



## EVALUATION AND IMPACT OF ANTITUBERCULOSIS DRUG LINES AGAINST AN MDR - *MYCOBACTERIUM TUBERCULOSIS* ISOLATES

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The present communiqué renders a comparative account of evaluation and impact of anti-tuberculosis drugs against an Multiple-drug-resistant strain of tuberculosis (MDR-TB). MDR-TB is known to be resistant to isoniazid and rifampicin, *in vitro*. It defies the effectiveness of standard treatments and, in turn, contributes to increased mortality. It is widespread in some countries, especially the former USSR, where, the rates of MDR-TB among 'newly enrolled' and 'non-responding' prisoners were 24.6% and 92.1%, respectively. In the Russian Federation, high rates of MDR-TB (23 – 50%) have been registered among sputum smear-positive individuals receiving fully administered short-term treatments with first-line drugs. In the USA, 3.5% of tuberculosis strains were found resistant to isoniazid and rifampicin at the time of the outbreak of tuberculosis in early 1990s.

Six classes of second-line drugs - aminoglycosides, fluoroquinolones, poly peptides, thioamides, cycloserine and *p*-aminosalicylic acid have been catalogued for the treatment of TB. Recently, an extensively drug-resistant (XDR) strain of *M. tuberculosis* has been observed which shows no response to isoniazid, rifampin, fluoroquinolone and aminoglycoside. XDR-TB is the most severe form of tuberculosis, against which no effective drug has been identified till date. However, a new generation TBK-613 of fluoroquinolone is on trial to treat this severe form of tuberculosis.

Medicinal plants offer a great hope to fulfill this void. Plants are being used as pure compounds as well as crude bits & pieces to cure tuberculosis since medieval times. However, our scientific understanding and registrations are still not up to date. The present study makes valid comparison among different anti-tuberculosis drug against *Mycobacterium tuberculosis* isolates and hit upon the susceptibility of *Mycobacterium tuberculosis* against different medicinal plants.

**Keywords:** *Multiple-drug-resistant tuberculosis, Anti-tuberculosis drug, Mycobacterium, Andrographis paniculata.*

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