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Effect of blending groundnut oil with palm and sunflower oil on physicochemical properties

Preeti Bajpai and Renu Mogra

Maharana Pratap University of Agriculture and Technology, India

The composition of the diet plays an important role in the management of lipid and lipoprotein concentrations in the blood. Vegetable oil plays a vital role in determining the human health due to its fatty acid composition. High intakes of saturated fatty acids (SFA) increase blood levels of total and low density lipoprotein cholesterol (LDL-C) and accelerate the process of atherosclerosis. On the other hand, monounsaturated fatty acids (MUFA) and polyunsaturated fatty acids (PUFA) have the opposite effects. According to WHO and other health agencies, nutritionally superior oil must fall in the ratio of 1:1-3:1; SFA, MUFA and PUFA, respectively, however evidences suggest that no single oil can provide the recommended dietary fat ratio. To combat this fatty acid ratio problem, blending of vegetable oils is gaining popularity in the oil industry to satisfy consumer needs. Present investigation was carried out with the objective to design an oil blend which may provide the recommended fatty acid ratio and to find out effect of blending on physicochemical properties of the designed oil blend. Groundnut oil blended with palm oil and sunflower oil to balance SFA, MUFA and PUFA ratio of the oil as recommended by health agencies i.e., close to 1:1-3:1. The physicochemical properties like specific gravity, refractive index, smoke point, moisture and free fatty acid value, peroxide value, saponification value and iodine value of vegetable oils and its blends in ratio of 50:25:25 of groundnut oil, palm oil and sunflower oil respectively were evaluated using standard analysis methods. It was observed that blending of groundnut oil with palm oil and sunflower oil affected and improved the physicochemical properties of the oil blend. The result of the present study will help the oil producing industry to find out the most heart friendly oil as well as economically viable oil blends for cooking purposes with maximum nutrition as well as desirable physicochemical properties.

preetibajpai2016@gmail.com

Reported adverse food reactions overestimate true food allergy in asthmatics

Priyanka Jain

National Institute of Nutrition, India

To determine the extent to which perceived adverse food reactions in asthmatics were associated with IgE mediated food allergy, as defined by skin prick testing (SPT). Patients suffering from asthma underwent SPT to 13 common food allergens (banana, curd, rice, lemon, milk, orange, egg, curd, pea groundnut, fish, radish, potato) and were asked whether they had ever suffered any food illness/trouble and if so to list such foods. A positive SPT was defined as wheal diameter of ≥ 3 mm. Cohen's kappa (k) was used to assess the agreement between SPT and self-reported reactions to foods which contained the allergen of interest. The patients were enrolled as they came on accrual basis from Aug 2009 to Sep 2010 and recruited from the outpatient department of the Department of Pulmonary Medicine, King George's Medical University, Lucknow. The subjects were 200 adults aged 15-40 years. Out of 200 patients 143 (71.5%) reported illness to foods nearly always. However, only 17 subjects who reported illness to a food also had a positive SPT to the same food. The prevalence of adverse food reactions associated with IgE mediated allergy in the adult general population would be less than 11.8% (17/143). The agreement between SPT and self-reported illness to foods was good for groundnut ($k=0.92$), fish (0.10) and potato and moderate for egg ($k=0.50$) and green pea ($k=0.53$) and no agreement for banana ($k=0.14$), curd ($k=0.06$), rice ($k=0.21$), lemon ($k=0.19$), milk ($k=0.06$), orange ($k=0.11$) and radish ($k=0.31$). There was little agreement between self-reported perceived illness to foods known to contain the food allergen of interest and positive SPT, suggesting that most reactions are not due to IgE mediated food allergy.

priyankajain0812@rediffmail.com