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Phytochemical Screening, Antimicrobial and Antioxidant Efficacy of the Endocarps Fruits of Argania spinosa (L.) Skeels (Sapotaceae) in Mostaganem

Authors : Sebaa H., Cherifi F., Djabeur Abderrezak M.

Abstract : Argania spinosa, Sapotaceae sole representative in Algeria and Morocco; hence it is endemic in these regions. However, it is a recognised oil, forage, and timber tree highly adapted to aridity. The exploitation of the argan fruits produces considerable amounts of under or related products. These products, such as the endocarps of a fruit, recuperated after the use of kernels to extract oil. This research studies in detail the contents of total phenolic content was determined by Folin Ciocalteu reagent and Flavonoids by aluminum chloride colorimetric assay). Antioxidant activity of extracts was expressed as the percentage of DPPH radical inhibition and IC50 values (µg/mL). Antimicrobial activity evaluated using agar disk diffusion method against reference Pseudomonas aeruginosa ATTC 27453, Escherichia coli ATCC 23922. Immature endocarps showed a higher polyphenol content than mature endocarps. The total phenolic content in immature endocarps was found to vary from 983,75+ /- 0.45 to 980,1 +/- 0.43 mg gallic acid equivalents/g dry weight, whereas in mature endocarps, the polyphenol content ranged from 100,58 mg/g +/- 0.42 to 105 +/- 0.55% mg gallic acid equivalent / g dry weight. The flavonoid content was 16.5 mg equivalent catechin/g dry weight and 9.81mg equivalent catechin /g dry weight for immature and mature endocarp fruits, respectively. DPPH assay of the endocarps extract yielded a half-maximal effective concentration (IC50) value in the immature endocarps (549.33 µg/mL) than in mature endocarps (322 µg/mL). This result can be attributed to the higher phenolics and flavonoid compounds in the immature endocarps. Methanol extract of immature endocarps exhibited antibacterial activity against E.colie (inhibition zone, 11mm).

Keywords : antioxidant activity, antimicrobial activity, total phenolic content, DPPH assay
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