

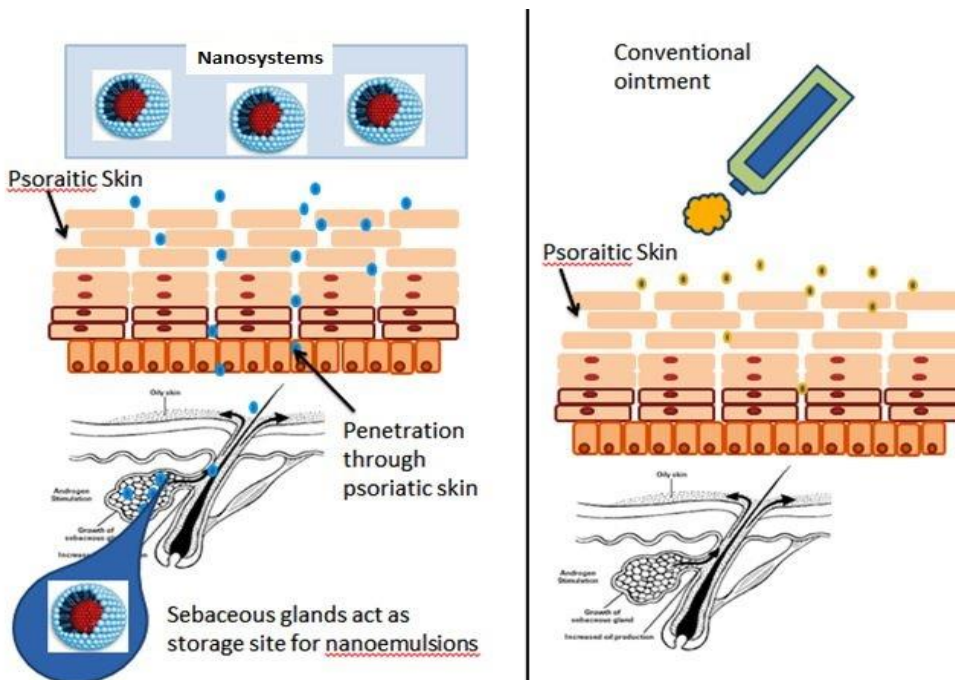
Nano drug delivery system developed can simplify Psoriasis treatment

A nanocarrier based drug delivery system developed by ISF College of Pharmacy, Moga, Punjab can ease treatment of skin conditions like Psoriasis. It reduces the frequency of skin application to once a day as compared to three times a day in case of conventional dosage of medicine.

Psoriasis is an autoimmune disease that effects skin through inappropriate activation of cellular immune system. In India, its prevalence is estimated to be between 0.44% and 2.8% of diseased population and the system developed with the support of Science for Equity Empowerment and Development (SEED) Division, Department of Science and Technology (DST), has resulted in reducing treatment cost and time to half of market available gel. **Fig 1**

The nanocarrier which delivers a chemical called clobetasol propionate, a corticosteroid used to treat various types of skin conditions, can increase the chemical's solubility, enhance storage stability, improve permeability, reduce adverse effects, prolong half-life, and tissue-targeted delivery. These improved properties have increased the effectiveness of the clobetasol propionate by enhancing its penetration through infected skin.

Severity of Psoriasis is measured by Psoriasis Area Severity Index (PASI). The developed system showed 85% decrease in average PASI score as compared to marketed formulation which showed only 50% decrease in average PASI score. The system also resulted ~40% more retention in skin and 80% decrease of drug availability in systemic circulation as compared to marketed gel.



This figure represent that the developed nanosystems shows better penetration through psoriatic skin and better retention in sebaceous glands and show local action as compared to conventional.