

## **EDITORIAL**

### **MDR/ XDR Tuberculosis: serious lapses in awareness among medical professionals.**

Shaheen M Z\*, Murtaza H G\*.

Drug-resistant tuberculosis (MDR / XDR-TB) is an emerging global problem. WHO declares global population weighted proportion of MDR-TB among new cases at 2.9 % and resistance to any first line ATT at 17 %. Pakistan ranks eighth on the list of 22 Global high burden countries while it has the largest registered population of MDR TB cases in the EMRO region. WHO estimates 3.2% incidence of MDR TB in new cases while 35% in treated cases in Pakistan<sup>1</sup>. Around 13,200 culture positive cases of drug resistant TB are estimated annually<sup>1</sup> although this is likely to be an under estimation. The diagnosis of drug resistant TB depends on confirming the drug susceptibility pattern of isolated organisms, which is only possible in a handful of laboratories in Pakistan. Although some individuals who have not had previous TB treatment are infected by MDR-TB, this is not the case for most patients. Study organized by the Pakistan Chest Society has shown MDR TB at 1.8% in new cases<sup>2</sup>. Many new cases of MDR-TB are created each year by a combination of physician error and poor patient compliance with treatment, which turn fully susceptible organisms, or those with less complex resistance patterns, into MDR-TB. The recent identification of XDR-TB and the increasing number of MDR-TB cases show that the knowledge and handling of TB treatment is still insufficient. Michael Iseman from USA has shown that two to four errors are needed to turn a fully susceptible organism into a case of MDR-TB.<sup>3</sup> Treatment outcome for drug resistant TB patients is significantly worse than that for fully susceptible TB and has a much higher cost and side effects. While research and treatment strategies have made significant strides in the fight against tuberculosis, efforts to tackle MDR / XDR – TB have lagged behind the growing numbers of these deadly forms of tuberculosis. At present the awareness, knowledge, competency of doctors, resources and leadership simply aren't sufficient to turn the tide on drug resistant TB. While MDR / XDR tuberculosis continue to gain momentum in Pakistan, there is hardly any move to increase the awareness of medical community with regards to this emerging national health problem. A number of studies have already highlighted the gaps in the knowledge and practice of physicians treating patients with tuberculosis<sup>5-10</sup>. Level of knowledge regarding drug sensitive tuberculosis has been shown to be inadequate among the community practitioners who are the first stop for TB patients seeking treatment for their symptoms. In one study among general practitioners, two third of the prescriptions, written for a 60 kg man with newly diagnosed smear-positive pulmonary TB, were not in line with national guidelines and only 3% of the GPs knew all the five components of DOTS<sup>5</sup>. Adequate knowledge regarding diagnosis and a proper prescription written by a practicing physician is as important as treatment compliance by the patient which has been shown to reduce the emergence of drug resistant tuberculosis.

Study by Wajid et al, published in this journal<sup>11</sup>, shows that many doctors of all grades and seniority is not familiar with the correct description of MDR / XDR tuberculosis. This study involved three tertiary care teaching hospitals in which medical specialists of all grades and seniority were surveyed regarding the level of basic knowledge about MDR / XDR tuberculosis. Results showed astonishing lack of basic knowledge. Only 39.85% correct responses were recorded for definition of MDR TB while only 3% correct responses were recorded for definition of XDR TB. Subset analysis revealed inadequacy of awareness was uniform in all categories. A previous study from Pakistan's Sind province by Javed Khan and co workers has also shown poor recognition of the burden of TB and its public health significance among medical interns.<sup>12</sup> Internationally not much work has been published on the level of knowledge and awareness of doctors treating patients with tuberculosis. However, similar trends are likely to exit in most of the developing and under developed countries across the globe which ironically carries the highest burden of tuberculosis including drug resistant tuberculosis. A similar study among medical interns from Nigeria by Busari et al<sup>13</sup> showed poor awareness of definitions of MDR-TB and XDR-TB. Only 16.7% of the interns could correctly define MDR-TB while none was aware of XDR-TB

This lack of awareness regarding drug resistant tuberculosis can be traced back to the lack of teaching at the undergraduate level as well as to the lack of training and CME programmes for the post graduate doctors and chest specialists. There is also a serious gap in public private partnership in the diagnosis and treatment of TB patients. Inappropriate handling of TB patients by the doctors in the private sector is an important source of drug resistant tuberculosis. With out increasing the awareness, knowledge and competency of doctors in this sector, the momentum of drug resistant TB can not be checked. The time bomb of MDR / XDR TB is ticking fast. Doctors need to equip themselves with knowledge and training to combat this looming disaster which is largely a man made disaster. Let's not treat MDR / XDR tuberculosis as 'business as usual,' and create awareness among medical professionals, both undergraduate and post graduate level including doctors in private sector as a matter of national health priority. This will also have a significant impact on the handling of patients with drug sensitive tuberculosis, preventing the emergence and spread of MDR / XDR tuberculosis. Upgrading the undergraduate medical curriculum is vital to raise the awareness at the very beginning of the medical profession. Mass awareness public campaign is also needed to remove the stigma and improve support from the family and community. These measure will create an enabling environment that will promote treatment adherence. Among the medical community, knowing how to identify potential cases of drug resistant tuberculosis and where to seek drug sensitivity testing and treatment is one simple, yet impactful way to get the country out about TB. It is important that frontline healthcare personnel in both the public and private sectors have access to appropriate and state-of-the art training. Pulmonologists of all grades needs training in diagnosis, treatment and follow up of suspected and confirmed cases of MDR / XDR tuberculosis. There is deficiency in TB education in most medical schools and affiliated teaching hospitals. This is made much worse by the absence of effective DOTS clinic in many tertiary health centers including the teaching hospitals. There is an urgent need for massive increase in awareness of DOTS among medical students and practicing medical doctors. Government must

enforce the establishment of strict and dedicated DOTS clinic in all tertiary hospitals. Medical students must rotate through DOTS clinic and practically participate in all its activities, including performance of ZN staining for sputum smear microscopy. Moreover, all medical interns must also rotate through a DOTS clinic during their training. The revision of existing medical education curriculum in Pakistan should focus on incorporation of national TB guidelines into tuberculosis teachings. Pulmonologists should be allocated teaching tuberculosis and DOTS along with emerging problem of drug resistant tuberculosis to undergraduate medical students as this is not the case in every medical college in Pakistan. The appropriate authority should ensure the circulation and availability of TB guidelines to every practicing medical doctor in the country<sup>1, 14</sup>. This will encourage medical practitioners to adopt diagnostic and prescription practices that are in accordance with the national TB guidelines.

\*Department of Pulmonology, Nishtar Medical College, Multan.

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