Chemical composition, antioxidant and in vitro alpha-amylase inhibitory assays of aqueous extracts (decoction and infusion) of *Ammodaucus leucotrichus* seeds (Apiaceae)

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In the Algerian traditional medicine, the seeds of *Ammodaucus leucotrichus* (Apiaceae) are used to treat gastro-intestinal ailments, hypertension and diabetes. However, the hypoglycaemic activity of this species has not been investigated. This study is undertaken to evaluate antioxidant and in vitro hypoglycaemic activities of aqueous extracts of *Ammodaucus leucotrichus* seeds. The aqueous extracts were obtained in the same conditions as traditional mode of preparation (decoction and infusion) and tested for preliminary phytochemical analysis. Some phenolic compounds (total phenolics, flavonoids, phenolic acids and condensed tannins) were quantified. In addition, antioxidant and alpha amylase inhibitory assay were performed in the aqueous extracts of *Ammodaucus leucotrichus* seeds. Secondary metabolites such as phenolic compounds, flavonoids, condensed and hydrolysable tannins, saponin, alkaloids, terpenoids, steroids and glycosides were present in the aqueous extracts as well as some primary metabolites like proteins and reducing sugar. The obtained results showed that the infusion is the richest water extract in phenolic compounds and presents the most important antioxidant activity (IC$_{50}$=175.67±2.36 µg/ml for ABTS assay and IC$_{50}$=232.89±19.28 µg/ml for DPPH assay) in comparison with decoction and standards (BHT and Trolox). Also, the infusion exhibited up to 68.83% of inhibition of alpha amylase enzyme with IC$_{50}$=2.65 mg/ml. In conclusion, the water extracts of *Ammodaucus leucotrichus* seeds have strong antioxidant and alpha amylase inhibition action confirming its enthopharmacological use.

Biography

Telli A is Assistant Master of Biochemistry in the University of Ghardaïa. She is responsible of Pedagogic Commission of Biochemistry. She is a member in the Franco-Algerian project of PHC TASSILI code 11DMU 822. She has more than 10 communications. She has published more than 8 papers in national and international journals.

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