

METHOTREXATE LOADED EMULSOMES: A NEWER APPROACH FOR MANAGEMENT OF PSORIASIS**MODY NISHI*, VYAS S. P.****DRUG DELIVERY RESEARCH LABORATORY, DEPARTMENT OF PHARMACEUTICAL SCIENCES, SAGAR, M. P.,
INDIA****ABSTRACT**

The purpose of our investigation was to develop and evaluate an effective nanocarrier system for successful delivery of anti-psoriatic bioactive Methotrexate (MTX). MTX-loaded emulsomes were prepared by thin film casting method followed by Sonication. Prepared nanoformulation was characterized for shape by photomicrograph and transmission electron microscopy (TEM, Tecnai G2, Hillsboro Oregon, USA). The average particle size and zeta potential were determined by photon correlation spectroscopy. The entrapment efficiency (EE %) was determined. *In vitro* skin permeation studies were performed using locally fabricated franz diffusion cell. Skin irritation was performed on the hairless skin of the albino rats for the determination of toxicity. The size of emulsome was found to be 134.5 ± 1.1 nm, and zeta potential was 25 mV. Entrapment efficiency was found to be $75.7 \pm 4.94\%$. Cumulative amounts of MTX from plain drug solution and emulsomes at 24 h after dosing were 41.23 ± 4.29 $\mu\text{g}/\text{cm}^2$ and 13.45 ± 4.15 $\mu\text{g}/\text{cm}^2$ respectively. The primary irritation index (PII) was found to be 0.00 for emulsomes showing no irritation. With this study we can conclude that emulsomes have shown a good ability to increase drug accumulation in various skin layers.