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### Design, Formulation and Evaluation of Topical Nimesulide Emulgel

Kamlesh Wadher, Diksha Patel\*, Sagar Trivedi, Milind Umekar

Department of Pharmaceutical Technology, Smt. KishoritaiBhojar College of Pharmacy, Kamptee, Nagpur, India-441002

**Abstract :** Emulgel is one of the recent technologies in Novel DDS used for dual control release of emulsion and gel for topical use. In the present Investigation, topical gel and emulgels of Nimesulide were formulated using  $2^3$  Factorial Design and Carboplol 934 as a polymer. The oral use of Nimesulide is associated with side effects like gastrointestinal disturbances, epigastric pain, nausea, heartburn, vomiting and diarrhea. Topical application of the drug prevents these side effects and offers potential advantage of delivering the drug at the site of action. The rational of the present study was to increase the penetration of drug into the skin. The Formulations were subjected to various physicochemical studies such as spreading coefficient, Viscosity and in vitro release studies. In vitro release of the tests formulations was performed to determine drug release from Gel and emulgel. From the in vitro studies, formulation F4 showed maximum release of 59.58% in 240 min and 45.02% from the Gel. In vitro release studies of the prepared formulation were performed using dialysis membrane and results indicated that Emulgel showed better release than Gel system.

**Keywords :** Emulgel, Topical Drug delivery, Nimesulide, Drug release kinetics.

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