

TITLE: MICROBIOLOGICAL EVALUATION OF DRY CRUDE LEAF EXTRACT OF *Cnidoscolus quercifolius* Pohl (FAVELA)

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ABSTRACT:

Antimicrobial resistance is a growing challenge for science and amongst the new therapeutic alternatives of the Microbiological field there are the medicinal plants. Specific scientific interest for *Cnidoscolus quercifolius* (favela) has been rising. Taking this into account it was aimed to microbiologically evaluate the dry crude extract (DCE) of favela leaves in relation to the Minimum Inhibitory Concentration of Adherence (MICA) and Minimum Inhibitory Concentration (MIC). The microbiologic technique executed concerned the preparation of saline suspensions of the following pathogens: *Escherichia coli*, *Staphylococcus aureus*, *Candida albicans*, *Klebsiella*, *Pseudomonas aeruginosa*, *Streptococcus agalactiae*, *Salmonella* and *Bacillus cereus*. The separate suspensions were used to inoculate the entire surface of sterile Müller-Hinton agar plates. In order to determine the MIC 4 wells of 6 mm diameter were carved in each plate and were filled with 50 µL of the plant extract in different percent concentrations. The dilutions were made in relation to the initial sample in percentages of 50%, 25%, 12,5% and 6,25%. The entire procedure was made in duplicate. The plates were incubated at 37°C for 18 hours. The same techniques used for the preparation of plates, wells, and dilutions were made for the standard antibiotic Amoxicillin, used as the test control. Likewise, for the determination of the MICA the bacterial colonies were suspended in saline solution. Afterwards 1 µL of the suspension was transferred to a sterile tube containing Müller-Hinton broth and 0,5 mL of plant extract. This procedure was repeated for each individual bacteria and concentration of extract and in addition to it the tubes were properly identified. Finally, the tubes were laid inclined at a 30° angle in the laboratory stove at 37°C for 18 hours for further analysis through the addition of fuchsine. For the MIC test the DCE studied showed no considerable inhibition halo against For the MICA test the DCE did not show inhibitory activity in any of the tested concentrations, therefore there was a formation of biofilms in all tubes that were visualized through the addition of fuchsine. After the obtained results it is concluded that the leaves of *Cnidoscolus quercifolius* are not viable for microbiological studies in relation to the bacteria tested due to the fact that considerable results for the production of antimicrobial drugs were not observed.

Keywords: Antimicrobial activity, *Cnidoscolus quercifolius*, Microbiology

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