

Formulation and Evaluation of Herbal Tablets Containing *Withania somnifera*: Development and Quality Assessment

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ABSTRACT

Rheumatoid arthritis (RA) is a chronic, systemic autoimmune disorder characterized by persistent inflammation, progressive joint destruction, pain, and reduced quality of life. Conventional allopathic therapies used in the management of RA are often associated with significant adverse effects, limiting their long-term use and patient compliance. As a result, there is increasing interest in safer and more effective alternatives derived from herbal medicines. *Withania somnifera* (Ashwagandha), a well-known Ayurvedic medicinal plant, possesses documented anti-inflammatory, immunomodulatory, and antioxidant properties, making it a promising candidate for the treatment of rheumatoid arthritis. The present study aims to formulate and evaluate herbal tablets containing *Withania somnifera* using modern pharmaceutical techniques to enhance therapeutic efficacy, safety, and patient acceptability. Emphasis is placed on improving the quality, bioavailability, and stability of the herbal formulation through appropriate excipient selection and advanced formulation strategies. The prepared herbal tablets will be subjected to comprehensive physicochemical and pharmaceutical evaluation, including pre-compression and post-compression parameters, uniformity of weight, hardness, friability, disintegration time, and in vitro dissolution studies. Additionally, the study seeks to address challenges associated with conventional herbal dosage forms, such as poor absorption and inconsistent therapeutic outcomes. The development of a standardized herbal tablet formulation may contribute to improved drug delivery, reduced dosing frequency, and enhanced patient compliance. Overall, this research highlights the integration of traditional herbal medicine with contemporary pharmaceutical formulation approaches to provide a safer, effective, and economical alternative for the long-term management of rheumatoid arthritis.

Keywords: Rheumatoid arthritis, *Withania somnifera*, Herbal tablets, Ayurvedic medicine, Anti-inflammatory activity

