

# UNSATURATED FATTY ACID VESICULAR TOPICAL FORMULATION FOR THE TREATMENT OF SUPERFICIAL FUNGAL INFECTION

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## ABSTRACT

Enhancement of skin bioavailability through topical formulation is challenging due to the presence of the barrier stratum corneum. Elastic, deformable lipid vesicles are easily penetrated through the skin barrier. The present study involves unsaturated fatty acid for vesicular preparation, ufosomes of miconazole nitrate. Fatty acid acts as skin penetration enhancer and improves skin retention. The effect of formulation parameters on efficacy of formulation was studied using  $3^2$  full factorial design. The particle size and % entrapment efficiency was found to be in the range of 157 to 291.6 nm with irregular spherical shape and 54.14% to 85.84%, respectively. The *in vitro* drug release, *ex vivo* drug release and skin retention of optimized ufosomes were found to be 78.424 %, 20.793 % and 43.36 %, respectively. The optimized batch displayed Higuchi drug release kinetic model with desired physicochemical properties.