Beneficial effect of quercetin, flaxseed and/or in combination as synergetic

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The purpose of this study is to assess the beneficial effect of quercetin, flaxseed and/or in combination as synergetic in an Animal Model of metabolic syndrome (MetS), high fructose (HF) -fed rats. Thirty five male Sprague-Dawley rats, 3-mo. old-ages and weighing ranging 110-120 g were randomly divided into 5 groups. Rats were given drinking water (control rats) or 10% fructose in drinking water (HF; fructose-fed rats) with standard chow for 8 wk. After 4-wk HF feeding, rats were further divided into matched 4 subgroups. Different groups of animals (n=10, each group) were administered; 10% HF (5 mg/kg, as a +ve control group), flaxseed (F; 50 mg/kg), quercetin (Q; 50 mg/kg), flaxseed+quercetin, (FQ; 25 mg/kg of each) respectively. All ingredients were given orally once daily and subsequent 4 wk. Serum glucose, insulin, lipids profile, leptin, and adiponectin were estimated. After 4 weeks of feeding, a significant increase in blood glucose level was observed in HF feeding rats compared to normal rats, but this increase was significantly decreased after administration of F, Q & FQ. The raised of serum insulin level in HF feeding rats was significantly decreased after administration of F and FQ groups, whereas no significant difference in Q group. Significantly higher concentrations of triacylglycerols (TG), total cholesterol & LDL- C were observed in HF feeding rats, whereas these increases were lower after administration of F, Q & FQ. There was a significant increase in serum HDL-C in FQ group. The increased of serum leptin level was decreased significantly in F, Q & FQ groups. The reduction of serum adiponectin level in HF fed rats was increased in F, Q & FQ groups. These data are encouraging and suggest that anti-inflammatory and protective effect of flaxseed and quercetin consumption as functional foods could be an important mechanism contributing to the reduced risk for people with decreased insulin sensitivity and increased oxidative stress, such as those with the metabolic syndrome and/or type 2 diabetes.

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Introduction a natural new food color "Spinacia Oleracea" for the enrichment of dairy products

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The use of synthetic and natural colors, in order to produce new food products in the food industry to enhance product acceptance, the day is raising. On the other hand many experts, food fortification as a key option in the prevention and treatment of malnutrition-related diseases are introduced. Or spinach plant Spinacia oleracea, with vast amounts of minerals Fe, Ca, Zn, Na, K, P, fat, protein, fiber and ash, flavonoid and anthocyanin in comparison with other vegetables, has multiple effects in the treatment of various cancers, alzaymer, network eye and nervous system and other application in some disease. Nutritional and therapeutic properties of the present paper contains the pigment chlorophyll extract of spinach to make it suitable as a material for fruit enriched dairy products, especially yogurt containing fruit, green vegetables and fruits such as kiwi, cantaloupe, green and Iron, calcium, on the proposal.

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