

## Feasibility study of matrix tablet for gastroretention application

**K. Ajith Reddy, C. Sai Sathavahana Reddy, H.V.Gangadharappa and N. Vishal Gupta**  
JSS University, India

The objective of this study was to formulate and evaluate matrix tablets for controlled delivery of dextromethorphan hydrobromide (DBM) as a model drug. Matrix tablets were prepared by direct compression method using tamarind seed polysaccharide (TSP) as release retardant material and HPMC K15M and K100M as swelling agents. Prepared matrix tablets were characterised by FT-IR and DSC. FT-IR and DSC studies showed no chemical interaction between the drug and polymers. Matrix tablets were optimized on the bases of acceptable tablet properties like hardness, friability, drug content, weight variation, buoyancy percentage, in vitro and in vivo floatation in rabbits. Among all the formulations, F-IV showed 99.2% release at the end of 12 hours. The release data was fitted to various mathematical models such as, Higuchi, Korsmeyer-Peppas, First-order and Zero order to evaluate the release kinetics and mechanism of drug release followed fickian diffusion mechanism. The in vivo floatation study confirmed that floating matrix tablets could prolong the gastric retention time to more than 12 hours. Results of the stability studies showed that there were no significant changes in the drug content and physical appearance.

### Biography

K.Ajith Reddy is a student of JSS College of Pharmacy, JSS University, Mysore, Karnataka, India. He has completed his B.Pharm from JSS College of Pharmacy, during the year 2011. Presently he is pursuing M.Pharm in Industrial Pharmacy group, Department of Pharmaceutics. His present interests are in Nanoparticles and Novel Drug Delivery Systems.

ajithreddykonadula0506@gmail.com

## Hazard analysis and critical control point (HACCP) in pharmaceutical industry

**K. Pranitha and N. Vishal Gupta**  
JSS College of Pharmacy, India

The HACCP methodology aims to prevent known hazards and reduce the risk that they will occur at specific points in the pharmaceutical manufacturing processes. HACCP is a preventive, not a reactive, management tool. HACCP is not a zero-risk system but is designed to minimize the risk of potential hazards. Historically HACCP is a management tool for the food-processing industry for the evaluation and control of hazards. GMP does not cover the safety of the personnel engaged in manufacture, while both aspects are covered by HACCP. HACCP is a systematic preventive approach to pharmaceutical safety. The basic use of this approach is to evaluate each step of manufacturing process, from receiving components until distribution, and determine if that process reduces or eliminates a potential hazard to the finished device related to any one or more of these three areas biological, chemical, or physical. HACCP is the systematic method, it comprised of seven principles for the identification, assessment and control of safety hazards. The problems associated with the implementation of HACCP may be overcome by training and education in the HACCP system for the personnel engaged in pharmaceutical industry. The HACCP system benefits all, the consumers, industry and the government as it focuses on prevention rather than relying mainly on end product testing. This scientific and systematic system is cost-effective and leads to reduced product loss and wastage, and assures the safety of pharmaceutical products. The two large organizations supervising the manufacture of medicinal products and medical devices, are considering expanding the HACCP concept to include their areas of supervision.