported to be successfully implemented throughout the country. Despite this, the most recent report estimates that from 5000 to 7000 people in the country died in 2002/2003 due to TB [3]. In 2001, the non-adherence rate for new smear-positive patients under DOTS was estimated to be 5% and the failure rate 1% [2].

Poor patient adherence is the most important cause of treatment failure in tuberculosis programmes [4]. The WHO has recommended DOTS, a programme with treatment adherence as one objective. The DOTS regimen features an initial phase and a continuation phase. The initial phase consists of 2–3 months of daily treatment with three or more

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drugs, while the continuation phase involves 4–6 months of daily or intermittent treatment with two or more drugs. Directly observed treatment means that an observer watches the patient swallow his/her tablets, thus ensuring that a TB patient takes the right anti-TB drugs, in the right doses, at the right intervals. The observer may be a health worker or a trained and supervised community member. The short-course treatment regimen lasts 6–8 months and uses a combination of anti-TB drugs. The salient features of DOTS are presented in Appendix A.

Directly observed treatment is primarily recommended in the initial phase of treatment, at least for all smear-positive cases, and in the continuation phase of regimens containing Rifampicin (daily or three times a week). Accordingly, in Nepal, TB patients under DOTS need to ingest their drugs every day for at least the first 2 months under the direct observation of a designated health professional, particularly a dispenser. In the continuation phase, patients have to turn up every week or fortnight to collect their drugs from tuberculosis treatment facilities. Health examiners are the health care providers who diagnose the patients, decide about different categories of TB and select the appropriate dosage regimens, whereas dispensers administer the dosage to the patients, impart relevant information regarding medications to the patients and keep the records. Despite all these observations and supervisions under DOTS, one study has found a discrepancy between actual and expected practice, with lack of sputum conversion or treatment success, thereby questioning the efficacy of DOTS on treatment outcome [5]. In addition, it has also been reported that the effects of direct observation on cure or treatment completion were no better than those of self-administered treatment [6].

Studies conducted on DOTS as well as on standard and unsupervised treatment have reported several factors as competing causes of patients' non-adherence to TB treatment: socioeconomic factors like poor socioeconomic position [7–9,11,12,14–16], lack of network support [10,15,17] and ethnicity [10]; patient-related factors like patients' beliefs, knowledge, perception and attitudes about and experience with the disease and treatment [8,12,13,15,17–19]; lifestyle-related factors like alcohol and drug abuse [7,13]; condition-related factors like severity of disease [12], and co-morbidity such as psychiatric illness [13]; and factors related to the health care system like quality of relations and communication between health workers and patients [14].

Several studies have shown that the behaviour, information and communication quality and style of health professionals may influence patients' adherence [14,20,21]. However, we have identified only one study [14] dealing with these aspects in relation to TB treatment. This study was carried out in Madagascar and showed that the quality of relations and communications between health workers and patients was significantly associated with adherence to TB treatment. The non-adherents were less well informed about the duration of treatment, had no opportunity to ask questions and explanations from the health workers about the disease and treatment were not satisfactory [14]. This finding emphasises the need to keep patients at the centre of activities, which can be achieved by concordance. The concept of concordance refers to 'the creation of an agreement between patient and healthcare provider about whether, when and how medicines [are] to be taken' [22], and thereby values the patient's perspective (user perspective). It reflects the frank exchange of information, negotiation and a spirit of cooperation [23]. Considering the severity of the TB problem and the possibility of intervening to optimise the behaviour of health professionals, we found it highly relevant to carry out further investigations on the associations between health professionals' behaviour and communication with TB treatment adherence.

The objective of the present article was to investigate, based on patients' reports, the association between health professionals' behaviour and their quality of communication, as well as patients' communication with household members and others about the disease, and non-adherence to anti-TB treatment in DOTS in a south Asian context, namely Nepal.

2. Methods

2.1. Setting and treatment

The study was performed in the Kaski, a hilly district in Nepal with a population of 380,527, one of the first districts where DOTS was implemented. At the time of data collection, TB treatment under DOTS was being offered from the Regional Tuberculosis Centre situated in the district headquarter, Pokhara town, plus two primary health centres, eight health posts, three sub-health posts and one ward. Patient characteristics and treatment regimens under DOTS followed in Nepal for different categories of patients are shown in Table 1.

All anti-TB drugs are dispensed free of charge in government TB treatment facilities in Nepal.

2.2. Population

All sputum positive patients, categories I and II, who had completed their treatment (adherents) or dropped out (non-adherents) between mid-July 1999 to mid-July 2001 were included in the study population, totalling 50 non-adherent and 309 adherent patients. As per the WHO standard criteria, in the Nepalese National Tuberculosis Control Programme, patients are labelled as non-adherent if their treatment was interrupted for 2 consecutive months or more. Only patients receiving treatment for TB from government health facilities are included in the study population. Those receiving treatment from private clinics/private hospitals are not included in this study.

Information about the patients' name, address, age, gender, category, date of treatment start, date of treatment