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Current Strategies and Advances in Nano Systems a Paradigm Shift in Management of Tuberculosis:A Review

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Abstract: Tuberculosis(TB) is recognized as the second most dreadful disease of the pulmonary system which has a potential curative pharmacotherapy's being available from decades, the length and the treatment frequencyand repeated administration of drugs affects patient's day to day life abruptly. Thus,these consequences further leading to low medication lastly results in inefficient TB therapy, moreover also raises the chances of multi-drug-resistant (MDR) strains.Nanotechnology and nanomedicines are one of the breakthroughs in recent time, and drug delivery and therapeutics are not an exception for their promising applicability. With the implementation of diverse nanocarriers, drug delivery meadow is flourishing like never before.

Site specific infections like tuberculosis can be targeted via nanoparticle based drug delivery systems. Nanotechnology provides advantages over the conventional treatment in terms of drug carrier stability, carrier capacity, allowance of incorporation of both hydrophobic and hydrophilic substances, allows administration through various routes like oral, inhalational, injectable etc. and also allows controlled or sustained drug delivery from the system. These advantages of nanotechnology further improves bioavailability, avoids patient non compliance due to reduction in the dosing frequency which can overcome the demerits of a conventional system.The present review methodicallycovers the recent progress and developmentsin diverse nanocarriersbased drug delivery systems for a better therapeutic outcome and patient compliance.

Keywords: Anti-tubercular drugs, Drug delivery, Therapy, Tuberculosis, Nanotechnology.

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