

# Formulation and Evaluation of Nanoparticle drug delivery system for non-steroidal anti-inflammatory agents

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## Abstract

**Aim:** - The aim of the present study is to develop nanoparticle drug delivery system for ibuprofen, aspirin and diclofenac sodium.

**Methodology:-** Ibuprofen nanoparticles were prepared by Nano precipitation technique. Aspirin and diclofenac sodium nanoparticles were prepared by desolvation technique. Comparative study was performed among various formulations of the each drug to determine the best formulation. Further studies were carried out for the best formulation to develop into a gel.

**Results:** - The particle size was determined by particle size analyzer. The particles were found to be in Nano range. All the formulations were found to be stable. On comparison ibuprofen nanoparticles were showing less particle size, good entrapment efficiency, high stability and sustained drug release. The optimized formulation of ibuprofen nanoparticles was loaded to carbapol gel.

**Conclusions:** - Nanoparticle drug delivery system was developed for aspirin, ibuprofen and diclofenac sodium. All the formulations were evaluated and comparative study was performed. Ibuprofen nanoparticles were found to be more suitable to develop as a topical drug delivery system.

## Biography

Dr. A. Krishna Sailaja is currently working as Associate Professor and Head of the Department in RBVRR Women's college of pharmacy, Osmania University, Hyderabad. She has published 130 research papers in various National and International journals. She delivered more than 25 talks on novel drug delivery systems. Published 5 books and filed 4 patents.