

EFFECT OF APPLICATION OF EMULSIONS WITH STANDARDIZED EXTRACT OF WILD APPLE FRUIT (*MALUS SYLVESTRIS* (L.) MILL., ROSACEAE) ON BIOPHYSICAL SKIN PARAMETERS: AN *IN VIVO* STUDY

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Wild apple fruit (*Malus sylvestris* (L.) Mill., Rosaceae) represents a valuable source of biologically active compounds, such as polyphenols and fruit acids. These compounds have been found to have a positive effect on human health and also have a beneficial effect on the skin by improving its overall condition and appearance. In the present study, the efficacy of the application of oil-in-water emulsions containing 12% and 15% of wild apple fruit extract was examined on healthy volunteers. During a 28-day long-term study, biophysical skin parameters (electrical capacitance (EC), transepidermal water loss (TEWL), pH, erythema index (EI), and melanin index (MI)) were monitored. As a result, a significant increase in EC and decrease in EI and MI parameters were observed after both 14 and 28 days of application, where the emulsion containing 15% of the wild apple fruit extract was more efficient than the emulsion containing 12% of the wild apple fruit extract. On the other hand, no significant changes in TEWL and pH values were observed. Given their beneficial effects on the skin (increased skin hydration, reduced skin irritation, good skin lightening potential), the tested emulsions might have potential application in the formulation of cosmetic products for the treatment of dry and irritated skin, as well as products intended to reduce skin hyperpigmentation.

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Key words: *Malus sylvestris*, extract, emulsion, biophysical skin parameters, *in vivo* study