

TITLE: EVALUATION OF THE ANTIMICROBIAL POTENTIAL OF EXTRACTS MADE FROM THE AERIAL PARTS OF *Justicia pectoralis*, "CHAMBÁ" (ACANTHACEAE)

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ABSTRACT:

Justicia pectoralis (Acanthaceae), popularly known as "chambá", is an herb commonly found in the northeastern States of Brazil. It's aerial parts are normally used as infusions or syrup for treating respiratory diseases, such as asthma, cough and bronchitis. It's medicinal use is mainly related to the presence of coumarins and flavonoids in it's constitution. Anti-inflammatory and antinociceptive properties are attributed to *J. pectoralis*, however, it's antimicrobial activity remain unclear. Thus, the objective of this study was to evaluate the antimicrobial potential of *J. pectoralis* extracts against bacterial isolates related to nosocomial infections. The botanical material (leaves) of *J. pectoralis* was collected in the medicinal garden of the Agricultural Sciences Center of the Federal University of Alagoas, and duly identified. Four extracts (chloroform, ethyl acetate, chloroform:methanol and methanol) from the aerial parts of *J. pectoralis* were prepared in order to determine its antimicrobial activity against four microorganisms: *Staphylococcus aureus* (ATCC 25923), *Staphylococcus epidermidis* (ATCC 31488), *Escherichia coli* (ATCC 25922) and *Pseudomonas aeruginosa* (ATCC 27853). Minimum inhibitory concentrations (MIC) were determined by broth microdilution testing according to the Clinical and Laboratory Standards Institute (CLSI). All extracts were found to be active against the bacterial isolates tested. Chloroform and methanolic fractions showed better activities, with MICs of 516 µg/ml, 1024 µg/ml, <128 µg/ml, 2048 µg/ml and <128 µg/ml, <128 µg/ml, <128 µg/ml, 516 µg/mL for *S. aureus*, *S. epidermidis*, *E. coli* and *P. aeruginosa*, respectively. Therefore, this study evidences the bacteriostatic effect of *J. pectoralis* extracts indicating that it has potential to play a role as an antimicrobial agent.

Keywords: *Justicia pectoralis*, antimicrobial activity, medicinal plants, bacteria