

Cosmeceutical and Antimicrobial Activities of *Eruca Sativa* Nanoemulgel

ABSTRACT

E. sativa oil was evaluated for its anti-oxidant, sun protection factor and elastase inhibition. Then, nanoemulgel formulations were prepared for *E. sativa* oil through the combination of nanoemulsion with hydrogel. *E. sativa* nanoemulsion formulations were prepared by the help of a self-emulsification technique. After this, the optimum formulation was mixed with Carbopol to produce the nanoemulgel. Anti-bacterial and anti-fungal activities were evaluated. Nanoemulsion occurred when the size of the droplets was 195.29 nm with the lowest poly-dispersibility index 0.207. The results of antioxidant, anti-elastase and SPF activities for *E. Sativa* oil were 2.10 µg/ml, 25.1 µg/ml and a SPF value of 5.57, respectively. In addition, in the anti-bacterial test for *Staphylococcus aureus*, it was found that nanoemulgel has an inhibition zone of 2.1 cm in diameter. According to the MRSA, the inhibition zone was 1.5 cm. *E. Sativa* oil could be a promising candidate in cosmeceutical and pharmaceutical preparations.

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