

QUANTITATIVE ANALYSIS OF *Schinopsis brasiliensis* Engl. EXTRACT WHEN INCORPORATED INTO OIL-IN-WATER MICROEMULSION

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INTRODUCTION

The *Schinopsis brasiliensis* Engl. from the Anacardiaceae family, is a plant-sized tree that can reach 12 m in height and 60 cm in diameter. Also known as baraúna or braúna (1, 2) this tree occurs in the Caatinga region at the Northeast of Brazil and is considered an endangered species, as mentioned in the IBAMA ordinances No. 83 (26/09/91) and No. 37-N (3/04/1992) (1, 3). The extract derived from this plant has low water solubility and antimicrobial and antioxidant properties as shown in recent studies (4), which qualifies to be entrapped in a biocompatible oil-in-water microemulsion (ME) (5). This work aimed to develop an analytical technique to evaluate the extract content into ME systems.

METHODS

The leaves of *Schinopsis brasiliensis* Engl. were collected at the city of Mirandiba (Pernambuco, Brazil). After the drying period, the leaves were crushed and weighed and, then, exhaustively extracted in n-hexane and methanol, respectively. The hexane and methanol extracts were filtered, dried at 45°C and weighed. Its yield was calculated according to the literature. This final extract was incorporated into an oil-in-water ME formulation selected from a pseudo-ternary diagram previously developed. The extract nominal concentration of incorporated was 10 mg/mL. From the incorporated ME, 1:1000 dilutions were made in ethanol, followed by readings on a UV-VIS spectrophotometer, in triplicate, using a wavelength of 279 nm, which represents the maxima wavelength for these extracts. The absorbances were, therefore, plotted at an analytical curve previously prepared by the stationary cuvette method (6).

RESULTS

The main principle of analytical chemistry in pharmaceutical technology is to develop methods able to detect substances inside pharmaceutical dosage forms. To measure the content of the *Schinopsis brasiliensis* Engl. extract into a new lipidic carrier as MEs, one analytical curve has been developed. The mentioned methodology allows us to calculate the concentration of extract incorporation, which was 99.78 % (9.97 ± 1.6 mg/mL) of the nominal concentration. Although using a no chromatographic method, the spectrophotometry was quite reliable and no interference of the ME system was found during the analysis. Therefore, this methodology met the expectations of a fast method to evaluate the entrapment efficiency of braúna extracts into ME systems.

CONCLUSION

The UV-VIS spectrophotometry approach may be considered an excellent tool to derive analytical curves for analyzing drug contents in raw materials and medicines. To quantify the *Schinopsis brasiliensis* Engl. extract into ME, this method proved to be simple, fast and it meets the needs intended, becoming a tool of prime importance for some analytical studies.

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