ABSTRACT

Natural products: From benchtop to bedside, a translational approach

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Extracts, infusions, or other types of preparations from medicinal plants have been used since ancient times for the treatment of several diseases, in what is commonly designated as “Folk Medicine”. In recent years, science has proven that some plant extracts, fractions or specific compounds may have an important role as drug sources with relevant properties. In this work, particular emphasis has been given to anti-microbial and healing properties of specific plants/compounds in *in vitro* as well as *in vivo* models. New approaches, including nanotechnology, have been addressed. Based on specific plants some particular cosmeceutical formulations were developed, used in clinical practice for skin problems, namely recalcitrant injuries, diabetic foot, sores and scars. The synergy of the properties of selected plant constituents, gave very positive results associated with a high degree of skin hydration, contributing to cell regeneration. In all cases, after repeated applications, significant improvements or complete treatment were observed, without tangible side effects. Formulations were revealed to be associated to a high degree of skin hydration, cellular skin regeneration, and anti-microbial activity. The results demonstrated, at least, a similar effectiveness compared to the conventional treatments. Based on scientific knowledge it was possible to produce cosmeceuticals of vegetable origin, with high quality and established bioactivities.

Keywords: cosmeceutical formulations, recalcitrant injuries, sores and scars, anti-microbial activity

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