Abstract
Nanotechnology is an emerging science with the potential to create new materials and strategies involving manipulation of matter at the nanometer scale (<100 nm). With size-dependent properties, nanoparticles have introduced a new paradigm in pharmacotherapy – the possibility of cell-targeted drug delivery with minimal systemic side effects and toxicity. The present review provides a summary of published findings, especially regarding to nanoparticle formulations for lung diseases. The available data have shown some benefits with nanoparticle-based therapy in the development of the disease and lung remodeling in respiratory diseases. However, there is a wide gap between the concepts of nanomedicine and the published experimental data and clinical reality. In addition, studies are still required to determine the potential of nanotherapy and the systemic toxicity of nanomaterials for future human use.

Keywords
Asthma, tuberculosis, nanotechnology, lung cancer.