

Antibacterial activity of *Euterpe oleracea* Mart. seeds against clinical isolates

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Abstract

Introduction: The use of antibiotics – including the over- and misuse – in human and veterinary practices selected for resistant pathogens led to their emergence and dissemination along with the transmission of resistant bacteria [1]. Due to this problem, there is a need to investigate new strategies to reverse this tendency in order to achieve the appropriate and effective treatment against infections.

Aims: The present work aimed to evaluate the antibacterial activity of an aqueous extract prepared from *Euterpe Oleracea* Mart. (açai) seeds (originated from Brazil [2]), against clinical isolates from “Centro Hospitalar de Trás-os-Montes e Alto Douro- Unidade de Vila Real”, with high resistance profiles to different antibiotics.

Material and Methods: The minimal inhibitory concentrations (MIC) of the growth of Gram-positive and Gram-negative bacteria were determined by the colorimetric assay based on the use of *p*-iodonitrotetrazolium chloride (INT) dye, after application of the microdilution method.

Results and discussion: The açai aqueous extract showed antimicrobial activity against all the tested Gram-positive bacteria. The lowest MICs (0.25 mg/ml) were obtained against Methicillin Susceptible *Staphylococcus aureus* (MSSA) and Methicillin

Resistant *S. aureus* (MRSA), followed by the MIC 0.5 mg/ml correspondent to *Streptococcus agalactiae* and *Enterococcus faecalis*.

Regarding the inhibition of the growth of Gram-negative bacteria, the extract was active against *Morganella morganii*, *Pseudomonas aeruginosa* and *Acinetobacter baumannii* with MICs 1 mg/ml e 2 mg/ml, respectively. The results were better for Gram-positive bacteria in comparison with Gram-negative bacteria.

Conclusion: However, even at low concentration (2 mg/ml) the results are very promising for Gram-negative bacteria with high resistance profiles and commonly related with health care-associated infections, namely *Pseudomonas aeruginosa* and *Acinetobacter baumannii*.

Key-words: Clinical isolates; multiresistance; açai seeds; antibacterial activity

References

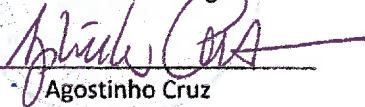
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CERTIFICADO DE PARTICIPAÇÃO

A Escola Superior de Tecnologia da Saúde do Porto (ESTSP) – IPP certifica que Maria Alves apresentou a Comunicação Oral, inserida na Sessão de Comunicações Orais - Tema Livre, intitulada "Antibacterial activity of Euterpe oleracea Mart. seeds against clinical isolates " da autoria de Maria Alves e (CO-AUTORES) Helena Pimentel, Isabel Ferreira, Wiliam Regis, Lilia Baia, Rafaela Soares e Claudia Santos no II Congresso Internacional de Saúde Gaia-Porto - "Do Diagnóstico à Intervenção" que decorreu no ISEP (Instituto Superior de Engenharia do Porto) no Porto, nos dias 19, 20 e 21 de novembro de 2015.

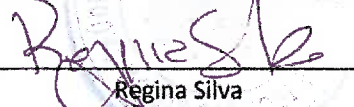
Porto, 21 de novembro de 2015

O Presidente do Congresso



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