

## THE EFFECT OF NATURAL PRODUCTS EXTRACT IN THE TREATMENT AND MANAGEMENT OF OVARIAN CANCER

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**Abstract:** Ovarian cancer (OC) is currently ranked as the fifth most common forms of cancers, and the first leading cause of death among all gynecological malignancies in women. Poor screening, lack of specific symptoms, and the location of the ovaries deep inside the pelvic region on the female reproductive system is associated to the diagnosis of the cancer in advance stage and the low survival rate. Therefore, there is a crucial need to target ovarian cancer treatment at the early stage with minimal side effect on the patient. Nowadays, natural products extract with lesser or no side effect is currently considered as an alternative cancer treatment. It possesses several bioactive compounds essential to destroy cancer cells. The goal of this research was to evaluate the therapeutic mechanisms of a selected herbal medicine extract towards the treatment of ovarian cancer. To achieve this goal, cell viability, oxidative stress, genotoxicity, and apoptosis were determined using the MTS, lipid peroxidation, catalase, glutathione peroxidase and comet assays, cell cycle analysis and apoptosis, respectively. Our data indicated that herbal medicine inhibits the cell proliferation of the OVCAR-3 cells in dose-dependent fashion. There was slight increase in the antioxidant enzymes activities of catalase and glutathione in treated sample compared to untreated sample. We observed an increased in DNA damage demonstrated by an increased in comet tail with increasing doses in treatment. With the flow cytometry assessment, we observed that herbal medicine induced cell cycle arrest and triggered apoptosis of OVCAR-3 cells. This result suggests that herbal medicine may be a good anti-cancer candidate for the treatment of ovarian cancer.

**Keys Words:** Natural product, OVCAR-3 cells, ovarian cancer, apoptosis

**Acknowledgments:** This research work was supported by a grant from the National Institutes of Health (Grant No. NIMHD-G12MD007581) through the RCMH-Center for Environmental Health at Jackson State University.