# ABSTRACT

The aim of the present study was to develop and characterize Eudragit microparticles loaded with Glipizide for the purpose of controlled release of drug. Microparticulate delivery systems of Glipizide have been developed using, different polymers (Eudragit S100 and Eudragit L100). Glipizide is an oral hypoglycemic drug with short half-life of 2-5 h. Microparticles was prepared by solvent evaporation technique. The prepared microparticles were characterized by FT-IR and DSC for drug and polymer compatibility and surface morphology of these particles was studied by SEM. And the microparticles were evaluated for perentage yield, entrapment efficiency, *in vitro* release studies and stability. IR spectroscopy and DSC confirmed the absence of any drug polymer interaction. The surface morphology showed that particles were almost spherical and non-porus surface. The particle size analysis data revealed that average particle size of the optimized formulation were of 211.94 to 292.99 µm and the entrapment efficiency was about 85.26- 94.62 %. The *in vitro* release profile of drug showed prolonged release of the drug from the microparticles and the release pattern followed Anomalous (Non-Fickian) diffusion type and the stability study confirmed that the formulation prepared were stable.

**Keywords:** Glipizide, Eudragit S100, Eudragit L100, Microparticles, Solvent evaporation technique.