

TITLE: EVALUATION OF THE ANTIBACTERIAL ACTIVITY OF *Schinus terebinthifolia* AGAINST THE BACTERIA OF CLINICAL IMPORTANCE

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ABSTRACT:

In early 2017, to promote the research and development of new medicines, the World Health Organization (WHO) published a list of Antibiotic-resistant "primary pathogens", that shows the growing global resistance to existing antimicrobials. This study aimed to see the activity of extracts obtained from leaf and fruit of the species *Schinus terebinthifolia* Raddi ("aroeira vermelha") to control *Klebsiella pneumonia* producer of carbapenemase (KPC), *Staphylococcus aureus* resistant to oxacilin (ORSA), Vancomycin Resistant *Enterococcus* (VRE). In this work, which two of the bacteria cited on the list published by WHO is studied, it is intended to contribute, proving the antimicrobial efficacy of *S. terebinthifolia*, so that can be used as an alternative form of antibiotic. The bioactive inputs of *S.terebinthifolia* were obtained from INCAPER- Jucuruaba, Viana, ES. The bacteria were from Hospital Meridional, Cariacica, ES. The study of antimicrobial activity was realized in microbiology laboratory of EMESCAM. The essential oils were obtained by hydrodistillation from aroeira fruits using the Clevenger apparatus following the methodology described in the Brazilian Pharmacopoeia and the samples of mother tincture (TM) was extracted from the leaves, fruits or bark of the stem of the species *S. terebinthifolia* following the determinations of the maceration technique described in the Brazilian Homeopathic Pharmacopoeia. The determination of the chemical constituents of the volatile fraction of fruits and leaves of *S. terebinthifolia* was performed using the HE-GC-MS technique at the LabPetro Chemistry Laboratory of the Exact Sciences Center of the Federal University of Espírito Santo. The evaluation of antibacterial activity was realized by the methods: Agar diffusion technique and broth microdilution test. The preliminary results showed that the essential oils presented better antimicrobial activity against Gram positive bacteria. And the same antimicrobial potential against antimicrobial sensitive *S. aureus* and ORSA. Some *Schinus* samples showed higher antibacterial activity. The mother tincture presented antibacterial activity against Gram positive and Gram negative bacteria sensitive and antimicrobial resistant.

Keywords: Plant extracts, Enterobacteriaceae Resistant to Carbapenems, Methicillin Resistant *Staphylococcus aureus*, Phytotherapeutic Medications.

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