Enhancing the Value of Cosmeceuticals Through Internally Stabilised Spice Formulations

Authors: Prof. Dr. Vijai K.S. Shukla and Søren Nielsen, International Cosmetic Science Centre ApS, Lystrup, Denmark.

Abstract

Food plays a pivotal role in the wellbeing of humans. Food is a strong medicine if consumed in proper quantities. We always advocate for the cosmetic industry the famous slogan 'It´s what you eat, it´s what you should apply'.

This paper reveals our research into the 'magic' properties of spices for providing powerful cosmetic formulations

Introduction

Food is the most basic prerequisite of living organisms. It contributes towards building the body, providing energy for living and working and regulating the mechanisms essential for health and the survival of life. Food thus constitutes the foundation for the health of both humans and animals.

Food and nutrition have long been discussed in the context of how certain dietary components may modulate oxidative stress and inflammation. Medicines and foods have a common origin. Modern science, however, is a common starting point for providing real evidence of this very concept.

Harmony of mind, body and spirit are hinged on a balance of free radicals and oxidants (created by the products of oxygen molecules) and antioxidants, which protect our cell membranes throughout the body. Illness occurs when we are in a state of deficiency. Thus nutritional lifestyle and environmental choices must be balanced to maintain our antioxidant status account.

The history of the use of aromatic oils on the body goes back at least 2,000 years before Christ. There are records in the Bible about the use of plants and their oils, both in the treatment of illness and for religious purposes. The Egyptians used them widely, both as cosmetics and for embalming their dead, in order to delay decomposition. These oils were known in China perhaps even before that time and then their use gradually spread to the Greeks and Romans, who of course brought the idea to Europe.

We have successfully demonstrated the application of rosemary in stabilising the oils and butters in cosmetic formulations. The main antioxidative effects of rosemary extracts come from three phenolic components namely carnosic acid, carnosol and rosmarinic acid, of which over 90% of the antioxidant activity is from carnosic acid and carnosol. Flavonoids, particularly flavones, have been identified in rosemary extracts.

Apart from the antioxidant activity, there are mentions of antimicrobial, antiviral, antimutagenic activities of rosemary extracts. Until we developed the method of internal stabilisation, the most common way of avoiding oxidation was the external addition by simple mixing of antioxidants to the oils and butters. Such additions often required heating, homogenisations, extra labour and handling of powders. All of these can be now successfully avoided through internally stabilised oils. Our research has proven that internal stabilisation of exotic butters and natural oils enhances oxidative stability many-fold.

This paper describes the application of various spice oils in expanding research of internal stabilisation in testing various products.

Method of Analysis

Oil stability index (GSI) was determined as a tool for judging oxidation stability. The instrument chosen for determining OSI was a Rancimat 743. The principle of Rancimat analysis depends on the measurement of the increase of electrical conductivity by the volatile carboxylic acids generated in the oxidising oil sample. The temperature was varied between 90°C and 110°C respectively. The air in-flow was continuously maintained at 18 litres/hour and the sample size was 3 + 0.05 gram.