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Varthemia iphionoides: Medicinal plant with an anti-inflammatory property against prostate cancer *in vitro*

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Statement of the Problem: *Varthemia iphionoides* is a therapeutic plant from Jordan that has various health benefit activities including antibacterial, antioxidant and anticancer properties. However, its anti-inflammatory properties have not been widely investigated. Inflammation has key role for the development of many chronic diseases, notably cancer. In Jordan, prostate cancer cases are increasing. Therefore, finding a medicinal plant easily available in nature with an anti-inflammatory property considered important for the development of low-cost plant-based medicine that is beneficial for cancers including prostate cancer. The purpose of this study is to explore the anti-inflammatory property of *V. iphionoides* in *in vitro* cell models of human non-cancerous fibroblast MRC-5 and prostate cancerous PC3 cells.



Figure 1: *Varthemia iphionoides*

Methodology: the anti-inflammatory effect was measured by the levels of interleukin-6 in MRC-5 and PC3 cells challenged with a pro-inflammatory stimulus, bacterial lipopolysaccharide.

Findings: there was a significant reduction in lipopolysaccharide-induced interleukin-6 secretion in response to *V. iphionoides* (125 µg/mL) in both MRC-5 and PC3 cells. However, the aqueous extract of the plant showed a stronger anti-inflammatory effect in MRC-5 cells, while the methanolic extract was more effective in PC3 cells. The reduction of interleukin-6 production in response to *V. iphionoides* was not due to its cytotoxicity, and further studies are required to clarify the mechanisms of the action by which this medicinal plant modifies inflammatory responses.

Conclusion: aqueous and methanolic extracts of *V. iphionoides* showed a potential protective property against pro-inflammatory stimuli in human fibroblasts and prostate cancer cells, and it is important to identify the extracts' phytochemical compounds responsible for this property.

Biography

Alaa Abdulmuttalib Albakheit is Assistant Professor in Nutrition at the Department of Nutrition and Food Processing at Al-Balqa Applied University in Jordan. She received her Bachelor's and Master degrees in Nutrition and Food Technology from University of Jordan in 2005 and 2007, respectively. She completed her PhD in Nutrition in 2014 from the University of East Anglia in UK. Her research interests focus on cancer and nutrients effects on human health. She is member of the Agricultural Engineers Association and hold a professional certificate in Nutrition from the Ministry of Health in Jordan.

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