TITLE: ANTIMICROBIAL ACTIVITY INDRY CRUDE HYDROALCOOLIC EXTRACT OF MATURE *Psidium guajava* L. LEAVES

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ABSTRACT:
Psidium guajava L. (guava tree) is popularly used to treat many diseases. Tea made from young leaves (shoots) are commonly used to treat symptoms of gastrointestinal infections. However, shoots are sparsely found in trees, and study of adult leaves is important for proof that the active principle is present in enough amounts to keep the same antimicrobial activity found in shoots. The purpose of this study is to evaluate the antimicrobial and modulator activity of Dry Crude Hydroalcoolic Extract (DCHE) obtained from mature leaves of *Psidium guajava* L. The material was obtained from José de Abreu Matos Garden of Medicinal Plants and used to obtain the DCHE 10%. Phytochemical tests demonstrated the presence of flavonoids, tannins pyrogallics, saponins and triterpenoids. Antimicrobial potential was determined by the agar diffusion method, and Minimum Inhibitory Concentration (MIC) by the broth microdilution method, on the microbial reference strains: *Staphylococcus aureus* ATCC 6538P, *Escherichia coli* ATCC 10536, *Pseudomonas aeruginosa* ATCC 9027, *Salmonella choleraesuis* ATCC 10708 and *Candida albicans* ATCC 10231. Modular activity of the extract in antibiotics for clinical use (Gentamycin 30µg, Cefoxitin 30µg, Ciprofloxacin 5µg and Ampicillin 10µg) was tested by a modified diffusion disk method. *P. aeruginosa*, *S. choleraesuis* and *S. aureus*, demonstrated greater sensibility to DCHE. On the agar diffusion test, *S. choleraesuis* demonstrated greater sensibility, followed by *P. aeruginosa*, *S. aureus* and *E. coli*. However, DCHE, on the tested concentrations, did not inhibit *C. albicans.* The lowest concentration in which inhibition halo formed was 25 mg/mL of the extract, inhibiting growth from *S. choleraesuis* and and *P. aeruginosa* strains. The lowest DCHE MIC found was 5 mg/mL for *P. aeruginosa* and *S. choleraesuis.* DCHE had synergistic effects, only when associated with ampicillin, on *P. aeruginosa* and *S. choleraesuis* strains. With other antibiotics, there was an indifferent effect of 77.8%, and 22.20% of antagonistic effect on the tested strains. As such, mature *P. guajava* L. leaves possess substances with antimicrobial activity, able to positively modulate ampicillin activity on *P. aeruginosa* and *S. choleraesuis,* being an alternative to shoots, when complementing treatment of infections by these microorganisms.

Keywords: *Psidium*, antimicrobial action, medicinal plants.

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