

## Mean Nutrient Intake and Nutrient Adequacy Ratio in India: Occurrence of Hidden Hunger in Indians

**Authors :** Abha Gupta, Deepak K. Mishra

**Abstract :** The focus of food security studies in India has been on the adequacy of calories and its linkage with poverty level. India currently being undergoing a massive demographic and epidemiological transition has demonstrated a decline in average physical activity with improved mechanization and urbanization. Food consumption pattern is also changing with decreasing intake of coarse cereals and a marginal increase in the consumption of fruits, vegetables and meat products resulting into a nutrition transition in the country. However, deficiency of essential micronutrients such as vitamins and minerals is rampant despite their growing importance in fighting back with lifestyle and other modern diseases. The calorie driven studies can hardly tackle the complex problem of malnutrition. This paper fills these research lacuna and analyses mean intake of different major and micro-nutrients among different socio-economic groups and adequacy of these nutrients from recommended dietary allowance. For the purpose, a cross-sectional survey covering 304 households selected through proportional stratified random sampling was conducted in six villages of Aligarh district of the state of Uttar Pradesh, India. Data on quantity consumed of 74 food items grouped into 10 food categories with a recall period of seven days was collected from the households and converted into energy, protein, fat, carbohydrate, calcium, iron, thiamine, riboflavin, niacin and vitamin C using standard guidelines of National Institute of Nutrition. These converted nutrients were compared with recommended norms given by National Nutrition Monitoring Bureau. Per capita nutrient adequacy was calculated by dividing mean nutrient intake by the household size and then by comparing it with recommended norm. Findings demonstrate that source of both macro and micro-nutrients are mainly cereals followed by milk, edible oil and sugar items. Share of meat in providing essential nutrients is very low due to vegetarian diet. Vegetables, pulses, nuts, fruits and dry fruits are a poor source for most of the nutrients. Further analysis evinces that intake of most of the nutrients is higher than the recommended norm. Riboflavin is the only vitamin whose intake is less than the standard norm. Poor group, labour, small farmers, Muslims, scheduled caste demonstrate comparatively lower intake of all nutrients than their counterpart groups, though, they get enough macro and micro-nutrients significantly higher than the norm. One of the major reasons for higher intake of most of the nutrients across all socio-economic groups is higher consumption of monotonous diet based on cereals and milk. Most of the nutrients get their major share from cereals particularly wheat and milk intake. It can be concluded from the analysis that although there is adequate intake of most of the nutrients in the diet of rural population yet their source is mainly cereals and milk products depicting a monotonous diet. Hence, more efforts are needed to diversify the diet by giving more focus to the production of other food items particularly fruits, vegetables and pulse products. Awareness among the population, more accessibility and incorporating food items other than cereals in government social safety programmes are other measures to improve food security in India.

**Keywords :** hidden hunger, India, nutrients, recommended norm

**Conference Title :** ICGFS 2016 : International Conference on Global Food Security

**Conference Location :** Singapore, Singapore

**Conference Dates :** January 07-08, 2016