

Editorial Note on 'Novel Drug Delivery System in Health Care'

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Received: February 29, 2024; **Published:** May 07, 2024

Keywords: Drug; Drug Delivery; Hydrogel; Nanoparticles; Health Care; Therapy

Introduction

A novel drug delivery system is discussed which has different products with single ingredients and molecular and biological entities for innovative therapies for better patient care.

Nanomedicine contains novel drug delivery systems (NDDSs) to avoid limitations of traditional dosages. Problems of poor drug solubility, toxic effects, site selectivity problem, uncontrollable release profile, and low bioavailability are overcome in new systems.

Types of novel drug delivery systems

Broadly, novel drug delivery systems are based on physical mechanisms and biochemical mechanism to control osmosis, diffusion, erosion, dissolution and electro transport, etc.

New herbal drug delivery system contains mouth-dissolving tablets, liposomes, phytosomes, pharmacosomes, museums, nanoparticles, microspheres, transfersomes, ethosomes, transdermal drug delivery system (TDDS) and proniosomes, etc.

Novel approaches

Novel approaches in drug delivery are hydrogel, microspheres, polymeric nanoparticles, liposomes and implants, etc. Subretinal, suprachoroidal, and port delivery systems are used for biologics and gene therapies. Drug release can have (i) passive and (ii) active targeting.

Advantages of novel drug delivery system

Major advantages of drug delivery system are:

- i) Avoidance from physical and chemical degradation.
- ii) Sustained delivery.
- iii) Improvement of tissue macrophages distribution.
- iv) Enhancement of stability.

- v) Enhancement of pharmacological activity.
- vi) Protection from toxicity.
- vii) Increase of bioavailability.
- viii) Increase in solubility.

Recent developments in novel drug system:

Recent developments in drug delivery system are:

- i) Phytosome
- ii) Liposome
- iii) Nanoparticles
- iv) Emulsions
- v) Microsphere
- vi) Ethosome
- vii) Solid lipid nanoparticle
- viii) Niosomes
- ix) Proniosomes
- x) Transdermal drug delivery system
- xi) Dendrimers
- xii) Liquid crystals
- xiii) Hydrogels.

Conclusion

Novel drug delivery system increases the therapeutic value by reducing toxicity and increasing the bioavailability, etc. for better health care. Bioavailability, reduced toxicity and sustained release action are obtained. In medical field, optimum dose is received at right location and in industrial use, efficient ingredients are produced at low cost.

Volume 7 Issue 5 May 2024

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