ESTIMATING THE RELEASE EFFECT ON BSC-I DRUG BY USING A COMBINATION OF METHYLCELLULOSE AND EUDRAGIT® S-100 POLYMERS TO FORMULATE MINI-FLOATING TABLETS

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ABSTRACT

The purpose of the current research was to prepare a delayed-release system of mini-tablets (gastroprokinetic drug). The model drug (itopride hydrochloride) was formulated with the combination of methylcellulose (free-flowing agent) and Eudragit® S-100 (enteric coating agent) for delayed release. The research objective was to control the drug release in the stomach. The preparation of floating mini-tablets in three batches using different concentrations of polymers (methylcellulose in increasing order and Eudragit® S-100 remaining constant in two batches and the concentration decreased in the third batch) was utilized for the maintenance of the drug release pattern by evaluating the three batches for their weight variation, content uniformity, % drug release, thickness, hardness and friability tests. The selection of optimized formulation was based on the *in vitro* dissolution studies and floating lag time. As a result, Eudragit® S-100 showed a better-delayed release action. Formulation F2 gave better-delayed release (67.09 % for 360 minutes) and floating properties (1.34 minutes for lag time) in comparison to other batches i.e.; F1 and F3. The F3 results showed that the floating lag time (1.29 minutes) will decline, while methylcellulose concentration increases but Eudragit® S-100 concentration decreases, which reveals the enteric coating action of the Eudragit® S-100 polymer for delayed drug release in the studies.