



Research Article

THE ROLE OF *HELICHRYSUM ITALICUM* ESSENTIAL OIL AS A SKIN SAVIOR AGAINST SUN BURNS. A STUDY CONDUCTED ON SOME IRAQI PATIENTS

*Nafal Nazar Bahjat

Department of Anesthesia, College of Health and Medical Techniques/ Baghdad, Middle Technical University, Iraq

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Abstract

The search for new available ways of healing is the patient's choice to speed up the healing process and to decrease the time needed for complete recovery. Fortunately, sometimes the available alternatives are the origin, as is the case for traditional medicine. Essential oil of *Helichrysum italicum* (Hi) has a long history of usage in the treatment of sunburn, wounds, and infections caused by microbes. Two female patients presenting with moderate sunburns are the subjects of this study. They were given topical 10% *H. italicum* for 7 days to treat their skin burns till the skin healed. There were no additional oral or topical medications administered, and the burn site showed no signs of skin responses or allergies as it healed. Results obtained were primarily satisfied and prompted to continue searching for new alternative therapy and thus deserving an *in vivo* study.

Keywords: Traditional medicine, *Helichrysum Italicum*, skin burn, wound healing, skin treatment.

INTRODUCTION

Sunburns occur when the skin is exposed to too much ultraviolet radiation (UVR), which causes an immediate inflammatory response on the surface of the skin. Solar radiation, tanning beds, phototherapy lamps, and arc lamps are just a few of the many potential sources of ultraviolet radiation [1]. Initial or superficial sunburns are the most common kind. Symptoms can begin after 1 hour from exposure, and within 3 days maximum (usually between 12 to 24 hours). After several days of sunburn, scaling may occur in the affected area in individuals with white skin and is often accompanied by itching since that time these scaly areas are more sensitive to sunburn for several weeks and more sensitive to infections, permanent brown spots called petechiae may develop [2]. Patients who got severe sunburns when they were young have an increased risk of skin cancer, especially melanoma, in later years even if they haven't been exposed to much sun since then [3]. Skin disorders are increasing in many countries in Asia, Arabian Gulf and Iraq which characterized by high temperatures, especially during summer season. Most people prefer a daily use sunscreen cream, sunscreens can be useless if not enough product is applied, or if it is applied too late (it is best to apply these products 30 minutes before exposure) or every two hours. Most people apply less than half the recommended amount of sunscreen and in some cases sunscreens may cause allergic reactions called photoallergic after being out in the sun. [4] When it comes to developing novel medications and therapies, medicinal plants are a major player. There has been extensive usage of the therapeutic virtues of *Helichrysum italicum* (Roth) G. Don fil., which is a member of the Asteraceae family. *Helichrysum italicum* has been used for a thousand years and is still used now, particularly in Mediterranean countries. The essential oil of *Helichrysum italicum*, extracted from the dried flower,

has a rich, honey-like perfume and is an oily liquid that ranges in colour from pale yellow to red. [7] The antifungal action against *Candida albicans* is attributed to its components like acetophenones, phloroglucinols, and terpenoids, as shown in numerous scientific investigations. *H. italicum* exhibits many other pharmacological actions as well. Its flavonoids and phloroglucinols also had anti-HIV and anti-HSV effects, no doubt about that. [6] Commonly administered as an infusion, the oil has a wide range of medicinal uses in Europe, including the treatment of asthma, chronic bronchitis, migraines, skin burns, allergies, and respiratory tract infections [8]. The study presented here is to reveal the effect of *Helichrysum italicum* essential oil against skin burns and to the best of the author's knowledge, that among the numerous publications found for skin benefit there is no research existed in the literature showing it has any benefit for skin included Iraqi patients.

MATERIALS AND METHODS

Only two instances involving girls in secondary school were documented in the study; both girls' sunburns were of comparable severity, and they were treated at the school clinic by a dermatology consultant. Ethical agreement was obtained from patients in order to use their necessary information after parental approval of essential oils as a therapeutic option was obtained. The sunburnt areas of the two females were treated with a 10% oil blend three times daily until the skin healed entirely. Steam distillation of the flowering tops of *Helichrysum italicum* was done in the United States by iHerb Products. Figure 1. According to research in the field, the specific components of *H. italicum* essential oil differ across different regions: The presence of oxygenated monoterpenes (43.9%) and sesquiterpene hydrocarbons (41.2%) in *H. italicum* oil from Montenegro was indicative of its authenticity, whereas geraniol and geranyl acetate were abundant in oil from Greece. [8] Alpha pinene (15-32%), beta caryophyllene (2-9%), beta selinene (4-8%), and neryl acetate (3-35%), in contrast to oil derived from Yugoslavia, Corsica, Croatia, and Spain [9].

*Corresponding Author: Nafal Nazar Bahjat,
Department of Anesthesia, College of Health and Medical Techniques/
Baghdad, Middle Technical University, Iraq.



Figure 1. *Helichrysum italicum* essential oil (EO)

RESULTS

Both patients are 17 years old females, have a mild sunburn, appear red and painful. A moderate sunburn with simple swelling hot to the touch. Clinical examination showed a clean incised burn covering a wide area top of the neck, both females asked to keep clean up the skin at home. We applied 10% topical *H. italicum* for 7 days to speed up the healing process. Nothing else, either topically or orally, was administered (Figure 2).



Figure 2. Moderate skin burns top neck left side: day1, day 2, day 3, and day 7 with complete skin healed. Only topical *H. italicum* EO 10% was given from Day 1-7

DISCUSSION

The healing process for skin burns is typically unpleasant and time-consuming, which increases the likelihood of further skin burns occurring during that period. [10] Despite the fact that skin heals on its own, infections can impede the healing process [11]. According to the research, *Helichrysum italicum* EO can be applied topically to alleviate sunburns and other injuries in a hurry. The skin goes through a series of phases when it heals: inflammation, neovascularisation, granulation tissue, re-epithelialization, new extracellular matrix production, and new tissue remodelling. [12] The anti-

inflammatory, antimicrobial, and anti-oxidative properties of the essential oil of *Helichrysum italicum* may aid in the various stages of recovery. It also improves cell proliferation, stimulates dermal reconstruction, increases collagen synthesis, and fixes the skin's lipid barrier function. [9] There is no evidence of significant cytotoxicity or genotoxicity in *H. italicum*, and one of its flavonoids has been found to inhibit several CYP isoforms, thus it is safe to say that it does not pose any health risks [9]. Notably, one of the characteristics of *H. italicum* is that its essential oil does not undergo oxidation, which can cause skin irritation, when exposed to air. [8] Sunburn is more likely to occur in lighter-skinned persons, those with freckles or red or blonde hair, and those who are already at a higher risk of developing skin cancer, according to the American Cancer Society. in [13] Sunburns and tans both expose skin to harmful ultraviolet radiation, which can harm any skin type. Because UV rays can still penetrate cloud cover, harm can happen even on days with a high level of sunshine [14].

Conclusion

The study was conducted for an initial evaluation of the effectiveness of *Helichrysum italicum* EO against sunburns. Additional confirmation of these facts and promotion of *H. italicum* as a valuable tool in the treatment of several disorders require clinical trials. Also further *in vivo* studies are necessary to discover new medical benefits behind using the *Helichrysum italicum* essential oil.

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