BURDEN OF MDR-TB AND ITS CONTROL IN PAKISTAN

Prof. Arshad Javaid

Address for Correspondence
Prof. Arshad Javaid
Department of Pulmonology
Postgraduate Medical Institute
Lady Reading Hospital
Peshawar

This editorial may be cited as: Javaid A. Burden of MDR-TB and its control in Pakistan. Pak J Chest Med 2015; 21(04): 131-3

Tuberculosis (TB) has been with us since prehistoric times. It is a medical, social and economic disaster of immense magnitude and is a major global health concern. Only half of the people exposed to the bacillus are infected out of which only 10% develop the disease. If left untreated, half of the patients will die. Since the middle of the last century, effective treatments have been developed that can cure nearly all patients.[1]

The main strategy of TB prevention and control is early diagnosis and cure. In most people with TB, recovery occurs after six months of treatment with at least four drugs for the first two months, and at least two during the following four months. If the treatment is irregular or erratic, or inadequate, then a bigger disaster in the form of drug resistant tuberculosis may emerge. Among drug resistant TB cases MDR-TB is most serious and alarming.[2]

Despite TB being a preventable disease, and there are highly effective tools which can control this disease; however, nearly nine million people become ill every year in the world. No one should die of tuberculosis and yet it causes more than one and a half million deaths every year in the world. Poor people get ill more and those who get ill become even poorer and so creating a vicious cycle. Fighting against TB is also fighting against poverty.

Pakistan is 4th among high burden countries for MDR-TB with estimated annual cases of 13000 among notified pulmonary TB cases. In the notified new pulmonary TB cases there are 9900 MDR TB cases (at the rate of 4.3% in new cases) and 3100 among notified retreatment cases (at the rate of 19% in retreatment cases). Pakistan shares 60% of the DR-TB burden in the EMRO region countries.[3]

Control of drug resistant tuberculosis requires a strong health infrastructure to ensure the delivery of effective therapy coupled with surveillance and monitoring activities to enable timely intervention to limit transmission and spread of the disease. For this purpose guidelines for programmatic management of drug-resistant TB have been developed by National TB programme and Pakistan Chest Society.[4]

In addition to the treatment it is also essential to prevent the transmission of MDR-TB especially in institution setting through the infection control measures like administrative controls which reduce the risk of exposure to infection by isolating MDR-TB patients and by reducing period of hospitalization, by engineering Controls which reduce concentration of infectious bacilli in air in areas of likely contamination, by facilitating natural and artificial ventilation by fixing exhaust fans, room air cleaners and germicidal upper air ultra violet irradiation. Personal respiratory protection for individuals with the help of respirators and health education to the patients for cough hygiene are also useful to reduce the concentration of bacteria in the environment.[1]

However, it was soon realized that for effective global management of MDR-TB, that the emphasis has to shift from individual patient to a community based programme approach.

In Pakistan formal treatment for MDR-TB was started by few chest physicians with the support of NTP,PTP and Pakistan Chest Society through a special

approach known as DOTS Plus.[5] DOTS plus is a case management strategy under the aegis of DOTS to manage MDR-TB using second line drugs and infection control measures. As per definition it is clear that DOTS is a pre requisite to DOTS plus and hence can be considered only in situations where effective DOTS is being implemented.[6] Overall goals for the DOTS plus strategy are to reduce morbidity and mortality from MDR- TB and to cut the chain of transmission.[7] In order to ensure that DOTS plus strategy is implemented effectively, the WHO along with its international partners established a Green Light Committee in June 2000 to lay down the "Models of Good Practice" for MDR-TB patients. This committee ensures that benchmarks are met before DOTS plus is initiated at any site and also provides technical support for implementing DOTS plus protocols. One of the major hindrances in treating such patients is the cost of drugs and it was function of this committee to link up with drug manufacturers for assuring uninterrupted supply of quality drugs at reduced rates.[8]

