

Research Paper :

## Nutritional and sensory evaluation of papad and badi enriched with defatted soy flour and drumstick leaves powder

NAVITA PAREEK, RUCHI CHAUDHARY AND GITA BISLA

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### ABSTRACT

Malnutrition is the most important and widespread nutritional problem along with the prevalence of other deficiency diseases like- protein energy malnutrition, vitamin-A deficiency etc. Therefore, the present study was undertaken in an attempt to eliminate the ill effects of nutrition related problems by the exploration of possibility and utilizing dehydrated drumstick leaves powder, a highly nutritious green leafy vegetable and defatted soy flour rich in protein with combination of wheat flour in conventional preparation. The main aim of study was to develop the low cost nutritious Papad and Badi with the incorporation of defatted soy flour (10%, 20% and 30%) and drumstick leaves powder (3%, 5% and 10%) in different proportions. Organoleptic evaluation was done on the basis of 9-point hedonic scale. The results of sensory evaluation revealed that among different forms of Papad, PA2 was most acceptable which was prepared by 10% defatted soy flour and 5% drumstick leaves powder. In case of Badi, BA1 was most acceptable which was prepared by 10% defatted soy flour and 3% drumstick leaves powder. These recipes were nutrient dense and cost effective, so it could be beneficial in feeding programmes.

See end of the article for authors' affiliations

Correspondence to:

**NAVITA PAREEK**

Department of Food Science and Nutrition, Faculty of Home Science, Banasthali University, BANASTHALI (RAJASTHAN) INDIA  
[navitapareek@yahoo.com](mailto:navitapareek@yahoo.com)

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**Key words :** Wheat flour, Drumstick leaves powder, Defatted soy flour, Standard sample of Papad and Badi

Malnutrition is a deficiency disease of complex interactions. The basic reason is- "traced to poverty". It is the most troubling deficiency in the diet of under-fed children especially belonging to poor underprivileged communities in developing countries. As a result of malnutrition, several nutrient deficiencies with clinical manifestation and disabilities are encountered in country namely, protein energy malnutrition, vitamin-A deficiency and many other deficiencies impair human development on a truly massive scale worldwide (Pana and Bacullao, 2002). Therefore, various preparations based on cereal-pulse combination are of paramount importance to improve the nutritional quality in Indian dietaries. FAO (1999) suggested that to meet the recommended dietary allowances of infants and pre school children, low cost supplementary foods could be processed domestically by employing simple and inexpensive processing technology. Incorporation of locally available cheap food sources is one of the best and effective strategies to enrich the diet of rural folk for addressing the nutritional deficiencies (Faber *et al.*, 2005).

Soybean is a species of legume, native to Eastern

Asia. Soybean is a source of complete protein, which contains all the essential amino acids in adequate amounts (Antia and Philip, 2005). It is an important source of protein equivalent to animal protein and vegetable oil worldwide (Manay *et al.*, 2001). In this study, defatted soy flour has been used which is made entirely from defatted soy meal. It is an excellent source of iron, calcium, protein, B-vitamins, fibre, manganese and very low in saturated fat, cholesterol and sodium (Joshi and Vaidehi, 2000) and also contains anti-inflammatory nutrients such as-folate and zinc (Swamy, 2006). The use of defatted soy flour increases the quality and the shelf-life of the products (NIN, 2000). Drumstick (*Moringa oleifera*) leaves are used in dehydrated form. It is an exceptionally nutritious green leafy vegetable with a variety of potential uses. Having amazing therapeutic properties it is used medicinally by local herbalists. They are low in carbohydrate and fat but are good source of beta-carotene, calcium, riboflavin, folic acid, ascorbic acid and iron. Papad is a nutritious snack which is crispy in texture and badi is prepared with green gram dal. These recipes were selected on the basis of popularity because of easy to