

**TITLE:** PHENOLIC QUANTIFICATION AND BIOLOGICAL ACTIONS OF THE ETHANOLIC EXTRACT OF *Baccharis gaudichaudiana* DC.

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**ABSTRACT:**

Different species of *Baccharis* are popularly known as carqueja, for being an exclusive genus of the Americas. Brazil can be the center of origin of the genus *Baccharis*, which is among the ten medicinal plants most used by the Brazilian population. Widely used in popular medicine as a protector and stimulant of the liver, for the control of obesity, diabetes, hepatitis, gastroenteritis, digestive, diuretic, depurative, tonic, antianemic and antirheumatic. The objective of this study was to quantify the phenol content, as well as to determine the antioxidant, antiacetylcholinesterase and antifungal (dermatophytes and yeasts) action of the ethanolic extract of the aerial parts of *B. gaudichaudiana*. The UV-VIS spectrophotometer was used for the quantification of phenolic compounds. In the total flavonoid content, quercetin was used to obtain the standard curve. In the determination of the antioxidant activity (DPPH) concentrations of the extract and the DPPH radical diluted in methanol were prepared. The absorbance values were expressed in sweep index and standard deviation to obtain the EC<sub>50</sub>, through linear regression. The inhibitory activity of the enzyme acetylcholinesterase (AChE) was measured using the reader Elisa BIOTEK, model ELX 800, software "Gen5 V2.04.11". The minimum inhibitory concentration (MIC) and minimum fungicidal concentration (CFM) of the extract in relation to the tested microorganisms were determined by the broth microdilution method recommended by the Clinical Laboratory Standards Institute. As a control, ketoconazole and amphotericin B were used. Chemical analysis revealed the presence of phenols (15gEAG / 100g) and flavonoids (0.0090668 mgEQ / 100g) in the extract. There was no inhibition for *C. albicans* and *C. krusei*. However, the extract presented good activity for *Trichophyton rubrum* (6753) with 2.5 mg / ml (MIC) and 5.0 mg / ml (CFM). It showed an antioxidant property ( $19.6522 \pm 0.43 \mu\text{g} / \text{mL}$ ) compared to the rutin standard ( $13.78 \pm 0.25 \mu\text{g} / \text{mL}$ ). In addition, moderate action on anti AChE activity ( $34.65 \pm 0.009 \mu\text{g} / \text{mL}$ ) was demonstrated. The biological activities found may be correlated with the presence of phenolic compounds. It is concluded that the ethanolic extract of the aerial parts of *B. gaudichaudiana* is a potential source of bioactive compounds, corroborating with the possible pharmacological and phytotherapeutic potential of the species.

**Keywords:** antioxidant, antiacetylcholinesterase, antifungal, carqueja

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