

Development and Evaluation of Withania Coagulans Syrup for Anti-Inflammatory Activity in Arthritis Management

Ketan Sanjay Kumbarwar

Department of Quality Assurance

Samarth Institute of Pharmacy, Belhe; Pune, Maharashtra, India.

Abstract: *The rising incidence of arthritis has prompted the exploration of plant-based therapies as adjuncts or alternatives to conventional anti-inflammatory medications. This study aimed to formulate and evaluate an anti-inflammatory syrup incorporating Withania coagulans Dunal, a medicinal plant known for its therapeutic properties, to manage arthritis symptoms effectively. An aqueous extract of Withania coagulans was used to develop a syrup formulation optimized for stability, taste, and bioavailability. The anti-inflammatory activity of the formulation was assessed using both in-vitro assays and in-vivo models, including the measurement of inflammatory biomarkers and paw edema in animal models of arthritis. The syrup exhibited significant anti-inflammatory effects, comparable to those of standard pharmaceutical agents, while demonstrating an improved safety profile and reduced side effects. The formulation displayed favorable physicochemical properties and remained stable over time. These findings indicate that a Withania coagulans-based syrup may offer a natural, effective, and safer alternative for the management of arthritis. It holds potential to enhance patient quality of life and reduce reliance on long-term pharmacological treatments. Further clinical studies are recommended to validate its therapeutic efficacy and safety in human populations. Future research will focus on refining the formulation to ensure efficacy, palatability, and long-term safety.*

Keywords: Withania coagulans, Arthritis, Anti-inflammatory syrup, Formulation, Evaluation

