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ABSTRACT BOOK

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LAVANDULA X INTERMEDIA EMERIC EX LOISEL ESSENTIAL OIL-LOADED TOPICAL CREAM SUITABLE FOR DERMACOSMETIC USE: PREPARATION, CHARACTERIZATION, IN VITRO BIOLOGICAL ACTIVITY

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Lavandula x *intermedia* (lavandin or lavandulil), known to be a natural sterile hybrid obtained by crossing *L. angustifolia* x *L. latifolia* [1]. The essential oil of *L. angustifolia* has been used medically for its sedative, antidepressive, antimicrobial, cytotoxic and anti-inflammatory properties. Also, the oil is used in perfume and soap production due to its high content of camphor [2]. In the present study, the cream containing *L.* x *intermedia* essential oil was characterized and screened for *in vitro* antioxidant and antimicrobial activities. The essential oil obtained from the leaves was screened for its composition by using GC-FID/MS method. *In vitro* antioxidant and antimicrobial activities of the cream were screened by using ABTS, DPPH scavenging, metal chelating potential, reducing power and agar microdilution tests, respectively. Linalool (20.2%), *trans*-linalool oxide (10.9%) and camphor (10.7%) were found as the major compounds of the essential oil. Inhibiton values of DPPH scavenging, metal chelating and TEAC value of ABTS decolorization potentials of the cream were found as 20.43% at 2.5 mg/mL, 47.2% at 5 mg/mL and 0.42±0.01 mM respectively. EC_{50} value for reducing power were found as 7.28±0.52 mg/mL. Antimicrobial potentials were determined against *E. coli*, *S. aureus* and *L. reuteri* as ˂250 µg/mL, 250 µg/mL, >250 µg/mL for cream when compared with Chloramphenicol, respectively. This study reports that topical cream containing *L.* x *intermedia* essential oil with good *in vitro* antioxidant and antimicrobial potentials may represent a promising and affordable topical agent for dermacosmetic use.

Keywords

L. x intermedia essential oil, Cream, Dermacosmetic, Antioxidant, Antimicrobial

References

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