

## CHAPTER 12

# Treatment delivery and adherence

### 12.1 Chapter objectives

This chapter outlines the strategies for treatment delivery that will improve adherence among patients receiving treatment for drug-resistant TB. It focuses on patients with MDR-TB because the treatment for MDR-TB is the most difficult. However, the same strategies can also be used for any patient with drug-resistant, or even drug-susceptible, TB.

### 12.2 Education of patients

All patients and their families should receive education about MDR-TB, its treatment, potential adverse drug effects and the need for adherence to therapy. Educational interventions should commence at the start of therapy and continue throughout the course of treatment. Education can be provided by physicians, nurses, lay and community health workers and other health-care providers. Materials should be appropriate to the literacy levels of the population and should be culturally sensitive as well.

### 12.3 Treatment delivery settings

There are several strategies for the delivery of MDR-TB treatment, including hospitalization, clinic-based treatment and community-based care (1–2). Regardless of the mode of delivery, the management of MDR-TB depends on a steady supply of medicines provided to patients free of charge through a reliable network of educated providers.

Although early in the history of MDR-TB treatment, strict hospitalization of patients was considered necessary, home-based care provided by trained lay and community health workers can achieve comparable results and, in theory, may result in decreased nosocomial spread of the disease (1–2). In each setting, care should be delivered by a multidisciplinary team of providers, including physicians, nurses, social workers and community health workers or volunteers. The roles and responsibilities of each of these groups of providers will vary depending on the needs and resources available in specific settings.

Hospitals should provide acceptable living conditions, sufficient activities so that patients avoid boredom, adequate food, a proper heating system in cool areas, fans or cooling systems in hot climates and proper infection control

measures. Prisons require specific measures to improve adherence, which are described in detail in the WHO guidelines for TB control in prisons (3).

#### 12.4 Adherence to therapy

Patients with MDR-TB are more likely to have had problems with non-adherence in the past (4). Adherence to MDR-TB therapy is particularly difficult because of its prolonged treatment regimens with larger numbers of drugs that have more serious adverse effect profiles (5). Thus, MDR-TB patients are at increased risk of non-adherence to treatment. Adherence is an essential element to prevent the generation of pan-resistant strains with the potential for community-wide spread and virtually no possibility of cure for the patient (6).

MDR-TB treatment can be successful, with high overall rates of adherence, when adequate support measures are provided (1). These measures include enablers and incentives for delivery of DOT to ensure adherence to treatment and may include the following: nutritional supplementation, emotional support, education of patients, family and peers on MDR-TB treatment, and early and effective management of adverse effects.

#### 12.5 Directly observed therapy (DOT)

Because MDR-TB treatment is the last therapeutic option for many patients and because there is a serious public health consequence if therapy fails in a patient with MDR-TB, it is recommended that all patients receiving treatment for MDR-TB receive DOT either in the community, at health centres or posts, or within the hospital setting. DOT should be provided in a way that does not place undue burdens on patients and their families. Long transportation times and distances, short clinic operation hours and difficulty in accessing services may all reduce the efficacy of DOT.

##### 12.5.1 Who can deliver DOT?

When human and financial resources permit, the first choice for DOT delivery is to use health-care workers. Otherwise, trained community members can serve as effective DOT workers. With appropriate training and support they can visit patients in their homes or work places. Receiving DOT from a community member is often a convenient alternative to the health centre and can result in excellent treatment adherence (7). However, community members need more intensive training, ongoing supervision by health professionals and support to deliver DOT for MDR-TB than those that deliver DOT for drug-susceptible TB. It is recommended that the patient's DOT worker should not be a family member. Family relationships are often complicated for the MDR-TB patient, and a family observer could be subject to subtle manipulation by the patient, relatives, employers, etc.

### 12.5.2 Maintaining confidentiality

The DOT worker should explore the need to maintain strict confidentiality regarding the patient's disease. In some cases, this may entail working out a system whereby the patient can receive medication without the knowledge of others.

### 12.6 Socioeconomic interventions

Socioeconomic problems, including hunger, homelessness and unemployment, should be addressed to enable patients and their families to adhere to MDR-TB treatment. These problems have been successfully tackled through the provision of “incentives” and “enablers”. Enablers are goods or services that make it easier for patients to adhere to treatment, such as the provision of transportation vouchers. Incentives are goods or services that are used to encourage patients to adhere to therapy, such as the provision of clothing. Maximal interventions should be given to patients with the most need. Programmes should benefit from professional social workers who can assess the need for such socioeconomic interventions and monitor their delivery.

### 12.7 Social and emotional support

Having MDR-TB can be an emotionally devastating experience for patients and their families. Considerable stigma is attached to the disease and this may interfere with adherence to therapy. In addition, the long nature of MDR-TB therapy combined with the adverse effects of the drugs may contribute to depression, anxiety and further difficulty with treatment adherence. The provision of emotional support to patients may increase the likelihood of adherence to therapy. This support may be organized in the form of support groups or one-to-one counselling by trained providers. Informal support can also be provided by physicians, nurses, DOT workers and family members. Most programmes use a multidisciplinary “support to adherence” team (social worker, nurse, health educator, companion and doctor).

### 12.8 Follow-up of the non-adherent patient

When a patient fails to attend a DOT appointment, a system should be in place that allows prompt patient follow-up. Most commonly this involves a DOT worker visiting the patient's home the same day to find out why the patient has defaulted and to ensure that treatment is resumed promptly and effectively. The situation should be addressed in a sympathetic, friendly and non-judgemental manner. Every effort should be made to listen to reasons for the patient missing a dose(s) and to work with patient and family to ensure continuation of treatment. Transportation problems should be addressed.

## 12.9 Early and effective management of adverse drug effects

Although rarely life-threatening, the adverse effects of second-line drugs can be debilitating for patients. Patients experiencing high rates of adverse effects may be at increased risk of non-adherence. Therefore, early and effective management of adverse effects should be part of adherence-promotion strategies in the management of MDR-TB. In most cases, management of adverse effects can be accomplished using relatively simple and low-cost interventions without compromising the integrity of the MDR-TB treatment regimen (8). Management of adverse effects is addressed in more detail in Chapter 11.

### 12.10 Conclusion

Treatment delivery to patients with MDR-TB can be accomplished in even the most resource-poor settings. It may be carried out using a hospital- or community-based approach, depending on the programme's organization and resources. Trained community members who are closely supervised on an ongoing basis can play an important role in the management of MDR-TB in the national TB control programme. Non-adherence to treatment is one of the primary factors leading to poor outcomes for patients with MDR-TB. There are many reasons why patients may not adhere to therapy, and most of these stem from socioeconomic constraints. Higher rates of adherence can be achieved if patients are offered a comprehensive package of services aimed at promoting adherence. These include DOT, social support and effective management of adverse effects. The human resources required to deliver the proper support should not be underestimated (see Chapter 3). Provision of these services should be viewed as an essential part of treatment programmes for drug-resistant TB worldwide.

#### BOX 12.1

##### Adherence promotion strategies for DR-TB control programmes

- DOT
- Social support
- Support to treatment adherence using a team approach
- Effective management of adverse effects

## References

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