**Title:-Preparation and evaluation of nanoparticulate drug delivery system of poorly water soluble drug**

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Nanoparticle technology is emerging as a preferred approach to address challenges involved in the delivery of BCS class-II compounds (poorly soluble and highly permeable).The development of nanoparticle formulations for BCS class-II drugs would result in enhanced bioavailability,the objective of the present investigation was to enhance the oral bioavailability of practically insoluble drug by preparing nanosuspension. The nanosuspension was prepared by high pressue homogenization technique and converted to solid state by spray drying. The spray dried nanosuspension was evaluated for particle size, zeta potential, saturation solubility, crystallanity, surface morphology and dissolution behavior The nanosuspensions were converted into solid intermediate or granules by layering on to a water-soluble carrier Lactose using a spray granulation processes. The granules were blended with excipients for tabletting. The saturation solubility and dissolution characteristics of nanoparticle formulations were investigated and compared with commercial tablet formulations in a discriminating dissolution media. The result indicated there was no solid-state transition upon spray drying method. A significant enhancement in dissolution rate for tablet dosage form incorporating drug nanoparticles was observed compared to the pure drug. The manufacturing process used is relatively simple and scalable indicating viability of the approach for commercial manufacture of drug product.

Keywoards:-nanasuspension,spray drying,particle size,dissolution study,

**Biography**

Sunita Sakharam Shinde M. Pharm.(Pharmaceutics): Research Scholar (Ph.D.) of JJT University, Rajasthan,completed UG from Shivaji University, Kolhapur and PG from PCP, Bharati Vidyapeeth University,Pune and presently working as Asst. Professor Dept. of Pharmaceutics, Tatyasaheb Kore College of Pharmacy, Warananagar. she has 3.6 yrs of teaching experience. she published 2 research papers in reputed International journals and also presented 18 papers at various national and international conferences. She is Life Member of Indian Pharmaceutical Association and Association of Pharmaceutical Teachers of India.