Pak J Med Res
Vol. 57, No. 1, 2018

Editorial

Meeting the Challenge, Making a Difference: Multidrug Resistance Tuberculosis in Pakistan

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Pakistan is one the high tuberculosis (TB) burden countries and ranks 5th globally. Emerging drug resistance (DR) is posing a serious threat in the control of tuberculosis and unfortunately Pakistan ranks 6th high burden country in this type of TB.[1] An estimated 510,000 people including around 15000 children acquire TB infection in Pakistan that leads to more than 70,000 deaths due to the single deadly infection in the country annually.[2,3] Multidrug resistant (MDR) TB is the infection caused by any isolate of Mycobacterium tuberculosis complex (MTBC) which is resistant to at least isoniazid and rifampicin, the two most important first line of anti-tubercular treatment (ATT) drugs with or without resistance to other first line ATT agents.

According to World Health Organization surveillance report 2017, around 600,000 people were reported to have rifampicin resistance TB while around 490,000 patients had developed MDR TB of which 47% patients belong to India, China and Russian Federation afore Pakistan.[4] In 2016, around 518,000 new TB cases were reported with an incidence rate 268/100,000 in Pakistan of which 23/100,000 died. An incidence of patients co-infected with Human immunodeficient virus (HIV) & TB and MDR/rifampicin resistance were reported to be 3.5/100,000 and 14/100,000 respectively.[4] Drug resistance TB including MDR and rifampicin resistance was also showed 4.2% among new TB cases and 16% among previously treated cases.[4] Extensively drug resistance (XDR) TB is also an upsurge threat around the globe. This is advanced type of MDR TB which addition resistant to fluoroquinolone and at least one of the three injectable second line ATT drugs i.e. amikacin, kanamycin or capreomycin, thus leaving limited very treatment choices. Data of MDR TB cases collected by WHO from ninety one countries around the world showed 6.2% XDR-TB.[4]

Prompt diagnosis and early treatment is the only key to success against MDR TB. Patients suffering from MDR TB are mostly poor; unable to work hence could not afford the costly treatment. Average treatment cost for treatment of a single drug resistance TB case has been calculated to more than rupees 525,000 to be spent in 18 months where the drug is not certainly available in country.[5] More importantly, if patient needs to be hospitalized in initial stages of disease not only increases the economic burden but also creates social stigma and mental issues associated with infectious diseases. Such conditions make the patient either to default from the treatment or lead to poor compliance. Healthcare providers on the other hand are not properly trained generally, moreover ignore or overlook the TB symptoms in the beginning. Hence the patient is kept under trials by providing low doses and or poor quality drugs. Therefore, for a public health perception, MDR TB is said to be a "man-made phenomenon" where both public and private sector clinicians fail to follow the guidelines in diagnosing and treating a TB patient.

National TB Control Program (NTP) has provided GeneXpert for early diagnosis of DR TB. Case detection has been increased and none of the patient is refused to serve treatment on Programed Management of DR TB (PMDT) site. Although diagnosis and treatment of MDR TB is totally free and the program relays on Global funding. Many patients remain undiagnosed, untreated, continues to spread DR bacilli and poses potential threat to community. These issues include poor vigilance of healthcare workers, poor level of trainings, bad response to patients, lack of infrastructure for maintenance and repair of machinery and lack of communication with program officials etc.

There are many attractive incentives for MDR TB patients provided at PMDT sites by NTP Pakistan in collaboration with donors. These include social support to each patient and one treatment

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Received: 19 December 2017, **Accepted:** 16 March 2018,
Published: 22 March 2018

supporter, fare charges, free diagnostic, treatment and follow up facilities and same day provision of drugs for one month. Moreover home visits to collect sputum specimen from suspicious MDR TB house hold contacts. Still there are number of MDR TB treatment defaulters and undiagnosed MDR TB cases waiting for not only their deaths but also probable risk for healthy contacts. National TB Control Program (NTP) of Pakistan has defined five principal ways to prevent TB particularly the drug resistant TB. These includes early detection of both kinds of TB, effective treatment, implementation of infection control measures, strengthening and regulation of health system, addressing underlying risk factors and social determinants.[6] Diagnosis and treatment of drug resistant TB has been remained the top priority of NTP. Keeping in view an enrolment of 2881 new drug resistant TB cases, introduction of Bedaquilline and Delamanid as new drugs on four PMDT sites, provision of social support and transport, increase in PMDT sites from 3 to 29 remained the key achievements of NTP during 2016.[7] On an average around 1-1.2 million rupees are spent on treatment of one MDR TB patient by NTP.[8] Despite that, inability of hospital management authorities to provide proposed space for commencement and up gradation of facilities remained major constrain.[7]

In conclusion, NTP remained successful to meet most of the major challenges in diagnosis and treatment of MDR TB patients while public awareness about the disease, infection control measures among target groups and healthcare workers surveillance are way forward. Information is necessary to reach the target group and vulnerable people and the best sources in this regards are lady health workers. On the other hand, implementation of guidelines and strengthening of infrastructure could be upgraded by proper monitoring, provision of quick services, in time release of desired funds and professional training of healthcare staff.

Conflict of interest: Non declared.

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