4. AIM AND OBJECTIVE

It is well known fact that drug dissolution rather than permeation through the epithelia of the gastrointestinal tract is responsible for a low oral absorption. The Pharmaceutical strategies to improve the oral bioavailability is the formulation of solid dispersions and application of particle engineering technique i.e. Melt sono crystallization Pioglitazone and Rosiglitazone thiozolidine antidiabetic drugs were selected as model drugs, having an extremely low aqueous solubility and dissolution rate, but they are well permeable through GI membrane. The aim of the current study is the physicochemical and pharmaceutical characterization of solid dispersion by kneading method with help of poloxamer 188 and 407 and melt sonocrystallization of drugs in order to enhance solubility of poorly soluble drugs.

The specific objectives of this study were:

- Solubility enhancement of pioglitazone and rosiglitazone by using Poloxamer 188 and 407 with the help of Kneading method

- Solubility enhancement of pioglitazone and rosiglitazone by using Melt sonocrystallization Technique

- To investigate and compare bioavailability of optimized formulation among two methods for respective drug in rabbit model after oral administration.