

## Study Description on Advance Techniques of Nanotechnology in Drug Delivery System

Tadele Haile\*

Department of Pharmacy, College of Medicine and Health Sciences, Ambo University, Ambo, Ethiopia

\*Corresponding author: Tadele Haile, Department of Pharmacy, College of Medicine and Health Sciences, Ambo University, Ambo, Ethiopia, E-mail: haile.harm@gmail.com

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### Description

Nano medical and nano technological systems are a relatively new but rapidly evolving science in which nanoscale materials are used to serve as diagnostic tools or to deliver therapeutic agents to specific locations in a controlled manner. Current improvements in drug shipping encompass the improvement of service systems, wherein the lively element is launched simplest to the goal area. Site-specific and targeted drug treatment of diseases. Recently, there have been a number of prominent uses of nanomedicine in the treatment of various diseases. Recent advances in nanomedicine and nanotechnology-based drug delivery systems through extensive study of the discovery and application of nanomaterials to improve the effectiveness of new and old drugs and to selectively diagnose disease through marker molecules. The nanostructures remain in the bloodstream for a longer period of time and enable the release of amalgamated drugs according to the specified dose, which causes fewer plasma fluctuations with fewer side effects. The uptake of the active ingredient by the cells enables an efficient release of the active ingredient and ensures the effect at the target site. The absorption of nanostructures by cells is much greater than that of large particles between 1 and 10  $\mu\text{m}$ . Therefore, they interact directly with the treatment of diseased cells with improved efficacy and little or no side effects.

Cardiovascular disease has become a serious threat to human life and health, although many drugs with different mechanisms of action than conventional formulations for treating cardiovascular disease are available in the market because of their poor solubility in water. Low Biological Efficacy, Non-Targeting, and Drug Resistance Nano pharmaceutical delivery systems, with the development of nanotechnology, offer a new

method of drug delivery for treating cardiovascular disease that shows great advantages in solving problems such as cytotoxicity. The pharmacokinetic profile, particularly the transport capacity, of drugs has been greatly altered by the uptake of nano pharmaceuticals into the delivery system, including improved uptake of target fractions such as chaperones and a change in release rates, including controlled release and localized specific delivery through the use of molecular molecules. In addition, the encapsulation of drug substances in various polymeric and inorganic compounds was also evaluated with a view to streamlining drug delivery systems. Such encapsulation is generally performed to protect biologically active protein and peptide-based drug compounds from the deleterious effects of biological fluids. Newer nano prodrug approaches have also been used which lead to improved therapeutic efficacy along with longer circulation time.

### Conclusion

Nanoparticles represents promising drug carrier for varied drug delivery systems nanotechnology is breakthrough technology pervasive all fields newer applications of this field are being explored worldwide. Nanoparticles represent a technology to beat solubilities and bioavailability issues of medication which might be generally applied to all or any poorly soluble drugs. Any drug are often remodelled to drug nanoparticles resulting in increasing saturation solubility, dissolution rate and providing generally feature of an increased stickiness to surfaces. Nano particulate drug delivery system is more and more viewed as an advantageous answer for biological drugs.