

Formulation and Evaluation of Capsule for the Treatment of Aspergillosis

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Abstract: *Aspergillosis, a severe fungal infection caused primarily by the genus Aspergillus, poses significant challenges in clinical management due to its resistance to conventional antifungal therapies. In recent years, there has been growing interest in exploring alternative treatment options, including the development of novel formulations utilizing natural compounds with antifungal properties. This study aims to formulate and evaluate a capsule for the treatment of aspergillosis, leveraging advancements in pharmacology and biotechnology. Drawing inspiration from traditional medicine systems like Ayurveda, which emphasize the therapeutic potential of herbal remedies, this research focuses on harnessing the medicinal properties of select botanical extracts known for their antifungal activities. Key among these is azadirachtin indica, a plant species renowned for its diverse pharmacological properties, including antimicrobial effects.*

In this study, various extraction methods will be employed to obtain bioactive compounds from azadirachtin indica and other potent botanical sources. These compounds will then be incorporated into capsule formulations using pharmaceutical excipients to ensure stability, bioavailability, and efficacy. The formulated capsules will undergo comprehensive evaluation to assess their antifungal activity against Aspergillus strains commonly implicated in human infections. In vitro studies will investigate the capsules' inhibitory effects on fungal growth and viability, while in vivo experiments using animal models will provide insights into their therapeutic efficacy and safety profile. Overall, this research endeavors to contribute to the development of effective and affordable treatment options for aspergillosis, addressing the urgent need for novel antifungal therapies in clinical practice. By combining insights from traditional medicine with modern pharmaceutical science, the formulated capsules hold promise in combating this life-threatening fungal infection and improving patient outcomes..

Keywords: Aspergillosis, Herbal capsule, Antifungal activity, Formulation, Evaluation, Herbal medicine, Therapeutic efficacy, Drug resistance, Pharmacological properties and Bioactive compounds