

## STUDY THE INFLUENCE OF POLYMERS ON GLICLAZIDE ALGINATE BEADS FOR CONTROLLED RELEASE ON DIABETIC PATIENTS

N. BHADRAMMA<sup>1</sup> & T. V. RAO<sup>2</sup>

<sup>1</sup>SIIMS College of Pharmacy, Guntur, Andhra Pradesh, India

<sup>2</sup>Bapatla College of Pharmacy, Bapatla, Guntur, Andhra Pradesh, India

### ABSTRACT

Microencapsulation by ionic gelation technique is an approach to achieve controlled release of drug, gliclazide beads were designed to improve the absorption and bioavailability of the drug. Gliclazide beads were formulated by the combination of sodium alginate with hydrophilic polymer such as methyl cellulose and HPMC in the ratio of (core:coat) 1:1,1:2, 1:3, 2:1 and 3:1 by ionic gelation method. The prepared beads were characterized such as particle size, angle of repose, compressibility index, hausner's ratios, wall thickness, drug content, entrapment efficiency. The shape of beads were found to be spherical by SEM analysis. In-vitro dissolution data revealed that formulations exhibited the zero order kinetics and followed peppas transport mechanism.

**KEYWORDS:** Gliclazide, Na CMC- Sodium Carboxy Methyl Cellulose, HPMC- HYDROXY Methyl Cellulose, Ionic Gelation Method, SEM-Scanning Electron Microscopy, MC- Methyl Cellulose