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ABSTRACT BOOK



Evaluation of phenolic compounds, antioxidant activity and bioavailability in dried thistle flower

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Abstract

The thistle flower is usually associated to the making of cheese, because it's responsible for the phenomenon of the coagulation of milk. However, the number of studies about the chemical composition on this plant has risen, in an attempt to understand its health benefits.

The objective of this work was to characterize the thistle flower in relation to its antioxidant activity, the composition of phenolic compounds and evaluate its stability along the digestive tract. To achieve these goals, samples of thistle flower of the species *C. Cardunculus spp flavescens* were analysed after lyophilization and oven drying with forced convection at different temperatures (40, 50 and 60 °C). After each treatment two successive extractions with solutions of methanol (98% v/v) and acetone (60% v/v) were carried out. The extracts obtained were then used to quantify the levels of total phenolic compounds, ortho-diphenols and flavonoids. The antioxidant activity was determined using both the DPPH and ABTS methods. The evaluation of the bioavailability of the compounds present was evaluated by subjecting the various extracts to conditions simulating the digestive tract.

Through the analysis of the results it was found that the amount of phenolic compounds and antioxidant activity on thistle flower varied depending on the drying temperature, increasing their degradation as the temperature was raised. The results for bioavailability showed a decrease in the amounts of compounds available for intestinal absorption.

Keywords: Antioxidant activity, Bioavailability, Drying, Phenolic compounds, Thistle flower.