

A Thorough Examination of the Nanostructured Lipid Carrier System as a Therapeutic Approach for the Treatment of Skin Cancer

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Abstract: When abnormal skin development occurs, it's referred to as skin cancer. Overexposure to sunlight may result in skin cancer, premature aging, and sunburn. We need to be very aware of UV blockers and the best technique to apply them if we want to shield our skin from the sun. The ideal drug delivery technique for topical administration is nanostructured lipid carrier due to its improved solubility, bioavailability, and drug loading capacity. Moreover, they allow a 70% UV blocker to be loaded. The incidence of the condition, its pathophysiology owing to genetic changes in the p53 tumor suppressor gene, the kinds of NLCs and their applications in skin care are all covered in this study. The literature for the research was looked for using Science Direct, Web of Science, Google Scholar, and PubMed. I also used the global Burden of Disease Study database to evaluate the changes in skin cancer globally. Countries differed in the rates at which skin cancers altered. Over this period, there was an increase in squamous cell cancer cases. Males are more prone to get keratinocyte carcinoma, whereas women are more likely to acquire melanoma. Publications have also been made describing several NLC kinds and their defense mechanisms against skin cancer. Highlighting research hotspots pertaining to NLC processes is crucial. Lipid carriers with nanostructures will continue to be developed, resulting in more effective, precise, and safe solutions. The success of nano lipid carriers and the clinical development of NLCs will both benefit from more research. Different demographic groups are disproportionately affected by the incidence and prevalence of skin cancer. Obtaining current data on the incidence of skin cancer and allocating sufficient resources are critical to its elimination.

Keywords: Nanocarriers, Lipid-based, Skin cancer, Treatment

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