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**Does polyphenol-rich marigold tea affect obesity and oxidative stress in rats fed a high-fat-sugar diet?****Neelam Iftikhar and Abdullah Ijaz Hussain***Government College University Faisalabad, Pakistan*

The present research work aims to appraise and validate the potential of polyphenol rich marigold petal tea on the oxidative stress, obesity and related biochemical parameters in high-fat-diet-induced obesity rat model. marigold petal tea (MPT) was prepared using traditional method in warm water and the yields were calculated. The RP-HPLC analysis was performed for simultaneous determination of phenolic acids and flavonoids from selected herbal teas. Total phenolic contents, total flavonoid contents and DPPH radical scavenging activity of extracts were evaluated. The anti-obesity potential of two levels (250 and 500 mg/kg BW) of MPT was evaluated in vivo using high-fat diet-induced obese rat's model. Body weight, BMI, kidney and liver indexes, BT, AST, ALT, Ap and SC of rats of all groups were measured. RP-HPLC revealed the presence of gallic acid, 4-hydroxy benzoic acid, chlorogenic acid, caffeic acid, syringic acid, vanillic acid, p-coumaric acid, salicylic acid, sinapic acid and ferulic acid, ellagic acid, cinamic acid, benzoic acid, catechin and rutin in different concentration in MPT. Marigold petal tea showed 5.53 mg/g of dry plant material, measured as gallic acid equivalent total phenolic and 7.73 mg/g of dry plant material, measured as catechin equivalent total flavonoid contents. MPT exhibited 57.2 % DPPH radical scavenging activity. Data from in vivo study showed that higher dose of MPT significantly reduced the rat's body weight and BMI are compared to high fat diet group. The kidney and liver indexes, BT, AST, ALT, Ap and SC of rats showed that MPT-500 showed significant anti-obesity and antioxidant potentials. It is evident from the results that higher dose of MPT exhibited protective effects against obesity and comparable with the synthetic orlistat drug.

**Biography**

Neelam Iftikhar is from department of chemistry at Government College University Faisalabad, Pakistan. Her research interest focuses on chemistry and analytical chemistry.