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# EFFECT OF DIETARY SWEET BASIL AND FENNEL ON UTILIZATION OF SOME MINERALS IN ADULT RATS

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**AS**

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**Effect of Dietary Sweet Basil and Fennel on Utilization of Some Minerals in Adult Rats.**

**By: Dalia Atef Abd ElHalim Zidan**

# Abstract

The present study aimed to investigate the effect of feeding on sweet basil leaves (BL) and fennel seeds (FS) as famous herbs on some minerals utilization such as calcium (Ca) and iron (Fe). The study was conducted on healthy adult albino male rats weighing 120±5gm divided into eleven groups as follows: Basal diet, Basal diet + BL (0.5%), Basal diet + FS (0.5%), Ca deficient diet, Ca def + BL (0.5%), Ca def + FS (0.5%), Ca def + BL[(0.25%) +FS(0.25%)], Fe def diet, Fe def + BL (0.5%), Fe def + FS (0.5%), Fe def + BL [(0.25%) +FS (0.25%)].

Body weight and food intake were recorded 2 days a week, feces were collected at the middle and at the end of the experiment. Rats were sacrificed, blood samples were collected, organs were removed and tissues were prepared for histopathological studies. All data were statistically analyzed. Results showed that feeding BL as well as FS led to increase BWG, FI, Ca conc. in tibia, Hb, hematocrit, albumin and creatinine, while it decreased Ca, Fe in feces and both AST and ALT activities as well as urea in all deficient Ca and Fe groups.

Addition of FS led to significant increases in Ca conc. in serum, heart and tibia as well as Ca/P ratio in Ca def groups. While feeding on basil leaves revealed a significant increase in FER and phosphorus conc. in serum. Mixing of basil and fennel led to increase FI, FER, and iron conc. in heart. Addition of herbs didn't affect relative organs weights. Tissues of liver showed normal structure

in rats fed on Ca def + BL, Ca def + FS and Fe def + FS diets while no histopathological changes were noticed in kidney of rats fed Fe def + FS diet.

It is concluded that both herbs under study have beneficial effect on minerals utilization and liver especially fennel seeds but the ingestion must be under precaution. Further researches with different doses are recommended.

**Key words:** Minerals deficiencies – Minerals utilization – Bioavailability – Basil leaves – Fennel seeds – Hemoglobin – Albumin – Liver & Kidney functions – Histopathology.

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