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Assessment of DelonixRegiaseed Gum in The Formulation Development of Sustain Release Tablet of Diclofenac Sodium

Sagar D. Kore*, Makarand V. Puri, Dr. Rahul K. Dumbre

Siddhant College of Pharmacy, Sudumbre, Pune, Maharashtra, India.412109

Abstract:Objective: The purpose of this investigative research work was to assess the release retardant properties of DelonixRegia seed gum in formulation & evaluation of Diclofenac Sodium Sustain release tablet.This work is in conformity with the exploration of natural polymers to make formulation cost effective & compatible.

Methods & Material: The polymer was extracted from seeds of DelonixRegia& evaluated. Drug-Excipient compatibility was established using FT-IR. Sustained release matrix tablets of Diclofenac Sodium were prepared by wet granulation method. Granules were evaluated for parameters like bulk density, tapped bulk density, compressibility index and angle of repose. The compressed tablets were evaluated for uniformity of weight, hardness, friability, thickness, content uniformity, In-vitro dissolution.

Result: Assessment of release profile enables one to know that amount of drug release from the formulation F3 & F4 upto 10hrs ranged between 50-70%. While, F1 & F2 indicating complete drug release within 10 hrs at low concentrations of DRSG and F5-F8 indicating incomplete drug release at high concentrations of DRSG. Poly Ethylene glycol was used as a channeling agent along with DelonixRegia polymer to improve drug release.

Conclusion: The assessment of dissolution profile of tablets indicates that 15–25 % concentration of DRSG showed good drug release. Combination of channeling agents like PEG was used for modulating the release profile. It was found that 3-5% concentration of PEG showed desirable change of drug release.

Key Words: Sustain release, Matrix tablet, Diclofenac sodium, Delonix Regis Seed Gum, Polymer.

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