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Bioactive properties of *Matricaria recutita* L. (chamomile) extract obtained by decoction

Cristina Caleja^{1,2}, Lillian Barros¹, Ana Ćirić³, Marina Šoković³, M. Beatriz P.P. Oliveira², Isabel C.F.R. Ferreira^{1,*}

¹Mountain Research Centre (CIMO), ESA, Polytechnic Institute of Bragança, Portugal.

²REQUIMTE/LAQV, Science Chemical Department, Faculty of Pharmacy, University of Porto, Portugal.

³University of Belgrade, Institute for Biological Research "Siniša Stanković", Belgrade, Serbia.
*iferreira@ipb.pt

Recently, there is an increasing interest in medicinal plants, which exhibit different benefits for human health [1]. *Matricaria recutita* L. (chamomile) is one of the most popular and frequently used medicinal plants due to its therapeutic effects [2]. Decoction of chamomile (one of the most consumed preparations of this herb) was submitted to an evaluation of bioactive properties (antioxidant and antimicrobial). The antioxidant activity was determined through the 2,2-diphenyl-1-picrylhydrazyl scavenging activity (DPPH), reducing power (RP), inhibition of β -carotene bleaching (CB) and inhibition of lipid peroxidation (thiobarbituric acid reactive substances- TBARS). The results were expressed as EC₅₀ values (sample concentration providing 50% of antioxidant activity or 0.5 of absorbance in the reducing power assay, $\mu\text{g/mL}$) and were as follows: DPPH=335 \pm 3 $\mu\text{g/mL}$; PR=238 \pm 38 $\mu\text{g/mL}$; CB=297 \pm 27 $\mu\text{g/mL}$; TBARS=72 \pm 2 $\mu\text{g/mL}$. The antimicrobial activity of chamomile was tested against a panel of eight bacteria and eight fungi selected based on their relevance to the public health. The minimum inhibitory (MIC), minimum bactericidal (MBC) and minimum fungicidal (MFC) concentrations were obtained for each bacteria and fungi, and further compared with the positive controls (streptomycin and ampicillin for bacteria, and bifonazole and ketoconazole for fungi). The most susceptible bacteria were *Staphylococcus aureus* (MIC=0.035 mg/mL), *Bacillus cereus* (MIC=0.10 mg/mL) and *Salmonella Typhimurium* (MIC=0.10 mg/mL), while *Penicillium funiculosum* (MIC=0.20 mg/mL), *Aspergillus versicolor* (MIC=0.40 mg/mL), and *Trichoderma viride* (MIC=0.40 mg/mL) were the most vulnerable fungi to the chamomile decoction. The group, already explored the high antioxidant and antimicrobial potential of the chamomile decoction, by using it as a natural preserver of cottage cheese.

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References:

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