

DETERMINATION OF MINIMUM INHIBITORY CONCENTRATION AND EFFECT OF BACTERICIDAL *Lippia gracilis* SCHAUER ESSENTIAL OIL against *Helicobacter pylori*

¹ANDRADE, V.S.; ¹DANTAS, L.I.S.; ¹ARAÚJO, G.M.; ¹RIBEIRO, N.M.; ²ALBUQUERQUE, C.C.; ²OLIVEIRA, F.F.M.

¹Immunological, Antimicrobial and Cytotoxicity Assays Laboratory Department of Microbiology and Parasitology - Federal University of Rio Grande do Norte – Natal – Rio Grande do Norte – Brazil – Zip code: 59.078-970 - Post code: 1524.

² Plant Tissue Culture Laboratory- Department of Biological Sciences – State University of Rio Grande do Norte – Mossoró – Rio Grande do Norte – Brazil - Zip code: 59160-090 - Post Code: 070.

The various mechanisms of bacterial mutagenicity come causing bacterial resistance to standard procedures antibiotics for the treatment of various infections, including treatment of *Helicobacter pylori* infection. A Gram-negative bacterium that colonizes the gastrointestinal tract often, may lead to the development of chronic gastritis, peptic ulcers and gastric cancer. In the last decade, research has advanced the aim of elucidating the activity of bioactive compounds from Brazilian biodiversity, including *Lippia gracilis* SCHAUER, medicinal species of the Northeast, with the phytocomplex of their essential oil compounds with antibacterial and anti-inflammatory, scientifically proven. Considering this information, this study aimed to elucidate the minimum inhibitory concentration (MIC) of essential oil of *L. gracilis* SCHAUER able to stop the growth of *H. pylori*. The MIC determination, came from a standardized inoculum, adjusted in the range of 2 McFarland. The assay was performed in 96-well microplates that form the previously selected wells were added 200µL double Mueller Hinton broth, supplemented with 20% fetal bovine serum. The *Lippia gracilis* essential oil of concentrations tested were 100 µL, 80µL, 60µL, 40µL, 20µL, 10µL, 5µL, 2,5µL, 2,0µL, 1,5µL, 1,0µL, 0,5µL, 0,4µL, 0, 3µL, 0,2µL, 0,1µL. The results were expressed by microplate reader coupled to UV detector at 560nm. After reading the sample from each well was plated on blood agar. In the first step, tests were conducted using concentrations higher than 100 µL, and this concentration there was growth inhibition, lower concentrations were evaluated. As a result, the lowest concentration tested (0.1µL) of *Lippia gracilis* essential oil was able to inhibit the growth, also exhibiting bactericidal effect on *Helicobacter pylori*. It is believed that the development of pharmaceutical formulations capable of conveying said oil, resulting in the possibility of an alternative to combat gastric mucosal infection caused by *H. pylori*.

Keywords: Minimum inhibitory concentration, *Lippia gracilis*, *Helicobacter pylori*, gastric infections.

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