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Research Article

FORMULATION AND *IN VITRO* EVALUATION OF FLOATING DRUG DELIVERY SYSTEM OF QUETIAPINE HEMIFUMARATE

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ABSTRACT

The objective of the present investigation was to design and develop a floating drug delivery system of Quetiapine Hemifumarate using different viscosity grades of hydroxypropylmethylcellulose (HPMC K4M, HPMC K15M and HPMC K100M) in varying ratios to formulate floating tablets by direct compression method. Sodium bicarbonate and citric acid was use in the dosage form as a source of carbon-di-oxide to maintain buoyancy. The tablets were evaluated for thickness, weight variation, hardness, friability, drug content, in vitro buoyancy test, in vitro release characteristics and short term stability studies. The drug release from those tablets was sufficiently sustained (about 12 hr) and non-Fickian transport of the drug from tablets was confirmed. Formulation F1 containing HPMC K4M can be considered as an optimized formulation for gastroretentive floating tablet of Quetiapine Hemifumarate. The results of in vitro release studies showed that optimized formulation F1 could sustain drug release (99.63%) for 12 hours and remain buoyant for more than 12 hours. It was found that among the three viscosity grades i.e. HPMC K4M, HPMC K15M and HPMC K100M, HPMC K4M was found to be beneficial in improving the drug release rate and floating properties.

KEY WORDS: *Gastroretention, Floating drug delivery systems, Quetiapine Hemifumarate, HPMC, In vitro buoyancy, In vitro floating.*