**ABSTRACT**

Antihypertensive Candesartan drug exhibits poor water solubility. Candesartan cilexetil is prodrug of candesartan, an antihypertensive angiotensin II receptor antagonist that on action of esterase enzyme, present in the intestinal wall, hydrolyses to active Candesartan moiety in gastrointestinal tract. Prodrug form of Candesartan has not overcome poor oral bioavailability of candesartan, but raised approximately 40% of bioavailability from 15% in humans. The reasons for candesartan’s low bioavailability and low absorption are low water solubility and efflux by drug resistance pumps in the gastrointestinal tract.

To overcome these problems, a buccal film approach can be utilized to increase the permeability and thus bioavailability. Buccal film preparations are not only useful as novel dosage form for local drug administration, but also promising for systemic drug delivery as it bypasses first pass metabolism. Hence novel buccoadhesive film for systemic release of *Candesartan cilexetil* has been developed using chitosan, gelatin, HPMC as polymer blend, glycerin as plasticizer and EDTA as penetration enhancer in appropriate ratio with the help of factorial design optimisation tool.

Chitosan is very good film forming and promising bioadhesive polymer. Enhancement in drug release rate and modified kinetic mechanism is observed with inclusion of gelatin into the chitosan base matrix system for drug *Candesartan cilexetil*. Previous studies already confirmed that chitosan-EDTA combination overcomes enzymatic barrier in buccal mucosa due to optimum amount of free amino groups hence such buccal film found to be useful tool in buccal administration of *Candesartan cilexetil*.

So lastly, we conclude that, soft, flexible, mechanically strong buccal film meets the ideal requirement for mucoadhesive Candesartan cilexetil drug release, which bypasses the extensive hepatic first pass metabolism of candesartan, reduces substantial dose due to optimum residence time for maximum drug release and increases bioavailability.

**Keywords:** Candesartan cilexetil, buccal film, bioavailability, Box- Behnken