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Formulation and Evaluation of Fenugreek Mucilage Based FastDissolving Tablet of TeneligliptinHydrobromide by Using 3^2 Factorial Design

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Abstract : Current research is focused on formulation and evaluation of natural gum based fast dissolving tablet of TeneligliptinHydrobromide by applying 3^2 factorial designs for the improvement of the drug absorption. Direct compression method was used. Two factors as independent variable (x_1) Fenugreek mucilage (x_2) sodium saccharin glycolate were taken with three level (+1, 0, -1). The level two factors were selected on basis of preliminary experiments conducted and their effect on dependent variable (disintegration time) was estimated. Formulated tablets were evaluated for parameters in which the values were found to be in the range of hardness 2.1-2.6 kg/cm², thickness 2.227-2.296 mm, weight variance 182-196 mg, wetting time 58-68 seconds, water absorption ratio 0.1628-0.2439, disintegration time 56 sec – 9 min, and friability 0.53-0.68 %. The software design expert (11.0) was used for getting experimental design, modeling the response surface and calculating the static evaluation. The tablet parameters tests of formulation (F1 to F10) were observed within prescribe limit. Disintegration time observed 56 seconds, % cumulative drug release 88.79 % to 98.90 %. Batch F6 was observed as promising batch.

Key Words : TeneligliptinHydrobromide, Fenugreekmucilage powder, Fast Dissolving tablets, Pharmaceutical excipients.

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