ABSTRACT

THE EFFECT OF ENERGY DRINK ON RENAL FUNCTION IN DIABETES MELLITUS RAT (*Rattus norvegicus*)

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Energy drink is food supplement containing multivitamin, macronutrient (carbohydrate and protein), taurine with or without caffeine. Energy drink provide an extra boost in energy and maintain health. Excessive consumption of energy drink is considered as risk factor of chronic kidney disease. This research aimed to examine effect of energy drink on kidney function in diabetes mellitus rat (*Rattus norvegicus*). Diabetes mellitus also known as risk factor of chronic kidney disease is called diabetic nephropathy. This study used 32 male wistar rats at 6-8 weeks old and 120-200 grams of bodyweight, fed with standard feed and water *ad libitum*. The animals were injected intraperitoneally with 150 mg/kg BW alloxan. Blood glucose was checked 3 days after alloxan injection, DM was categorized if the blood glucose over 200 mg/dl. The animals were divided into four groups. Group K as a control group was injected orally with water, group ED1, ED2 and ED3 was injected orally each group with 2,572 mg/kg bodyweight of EDK, EDH and EDE energy drink. Treatment was given twice a day for 15 days. The result, there were no significant differences in body weight, urine creatinine concentration, and chloride concentration with admnistration of energy drink in comparison to the control. Energy drink has significant effects on BUN, serum creatinine, sodium, potassium concentration and kidney histopathology examination. These finding of the present study indicated that effect of energy drink on renal function in diabetes melitus rat (*Rattus norvegicus*) was significant.

Keyword: energy drink, diabetes mellitus, renal function, chronic kidney disease