

NANOFORMULATIONS FOR DERMALLY APPLICATION

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Abstract (250-300 words)

In Pharmacy most of the attention is focussed on improved dermal delivery of poorly soluble drugs. The skin which is the biggest organ in our body has great importance because it provides protection of the organism against environmental factors and organization of body heat and water loss. Thus ıt forms a suitable region for drug application with its large surface area to obtain local and systemic effects. There are many advantages of dermally application, such as reducing gastrointestinal side effects, providing drug accumulation at the specific region, self-administration of the patient, high patient compliance compared to other drug delivery routes (1). However especially stratum corneum layers of skin plays a critical role in limiting the delivery of most drugs, thus the drug permeation through the skin becomes a rate limiting step for absorption (2)**.** In recent years several methods have been examined to increase the permeation of drugs into or through the skin. One of the promising approaches is use the nanoparticulate delivery system such as nanosuspension, solid lipid nanoparticules, nanogels etc. Nanonization of drug particles (100-1000nm) increase its surface area, dissolution, saturation solubility, permeability and final results is high dermal bioavalability. In our studies Flurbiprofen (FB) was selected as a model drug which is one of the nonsteroidal antiinflammatory drugs and it is used to treat gout, arthritis, rheumatoid arthritis and sun burn. But it has low water solubility (BCS Class II). To improve its solubility and thus permeability in or through the skin, FB nanoformulations (nanosuspensions and nanogels) were succesfully obtained for dermally application (3,4). These studies demostrated that nanoformulations are very effective for improving dermal bioavalability of lipophilic drug substances.

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Biography(100-150 words)

Ayşe Nur OKTAY is a research assistant of Pharmacy Faculty at Gazi University in Turkey. She is a Ph.D. student at Gazi University Department of Pharmaceutical Technology under the mentorship of Professor Dr. Nevin ÇELEBİ. Her research focused on nanosuspension, high pressure homogenization technique, nanogel, skin permeability studies, Quality by Design, drug delivery. She is inventor of two project which are supported by Scientific Research Project Foundation of Gazi University and The Scientific And Technological Research Council of Turkey. She has 3 oral presentation in 2017 ; about nanosuspensions at **‘’7th BBBB International Conference on Pharmaceutical Science- New Trend and Achievements in Pharmaceutical Sciences and Pharmacy Practice, Balatonfüred/Hungary**’’ and at ‘**’2nd International Gazi Pharma Symposium Series, Ankara/Turkey**’’ and about nanogels at the ‘**’2nd International Conference on Natural Products for Cancer Prevention and Therapy, Kayseri, Turkey** ‘’.

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