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A Review on Formulation and Evaluation of Anti-Rheumatoid Arthritis jelly

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Abstract: *Rheumatoid arthritis (RA) is a chronic, systemic autoimmune disorder that leads to progressive joint inflammation, pain, and disability. While systemic pharmacological therapies remain central in RA management, topical semisolid formulations have gained attention as complementary approaches due to their ability to deliver active agents locally, minimizing systemic exposure and adverse effects. Synthetic topical formulations, particularly gels, ointments, and medicated jellies, offer significant promise in enhancing local analgesic and anti-inflammatory efficacy through optimized excipient selection and delivery strategies. Non-steroidal anti-inflammatory drugs (NSAIDs) such as diclofenac sodium, in combination with synthetic excipients including propionic acid homopolymer (Synthalen K), surfactants, and penetration enhancers, have demonstrated improved drug diffusion and bioavailability. Physicochemical characterization methods such as rheological studies, texture profile analysis, in vitro release testing (IVRT), and ex vivo Franz diffusion assays have been widely applied to evaluate formulation performance. Additionally, synthetic systems can be further optimized for stability, controlled release, and patient acceptability. This review highlights advances in synthetic topical drug delivery systems for RA, with a focus on formulation design, evaluation methodologies, and regulatory considerations, aiming to guide the development of effective and patient-friendly therapeutic alternatives.*

Fig. No. 1(Anti-Rheumatoid Arthritis Jelly)

Keywords: Rheumatoid arthritis, Pathophysiology, active agent, formulation, Evaluation

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