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Formulation and Optimization of Directly Compressible Floating Tablets of Famotidine using 2^3 Factorial Design

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***SUMMARY*. The aim of the present investigation was to develop a modified release effervescent floating drug delivery system of famotidine for 12 h dosage regimen to improve its bioavailability. Effervescent floating tablets were prepared by direct compression method taking into account its advantages over wet granulation by using directly compressible excipients like Carbopol® 71G and Cellactose® 80. The incorporation of sodium bicarbonate aided in the buoyancy with effervescent approach. The prepared tablets were evaluated for floating lag time (FLT), total floating time (TFT), *in vitro* drug release along with general parameters. 2^3 factorial design was used for optimization. The tablets showed desired release of more than 98 % over the period of 12 h which may increase bioavailability of selected candidate. The release of famotidine was found to be influenced by the polymer concentration. Optimized formulation showed acceptable stability over three months at 40 ºC and 75 % RH.**

KEY WORDS: Carbopol®, Direct compression, Famotidine, Floating tablets, Methocel® K15M, 71G, Factorial design.

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