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Formulation and *In vitro* Evaluation of Release Rate Characteristics of Different Binders in Mefenamic Acid Tablets

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***SUMMARY*. The objective of present study is to investigate the binding efficiency of different concentrations (2, 4, 6, 8, and 10%) of various tablet binders, i.e. pectin, tragacanth and starch for the dry granulation of 250 mg mefenemic acid per tablet. The tablets produced were evaluated based on tablet physical properties and drug dissolution release rate. The dissolution behavior of the developed tablets was studied in alkaline borate buffer solution (pH 6.8) USP using the rotating paddle dissolution apparatus. A decreasing order in the values of $t_{50\%}$ for the prepared tablets was observed as: starch > tragacanth > pectin. Kinetic analysis of dissolution data elaborated that dissolution profiles of formulations F1-F5 and F11-F15 were best fit to the zero order model, while formulations F6-F10 exhibited the release of drug in accordance with the first order model. The mechanism of drug release depended upon the non-Fickian diffusion process. The results indicated that all binders produced acceptable tablets with respect to hardness and disintegration. Good flow characteristics with significant drug release retardant behavior support the starch as a better binder compared to pectin and tragacanth to develop sustained release mefenamic acid tablets.**

KEY WORDS: Binders, Dry granulation technique, Dissolution rate, Disintegration.

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