



***QUALITY EVALUATION OF COMMERCIAL PEUMUS BOLDUS SAMPLES:  
IMPLICATIONS FOR THE SAFETY AND EFFECTIVENESS OF HERBAL USE***

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*Peumus boldus* Molina is an endemic species of Chile, whose leaves are widely employed in traditional medicine due to their therapeutic properties<sup>1</sup>. However, the scarcity of studies validating the quality of this herbal drug restricts its safe prescription by healthcare professionals. The aim of this study was to assess the quality of boldo do chile herbal drug acquired from three commercial sources in the city of Juiz de Fora and one via e-commerce. Packaging was evaluated in accordance with the Collegiate Board Resolution (RDC) 26/2014, and none of the samples fully complied with the established requirements. Botanical and chemical authenticity, as well as purity and chemical stability analyses, were performed based on the *Peumus boldus* monograph of the Brazilian Pharmacopoeia. Botanical and chemical authenticity was confirmed for all samples. Purity assessment revealed levels of foreign matter exceeding the specified limits (ranging from 5.46% to 6.11%; limit  $\leq 2\%$ ), while moisture content varied between  $5.66\% \pm 0.24$  and  $14.83\% \pm 0.62$  (limit  $\leq 10\%$ ). The content of inorganic substances complied with the regulatory threshold ( $\leq 10\%$ ), ranging from  $8.31\% \pm 0.31$  to  $9.34\% \pm 0.08$ . Acid-insoluble ash ranged from  $4.55\% \pm 0.14$  to  $6.98\% \pm 0.28$ , exceeding the specified limit of  $\leq 6\%$  in some samples. Chemical integrity was verified through the determination of total alkaloid content (minimum required  $\geq 0.1\%$ ) by high-performance liquid chromatography (HPLC), as well as the quantification and composition of essential oil. Alkaloid levels ranged between 0.04% and 0.08%, while essential oil content varied from 0.55% to 0.83%. Overall, although all samples were authenticated, they exhibited inadequate packaging and failed to comply with the required quality standards regarding purity and chemical integrity.

1. Lazarotto MS, Pagno A, Schneider TM, Copetti T. Benefícios e problemas relacionados ao uso de *Peumus boldus* (Boldo-do-Chile) como alternativa terapêutica. *Revista Interdisciplinar em Ciências da Saúde e Biológicas*. 2021;5(1).

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