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## Development and nutritional analysis of multigrain mixture to improve nutritional status of obese individuals

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Obesity is a major nutritional problem in India. Junk food, sedentary lifestyle, alcohol are majorly responsible for self-destruction, making one in every fifth Indian male and female either overweight or obese. India is on 3rd number in obesity after US and China. Keeping this in view multigrain nutritious health mixture was developed from roasted seeds of pumpkin, jackfruit seed, mango kernel seed flour, glucose powder, brown sugar and cereal grain like corn, bengal gram, peanut, rice, pulses etc. The multigrain mixture was evaluated for their physicochemical, microbial and sensory properties. Results showed that various

nutrients like protein 5.35(% by weight), carbohydrate 80.25(%by weight), dietary fibers 4.67(% by weight), calcium 73.25(mg/100), Iron 2.94(mg/100g) and energy was found to be 404.32Kcal. In microbiological analysis different parameters like TPC, Coliform count, E. coli, Salmonella sp., S.aureus, yeast & mold count were tested. In which E. coli, S.aureus, Salmonella sp. was not found. The multigrain mixture was free from aflatoxins. All the heavy metals were under permissible, only zinc and tin were found in very less amount. The study revealed that such coarse cereals and seeds of fruits and vegetables which are less consumed by the people can be used to prepare such type of multigrain mixture which is very high in nutritional value. The product was also subjected to shelf-life analysis for one and a half month for various parameters like sensory value, free fatty acid, peroxide value, water activity. Since the multigrain mixture has been made

without frying, by roasted and puffed cereals, seed etc. it may be better alternative than the snacks like bhujia, namkeen etc. which are generally fried in oil, a mixture made by us does not use the frying in oil, which is beneficial for health of obese persons, as well as cost effective, it also has the longer shelf-life at room temperature which makes them safe and suitable for consumption.

### Biography

Meenakshi Garg has completed her PhD degree from CCS Haryana Agricultural University, Haryana, India in 2003. She is working as an Assistant Professor in Food Technology department at Bhaskaracharya College of Applied Sciences, University of Delhi, New Delhi. She has completed four major research projects and published more than 25 papers in reputed journals. She wrote two chapters in books of international publisher. Her area of interest is nutrition and food processing.

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