EFFECT ANTIOXIDANT OF *EUTERPE OLERACEA* MART. (AÇAÍ) EXTRACTS ON CELL VIABILITY AND CELL CYCLE PROGRESSION IN HUMAN CANCER CELL LINES


The breast cancer is a complex disease caused by the progressive accumulation of genetic mutations and others factors. This disease presents a high mortality and strategies to prevent have been studied all over the world. Açaí has antioxidant properties and ability to protect vital cellular components from oxidative stress. The aim of study was to evaluate the influence of antioxidant activity of açaí seed extract (ESA) on proliferation and cell cycle in human breast adenocarcinoma cell lines (MCF-7 and MDA-MB-231). The antioxidant potential of ESA was evaluated by DPPH radical scavenging assay. Cells were treated with different concentrations of ESA (0.3-400 µM), for periods of 24 and 48 hours. For analysis of cell proliferation, we used the MTT method. The analysis by flow cytometry was used to evaluate the distribution of the phases of the cell cycle. ESA were exhibit antioxidant activity around 90% with an IC50 value of 13.08 mg/ml in DPPH radical scavenging method. ESA showed a potent inhibitory effect after 48 hours of treatment. In MCF-7 cells the average percentage inhibition was 52%, whereas in the MDA cells effect had an average reduction of 74%. Results showed that ESA promotes changes in cell cycle with increase in GO/G1 phase, followed by a decrease in G2/M phase, added an increase in the percentage of apoptosis cells (30%). In this context, the chemoprevention of seed extract of açaí through the action emerges as an important tool in preventing and controlling breast cancer.