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With about one third of the world population suffering from tuberculosis (TB), latter has become a global menace especially with the emergence of multidrug-resistant TB (MDR-TB) against first-line drugs, which needs to be controlled. The extensively drug resistant TB (XDR-TB) occurring due to misuse of second-line antitubercular drugs (ATDs) is another concern now. Drug therapy for TB involves long term administration of a multitude of drugs. Frequent failure of therapy, coupled with the emergence of MDR and the more lethal and dangerous XDR, has forced researchers to look for novel options to defy drug resistance.

Use of nanostructured systems as effective carriers for the ATDs, to achieve a controlled, prolonged and a profound effect and overcome the need to administer them frequently and at high doses, will not only improve patient compliance but also circumvent serious organ toxicities associated with the use of prevalent first-line ATD options.

Nanolipidic delivery has caught the fancy of formulation scientists, these last few decades after its inception as fat emulsion(s) for parenteral nutrition. Lipid-based nano-systems including solid lipid nanoparticles (SLNs), nanostructured lipid carriers (NLCs), and self-nanoemulsifying drug delivery systems are able to deliver therapeutics in a controlled and targeted manner. They are a convenient alternative to “new drug discovery” which is time consuming and costly. Launch of a new drug molecule takes 10-15 years and involves a cost of about a 100 billion dollars/molecule. In contrast, packaging or remodeling existing drug molecules of established therapeutic potential, using a nano-lipidic carrier system will not only add a ‘newness’ to it but will also cater to its problems like poor or compromised solubility, stability, permeability; fast metabolic degradation, and clearance; and adverse effects limiting its effectiveness. Present day advanced sophistication and technology at the nanoscale is emerging as a tool (Hauck et al., 2010) for management of dreadful diseases like TB and AIDS with a greater ease using nanoparticles as drug delivery systems.