35. The effect of purple tea extract activity on selected metabolic syndrome parameters in mice

Mwangi, Erastus S1 and Wandili, S. Awuor1
1Meru University of Science and Technology
Corresponding author email: mwangiesk@gmail.com

Subtheme: Mining, Sanitation, Engineering, Biological and Physical Sciences

Abstract

Metabolic syndrome (MetS) is a cluster of metabolic abnormalities. Prevalence of MetS is documented at 50% and 87.5% in Africa and Kenya respectively. It is managed by combining lifestyle modification and pharmacotherapy. Although *Camellia sinensis* TRFK306 has been proven to induce weight loss in mice and humans, its effect on metabolic syndrome is yet to be investigated. This study aimed to investigate the effect of *Camellia sinensis* TRFK306 extract on MetS induced Sprague Dawley male rats. A total of thirty-five, six-weeks-old rats were acclimatized for one (1) week and randomized into 5 groups (n=7). Metabolic syndrome was induced using high-fat fructose diet for eight (8) weeks. Post-hoc statistical analysis using Tukey’s multiple comparison test was used to analyze the effect of freeze-dried extracts of *Camellia Sinensis* TRFK306 on various markers of metabolic syndrome. Random blood sugar levels revealed significant differences (p = <0.0001), for experimental animals. Oral glucose tolerance results were significant (p = <0.0001). Total serum triglyceride levels was significant (p = <0.0001). Mean serum HDL-C levels revealed significant differences between the normal control and negative control (p = 0.0009), the negative control and low dose test (p = 0.0023), the negative control and high dose test (p = 0.0025) and the negative control and positive control (p = 0.0014). The mean serum LDL-C levels revealed significant difference (p= <0.0001). *Camellia Sinensis* TRFK306 possessed significant beneficial effects on various markers of metabolic syndrome.

Keywords: *Camellia Sinensis*, TRFK306, Metabolic syndrome, blood sugar levels, Total serum triglyceride