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Abstract

The efficacy of chemo-preventive attributes of african nightshade leafy vegetable on cancer using mice model

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Abstract:

Human cancers are on the steady increase in the world yet, two-thirds of cancers are due to preventable causes. Diet is one major aspect that can be modified to lower the risk of cancer. The objective of this study was first, to assess the antioxidant potential of African nightshade vegetables and formulations in mice feed. Second, to evaluate the effect of consumption of vegetables on the expression of a tumor marker (urokinase plasminogen activator protein) in mice. The antioxidant activity of African nightshade leafy vegetable, when cooked and raw was determined using Trolox standard. Using an experimental design, mice were divided into three groups. Group one was fed on a control diet. Group two was fed on a diet formulation containing cooked vegetables. Group three was fed on a diet formulation containing raw vegetables. Then the expression of urokinase plasminogen activator protein was determined by a quantitative polymerase chain reaction. The study was conducted at a 95% confidence interval. The results indicated that the antioxidant activity of African nightshade leafy vegetable increased with steam cooking. The statistical significance was established between cooked and raw vegetables. The expression of urokinase plasminogen activator protein is reduced to 3% in mice fed with cooked vegetable formulation compared to the mice fed with control diet formulation. Expression of uPA is reduced to 61% in mice fed with raw vegetable formulation compared to the mice fed

with the control diet formulation. The study concludes that steam cooking was effective in increasing the antioxidant activity of African nightshade leafy vegetables. The tumor marker urokinase plasminogen activator protein expression was shown to decrease with consumption of African nightshade vegetable.

Publication of speakers:

1. Cancer Chemoprevention through Consumption of African Leafy Vegetables: A review, Caroline Wakuthie Muthike, Jasper K. Imungi
2. Cancer Screening and Consumption of Leafy Vegetables Among a Peri Urban Community of Nairobi Metropolis, Caroline Wakuthie Muthike, Jasper K. Imungi, Edward Kirwa Muge
3. Knowledge on Benefits of Consumption and Cooking Time of Leafy Vegetables in a Peri urban Communities, Caroline Wakuthie Muthike, Jasper K. Imungi,

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