DOTS Plus was replaced by another strategy called Programmatic Management of Drug Resistant TB (PMDT) by NTP. National TB Control Program (NTP) with the support of The Global Fund through Round-6 started piloting of management of Drug-Resistant TB (DR-TB) cases on hospital-based and ambulatory models in following three hospitals and enrolled 200 patients in Gulab Devi Chest Hospital Lahore (hospital-based), Ojha Institute Hospital Karachi (hospital-based), Indus Hospital Karachi (Community based)

The intervention scaled up when the Global Fund Round-9 grant was approved and awarded which specifically addresses DR-TB management in 30 hospitals of the country. Total of 27 treatment sites are functional and reporting to NTP. Upto November 2015, total enrollment of DR-TB cases was 8445 through 27 PMDT sites nationwide. So far good treatment outcomes results have been achieved. Analysis of 2012 cohort of DR-TB patients enrolled by NTP shows treatment Success rate of 76%, death rate 12% and lost to follow-up 5%. Among enrolled patients 78% were MDR where as 3.6% were XDR-TB patients.

Major challenges faced by NTP towards control of DR-TB are uncontrolled over the counter prescription of unknown quality SLD, Lack of internationally standard bio availability/bio equivalence laboratory testing facilities in the country, Peripheral linkage of DR-TB, strengthening of ambulatory based model, low geographical coverage, sub optimal use of Xpert/MTB Rif resistance and involvement of private sector in referral and management of MDR-TB.

NTP plan to expand PMDT treatment sites to 30 units, also plan to upgrade/establish 11 culture and 5 DST Laboratories in the country, Enhancement of screening of all PTB cases for Rif Resistance in phase manner, Improve geographical coverage of Xpert MTB/Rif resistance sites in Punjab installing new machines, piloting short course MDR-TB regimen, piloting use of bedaquilline along with WHO recommended regimen in MDR-TB, strengthen contact screening by provision of motor bikes to PMDT sites, strategy for referral of DR TB cases from tertiary care hospitals through HDL mobilization, advocacy seminar at district headquarter hospitals (DHQs) and quarterly review monitoring and the proactive collaboration with professional organizations (PCS, PATA, etc).

In conclusion, No doubt considerable progress has been made by NTP towards controlling DR-TB in the country, but the challenge is far too big and a lot more need to be done to get any nearer to the set target of treating at least 80% of the estimated cases in the country.

REFERENCES

1. Javaid A. Burden of tuberculosis combating drug resistance. J Postgrad Med Inst 2011; 24(1).
2. Khan MA, Mehreen S, Basit A, Khan RA, Jan F, Ullah I, Ihtesham M, Khan A, Ullah U, Javaid A. Characteristics and treatment outcomes of patients with multi-drug resistant tuberculosis at a tertiary care hospital in Peshawar, Pakistan. Saudi medical J 2015;36(12):1463-71.
3. Annual Report 2014. National TB Control Programme, Ministry of National Health Services Regulations & Coordination Islamabad, Pakistan.
4. National guidelines for the management of Drug Resistant Tuberculosis: National TB Control Programme, Islamabad; 2009.
5. Javaid A, Ziaullah, Iqbal Z, Basit A, Ullah F, Khan MY. DOTS Plus in a tertiary care Hospital of Pesahwar NWFP; Pak J of Chest Med 2008; 14(1):21-26
6. Espinal MA, Dye C. Can DOTS control multidrug-resistant tuberculosis? Lancet 2005;365:1206-9
7. World Health Organization. Anti-tuberculosis drug resistance in the world: third global report. The WHO/ IUATLD global project on antituberculosis drug resistance surveillance 1999-2002. Geneva: World Health Organization, 2004.

8. Pablos-Mendez A, Gowda DK, Frieden TR. Controlling multidrug-resistant tuberculosis and access to expensive drugs: a rational framework. Bull World Health Organ 2002; 80:489-95.