TOXICOLOGICAL EVALUATION OF THE ESSENTIAL OILS OBTAINED FROM CHILEAN BOLDO SAMPLES BY THE *ARTEMIA SALINA* BIOASSAY

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Chilean boldo (*Peumus boldus* Molina) is the boldo species more consumed around the world. The digestive and hepatobiliary disorders represent the main targets of its action. Part of the pharmacological properties of this herb is associated with the chemical composition of its essential oil. On the other hand, some toxic compounds can also be found in this fraction (e.g.: ascaridole). The *Artemia salina* bioassay is an *in vivo* test often employed to evaluate the toxicity of foods and its constituents, since it is considered fast, very low cost, simple and sensitive. Additionally, when this micro crustacean is affected by the toxicity of some substance, a similar dose of this substance often affects the human being. Thus, the aim of this study was to evaluate the toxicity of the essential oils of Chilean boldo commercial samples that were sold packed on sachets (group 1: six samples) or plastic bags (group 2: four samples). This toxicological evaluation was carried out determining the lethal dose (LD₅₀) of these essential oils by the *Artemia salina* bioassay. The essential oils were extracted by hydrodistillation (2 hours). Six methanol solutions of each essential oil were produced (5, 10, 30, 60, 100 and 150 ppm) and tested against *Artemia salina*. The mean LD₅₀ of the total samples tested was calculated as (32.59 ± 19.00) ppm, with the minimum value being 16.75 ppm (sachet sample) and the maximum one being 82.96 ppm (plastic bag sample). All these LD₅₀ values were below 200 ppm, indicating the highly cytotoxicity potential of all these essential oils. It could encourage, for instance, future studies to verify and test the antitumor activity of these essential oils. The mean LD₅₀ value of the first group [(26.20 ± 5.59) ppm] (sachets) was not statistically different (p>0.05) from that established for the second group (42.18 ± 28.75) ppm (plastic bags).

Key-words: Chilean boldo, *Artemia salina*, toxicological evaluation