

Novel approaches for the development of herbal photoprotective formulations

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Photoprotectives are the agents capable of ameliorating the adverse effects of ultra violet radiations. Increased oxidative stress in skin cells results in deleterious effects like erythema, edema, sunburn cells, hyperplasia, immunosuppression, photoaging and photocarcinogenesis. Photoaging could be prevented by blocking or inhibiting the UV penetration into skin, by inhibition of inflammation by antioxidants and anti-inflammatory molecules and medically based rejuvenation treatments of photoaged skin. To overcome serious side effects of synthetic molecules, the research is now diverted towards natural biomaterials. Several botanical compounds have been shown to be antimutagenic, anticarcinogenic and nontoxic and have ability to exert striking inhibitory effects on a plethora of cellular events at various stages of carcinogenesis. Naturally occurring herbal compounds such as phenolic acids, flavonoids and high molecular weight polyphenols are very useful for prevention of the adverse effects of UV radiation on the skin. The creams comprising such extracts could be utilized for the protection of photo induced intrinsic oxidative stress as well as structural alteration in skin. Novel technology has shown great potential for improving the effectiveness and efficiency of delivery of nutraceuticals and bioactive compounds. The aim of the work was to develop stable novel vesicles of the extracts of photoprotective herbs incorporate them into creams, completely evaluate the important physicochemical, psychometric parameters of the creams and then study their effect on human skin in the terms of skin viscoelasticity, skin hydration, sebum content, erythema and melanin content and to study their photoprotective effect biologically by checking the biochemical parameters and through histological studies.

Biography

PROF. CHANCHAL DEEP KAUR, one of the eminent known Professor and Principal has 17 years of teaching and research experience. Completed Ph.D under the guidance of Prof. Swarnlata Saraf from UIOP Pt RSSU, Raipur, M. Pharm from DOPS, Sagar and MBA in HR and Production and Management. Is throughout gold medallist and recipient of IDMA GP Nair Award 2001, Pragatisheel Ratna Award 2008, CG Gaurav Samman 2019, Best Academician Award 2020. Has delivered 26 invited talks, authored 4 books, 5 book chapters, 96 publications in national and international journal of repute and 10 patents under process. Key area of research includes Targeting approaches, novel drug delivery approaches, skin cancer, ovarian cancer and lymphatic disorders.

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