NEUROPROTECTIVE EFFECT OF AÇAÍ EXTRACT AGAINST CORTICOSTERONE EXPOSURE IN NEURON-LIKE CELLS

Isabela Carlosso[1]; Tuyla Fontana[1]; Giovana Bonazza[1]; Carolina Bordin Davidson[1]; Guilherme Vargas Bochi[2]; Alencar Kolinski Machado[1]

[1]Franciscan University, Santa Maria, Rio Grande do Sul, Brazil
[2]Federal University of Santa Maria, Santa Maria, Rio Grande do Sul, Brazil

INTRODUCTION: Neuropsychiatric disorders are characterized by highly complex pathophysiology, reflecting the multifactorial interaction between neurobiological, chemical, and functional alterations in the nervous system. One of the prevailing hypotheses in the development of major depressive disorder (DM) involves psychosocial stress and elevated cortisol levels. Despite the availability of several commercial antidepressants, it remains a need for the development of novel therapeutic alternatives against DM. Natural health products (NHP) are highlighted in this exploratory field, with açaí extract emerging as a noteworthy example. **OBJECTIVE**: To evaluate the neuroprotective effect of açaí extract in neuron-like cells exposed to corticosterone. **MATERIALS AND METHODS**: SH-SY5Y cells were exposed to corticosterone (50 μM) and treated with different concentrations of açaí extract (0.001–250 μg/mL) or fluoxetine (internal control - 1 μM) for 24 hours. Subsequently, the cells were evaluated for viability and proliferation, nitric oxide (NO) production, reactive oxygen species (ROS) levels, and extracellular dsDNA release. **RESULTS**: SH-SY5Y cells exposed to corticosterone showed a significant reduction in cell viability and an increase in NO production and extracellular dsDNA release compared to the negative control. Açaí extract reversed the impairments induced by corticosterone, increasing cell viability (0.001–250 μg/mL) and reducing NO production (0.001–250 μg/mL), ROS levels (0.001–250 μg/mL), and dsDNA release (0.001–250 μg/mL) ($p<0.05$), compared to the corticosterone control. Cells treated with fluoxetine showed increased viability and reductions in ROS, NO, and dsDNA release as well. **CONCLUSION**: The results suggest that açaí exhibits *in vitro* neuroprotective potential against corticosterone exposure. Further studies are needed to validate its effects in more complex models.

KEYWORDS: Natural health products; Neurotoxicity; Major depression.

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