3. OBJECTIVES

In recent times, various developed and developing countries move towards combination therapy for treatment of various diseases and disorders requiring long term therapy such as hypertension and diabetes. Combination therapy have various advantages over monotherapy such as problem of dose dependent side effects is minimized, a low dose combination of two different agents reduces the dose related risk, the addition of one agent may potentiate effects of other agent. Using low dose of two different agents minimizes the clinical and metabolic side effects that occur with maximal dose of individual component of the combined tablet and thus dose of the single components can be reduced. Bilayer tablets are novel drug delivery systems where combination of two or more drugs in a single unit having different release profiles improves patient compliance, prolongs the drugs action, avoid saw tooth kinetics resulting in effective therapy along with better control of plasma drug level.

A gastric floating drug delivery system (GFDDS) with pH 4-8 is particularly useful for drugs that are primarily absorbed in the duodenum and upper jejunum segments. The GFDDS is able to prolong the retention time of a dosage form in the stomach, thereby improving the oral bioavailability of the drug.

The objective of this study was to develop an optimized GFDDS containing sustained release & immediate release model drug—a peroral intragastric floating dosage form having a bulk density lower than that of gastric fluids and remaining buoyant on the stomach contents.

To achieve the objectives, independent formulation variables like total polymer content-to-drug ratio, polymer-to-polymer ratio, and different viscosity grades of polymers will be use.