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IN VITRO ANTIOXIDANT CAPACITY AND ANTIBACTERIAL ACTIVITY OF THREE *CENTAUREA* L. SPECIES (ASTERACEAE) FROM IRAN

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The genus *Centaurea* L. is a polymorphous genus belonging to tribe Cardueae Cass., a tribe of the Asteraceae family, and comprises 400-700 species of annual, biennial and perennial grassy plants, rarely dwarf shrubs predominantly distributed in Europe and Asia [1]. *Centaurea* species have been used for their antidandruff, antidiarrhoic, antirheumatic, anti-inflammatory, choleretic, diuretic, digestive, stomachic, astringent, antipyretic, cytotoxic and also antibacterial properties in folk medicine [2]. Plants contain a diverse group of phytochemicals such as phenolic compounds, flavonoids and the others, which have antioxidant properties and antibacterial activities [3]. These constituents are important for the maintenance of human health and protection from some pathological disturbances, such as heart diseases and cancer [4]. The aim of the present study is determination of antioxidant capacity and antibacterial activity of three *Centaurea* species (*C. iransharii*, *C. imperialis* and *C. glastifolia*). Total phenol and flavonoid contents, antioxidant properties of capitol and aerial parts of the species were studied by spectrophotometry. Total phenol content of the extracts varied from 35.92 - 73.00 mg GAE/g and total flavonoid content from 4.45-5.30 mg QE/g. In the present study, *C. iransharii* had greater antioxidant activity than those of C. imperialis and *C. glastifolia*. The antimicrobial activities of the extracts were tested by the disk diffusion method against six microbial species. Results showed that the extracts possess antibacterial activity against three of gram positive bacteria including *Staphylococcus aureus*, *Bacillus cereus* and *Bacillus thuringiensis*. Gentamicin, Penicillin, Nitrofurantoin and Neomycin were used as positive controls in this experiment.

References

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