



## FORMULATION AND *IN VITRO* EVALUATION OF SERTAONAZOLE LOADED SOLID LIPID NANOPARTICLE IN ALOE VERA GEL

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### ARTICLE INFO

### ABSTRACT

#### Key Words

Sertaconazole, Aloe-Vera gel, Solid-lipid Nanoparticle, Solvent Emulsification Method.



In the present research, the solid lipid nanomolecules of an anti-fungal drug is prepared and the drug sertaconazole loaded micromolecules was poured into the aloe vera gel matrix to enhance the penetration of drug through the skin. The solid lipid nanomolecules of sertaconazole (SLN-SERT) is formulated by solvent emulsification method to ensure better entrapment efficiency and continuous distribution of drug. From the source of WHO "Portal of health products & essential medicine", some therapeutic capabilities & excellent treatment was shown by aloe vera gel. The *in vitro* evaluation of SLN-SERT gel showed brilliant spreadability, adhesiveness & simplicity in application as well as better *in vitro* drug release profile than normal anti-fungal cream. The stability of gel formulation was also found to be stable at low temp upto 2°C as well as high temp till 40°C. Finally, the aloe vera gel formulation containing SLN-SERT for topical drug delivery proves to be promising carrier for the delivery of the drugs for skin targeting in contagious disease. The formulations were found to be safe, compatible with enhanced penetration of drug in to the skin achieved.

### INTRODUCTION

Fungal infections are a standout amongst the most widely recognized reasons for skin disease. Occurrence of parasitic disease is expanding around the world. Oral treatment of contagious contamination has related with lethal impact, long span of treatment and narrow mindedness by the patient while topical treatment for shallow parasitic diseases is related with poor dissolvability of medications, disturbance to skin and less porousness through skin. Contingent upon attributes of the living beings and host,

contagious diseases are ordered into three kinds: shallow, subcutaneous and fundamental. Shallow contamination brought about by a dermatophyte is named dermatophytosis and are restricted to the stratum corneum, hair and nails. [1] Approximately 1-2% of the total population is influenced by dermatophytosis. Contagious diseases are progressively normal and increasingly serious in individuals on anti-microbials, corticosteroids, immunosuppressant medications and contraceptives treatment.