

***In vivo* antioxidant activity of lycopene supplemented watermelon juice**

Ambreen Naz, MasoodSadiq Butt and Imran Pasha

University of Agriculture, Pakistan

Contemporary dietary patterns have strengthened the notion of functional/nutraceutical foods to ameliorate various lifestyle related disorders. In developing economies like Pakistan, use of phytonutrients based designer foods is a pragmatic approach to support nutrition and ultimately health. In this relation, watermelon (*Citrulluslanatus*) is considered as one of the promising source of nutraceuticals especially lycopene. The current study was tailored to assess the therapeutic worth of watermelon lycopene to cope with antioxidant imbalance in terms of glutathione and thiobarbituric reactive species (TBARS) in hypercholesterolemic and hyperglycemic states of body. Lycopene based functional/nutraceutical drinks T1 (whole watermelon juice), T2 (watermelon strawberry blend+lycopene), T3 (lycopene supplemented watermelon juice) & T0 (control) was given to experimental rats throughout the eight week study period. The efficacy assessment was conducted in Sprague Dawley rats as study I (normal rats), study II (hypercholesterolemic rats) and study III (hyperglycemic rats). The lycopene supplemented drinks caused an inclining drift in serum glutathione concentration whilst a decrease was noticed for TBARS level. The functional/nutraceutical drink (T3) presented a rise in glutathione concentration throughout the experiment; study I showed 6.51% whereas 18.90 and 17.01% boost was noticed in study II and III, respectively. Lycopene based functional drink (T3) resulted a decrease in TBARS; study I, II and III presented 5.48, 16.14 and 10.12% reduction. Furthermore, safety assessment including kidney functioning, liver soundness and blood hematological values were within acceptable limits thus depicted lycopene as one of the safe options to elevate dietary antioxidant status.

Biography

Ambreen Naz is a Ph.D. fellow at National Institute of Food Science and Technology, University of Agriculture, Faisalabad, Pakistan. Her specialty is Food and Nutrition with special reference to lifestyle related disorders. She has recently submitted her doctoral thesis under the supervision of MasoodSaddiq Butt. She successfully accomplished her research with the collaboration of Higher Education Commission (HEC), Pakistan and Pak-US joint project in Functional and Nutraceutical Research Section. She also got anti-cancer training from University of Massachusetts (UMASS), Amherst, MA, USA.