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Extraction and Physico-Chemical Characterisation of the Differents Extracts of *Artemisia Campestris* and *Cassia Angustifolia* and Comparative Study of the Laxative Effect of the Two Species

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ABSTRACT

This work focuses on the medicinal utilization of two Algerian plants: *Artemisia campestris L* and *Cassia angustifolia*, in the treatment of digestive disorders related to intestinal motility. Both plants were characterized by a phytochemical study of the various extracts and an evaluation of the laxative activity in the animal.

Keywords: Artemisia campestris, Cassia Angustifolia, laxative effect, phytochemical study

1. Introduction

The use of medicinal plants to treat digestive disorders is a common practice of the Algerian population, due to the know-how passed from generation to generation but also because of the richness of plant cover in plants rich in active metabolites [1]. Among the most well-known species are *Artemisia campestris* and *Cassia angustifolia*. These plants are widely used to treat digestive disorders, ulcers, burns, diarrhea,...etc, have been the subject of several studies that have determined their chemical composition [2].

The objective of this work is to evaluate two plants, the *Artemisia campestris L* and the *Cassia angustifolia*. This is through the phytochemical study of the various aqueous and organic extracts and the evaluation of some biological activities such as the antioxidant activity and the effect on the acceleration of the gastrointestinal transit through the exploration of laxative activity in the animal.

2. Experimentale

The *Artemisia campestris* L plant was harvested in the Laghouate region and the *Cassia angustifolia* seed in Setif. The aqueous extracts of the two plants have undergone phytochemical screening to identify the main families of secondary metabolites. A series of extraction is carried out on the two plants studied, in order to obtain the methanol dry extract, the dry extraction of tannins, of raw extract of flavonoids with its fractions (n-butanol, ethyl acetate). The dosage of total polyphenols in methanol extracts by Folin-Ciacalteu method was performed for both plants. An evaluation of the antioxidant power of the various extracts was carried out using the DPPH method. Finally, the effect on the acceleration of intestinal transit was made on laboratory animals.

3. Results and Discussion

The different extraction operations and techniques have allowed us to have an interesting yield in raw methanol extract, in flavonoids and tannins for both species, which demonstrates their richness in active metabolites. The antioxidant activity test performed on the various extracts showed very satisfactory results expressed as a percentage of inhibition (IP) ranging from 60 to 93% very close to that of vitamin C which is 89%.The dosing of the total Polyphenols of the different extracts of the two plants, by Folin's reagent, showed content expressed in gallic acid, the richest of which is the dried Artemisia tannin extract of 1.73mg EAG /ml followed by the methanolic extraction of senna 1.23mgEAG/ml. The laxative activity performed in laboratory animals demonstrated a very significant laxating effect of the aquatic extract of the senna

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compared to that of the reference batch treated with lactulose, as opposed to Artemisia, which has no accelerating effect on the intestinal transit.

4. Conclusion

The different operations and techniques of extraction allowed us to have an interesting yield in raw methanolic extract, in flavonoids, tannins and this for both species, which demonstrates their richness in active metabolites. The antioxidant activity test performed on the various extracts showed very satisfactory results expressed as a percentage of inhibition (IP) ranging from 60 to 93% very close to that of vitamin C which is 89%.The dosing of the total polyphenols of the different extracts of the two plants by Folin's reagent showed levels expressed in gallic acid ranging from 0.88 to 1.73mg E.Ac.galic with The richest extract is that of the tannins of Artemesia.A very significant laxative effect has been recorded for the aquatic extract of senna in laboratory mice.

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