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Exploring traditional insights: Integration of Diclofenac sodium matrix tablets utilizing natural polymers

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## ABSTRACT

This review summarizes the importance of natural polymers in the production of diclofenac sodium matrix tablets used in medicine because of their varied origins and properties that affect the kinetics of drug release. The ability of guar gum, xanthan gum, chitosan, and HPMC to prolong drug release and improve therapeutic efficacy was highlighted. The influence of formulation methods (direct compression, wet granulation, and melt granulation) on tablet characteristics and drug release patterns, which are critical for pharmaceutical functionality, is highlighted in an extensive review that covers pre- and post-compression evaluations. Combining current pharmacological research with traditional medical knowledge yields a novel perspective that emphasizes efficacy, sustainability, and biocompatibility. Although it can be difficult to incorporate traditional knowledge into modern pharmacology, this fusion offers opportunities for cooperative research, regulatory compliance, and realizing the benefits of innovation and tradition working together. This strategy represents a sea change in healthcare by emphasizing long-term, cost-effective, and patient-centered solutions. Diclofenac sodium tablets, which combine traditional expertise with natural polymers, mark the beginning of the transformational phase in the pharmaceutical industry. This will pave the way for more creative, comprehensive, and sustainable approaches to pharmaceutical research and patient care.

Keywords: natural polymers, diclofenac sodium tablets, Traditional Medical Knowledge

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