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ABSTRACTS

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Oral Presentation - 03

Photoprotective potential in herbal sunscreen formulations developed from the medicinal plant, *Mollugo cerviana*

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Introduction

The constant exposure of human skin to solar ultraviolet (UV) radiation could lead to conditions like erythema, inflammation, photoaging and photocarcinogenesis. Although the use of synthetic skin care products are extremely popular as a preventive strategy, with the realization of adverse side effects associated with these formulations, the recent trend is to search for alternative formulations of plant origin. Therefore, the present study focuses on the development of herbal sunscreens from the popular medicinal plant, *Mollugo cerviana* (Pathpadagum).

Methods

Hydroalcoholic extract of *M. cerviana* was incorporated into the aqueous cream-base at different percentages (25%, 50% and 75%) and the UV absorption measurements were obtained using a UV-Visible spectrophotometer to calculate UV filtering potential and the sun protection factor (SPF) in each formulation. To compare the efficacy of the herbal formulations, a commercial synthetic sunscreen and aqueous cream-base were used as positive and negative controls respectively.

Results

The formulation containing 75% of the extract surpassed the other two formulations and also the commercial sunscreen product, due to its high SPF, photostability and broad-spectrum of UV absorption. The initial SPF value of this formulation was determined as 22.5 and any significant reduction of this SPF value was not observed after its exposure to direct solar radiation for 21 days. This was an evident for the photostability of this formulation. Moreover, the high UV absorbance in 260-360 nm range indicated its broad-spectrum sunscreen potential.

Conclusion

Mollugo cerviana has a high potential to develop as commercial herbal sunscreens and the experiments are in-progress to enhance its bioavailability via nanotechnology.