

Dietary Guidelines for Indians-2024: A critical appraisal

Santosh Jain Passi

Public Health Nutrition Consultant & Former Director, Institute of Home Economics (University of Delhi), Hauz Khas Enclave, New Delhi

CORRESPONDING AUTHOR

Dr Santosh Jain Passi, Public Health Nutrition Consultant & Former Director, Institute of Home Economics (University of Delhi), Hauz Khas Enclave, New Delhi – 110016
Email: sjpassi@gmail.com

CITATION

Passi SJ. Dietary Guidelines for Indians-2024: a critical appraisal. Journal of the Epidemiology Foundation of India. 2024;2(4):200-204. DOI: <https://doi.org/10.56450/JEFI.2024.v2i04.008>

ARTICLE CYCLE

Received: 05/12/2024; Accepted: 19/12/2024; Published: 31/12/2024

This work is licensed under a Creative Commons Attribution 4.0 International License.

©The Author(s). 2024 Open Access

Dietary guidelines play a pivotal role in guiding individuals towards selecting appropriate foods in adequate quantities across a range of food groups and achieving dietary diversity; thereby facilitating optimal nutrition throughout the lifecycle. These guidelines can also help in addressing the escalating incidence of under-/malnutrition, overweight/obesity and the non-communicable diseases like type-2 diabetes, hypertension, coronary artery disease and cancers in India. Estimates indicate that 56.4% of the total disease burden is due to unhealthy diets (1). Nutritionally appropriate diets and physical activity can substantially reduce the incidence of coronary heart disease and hypertension; and prevent up to 80 per cent of type 2 diabetes. A significant proportion of premature deaths can also be averted by adopting a healthy lifestyle (1).

It is well established that optimum nutrition plays an important role right from conception/fetal-stage till old age. Balanced diets not only ensure optimal growth/development but also minimize the risk of diet related non-communicable diseases (DR-NCDs) occurring in later life.

Earlier, adequacy of the diets was judged by comparing the intakes with the RDAs (Recommended Dietary Allowances) which are based on nutrient requirements of the population groups; however, the Dietary Guidelines help individuals in proper food selection and food choices. For Indians, the first set of dietary guidelines was released by the National Institute of Nutrition (NIN) in 1998; second edition in 2011; and now the revised edition in May, 2024.

Just like 17 Sustainable Development Goals (SDGs), in this latest version, there are 17 dietary guidelines (DGs) which have been listed below.

Dietary Guidelines for Indians-2024

- *Eat a variety of foods to ensure a balanced diet*
- *Eat plenty of vegetables (particularly GLVs) /fruits (in moderation) and legumes*
- *Obtain good quality proteins and essential amino acids (EAAs) through appropriate combination of foods; and avoid protein supplements to build the muscle mass*
- *Use a variety of oils/fats in moderation; choose a variety of oil seeds, nuts, millets (nutri-cereals/shree-anna) and pulses/legumes to meet the daily needs of fats and esp. the essential fatty acids (EFAs).*
- *Restrict salt intake; and keep sugar intake to the minimum.*

- *Minimize the consumption of high fat, sugar, salt (HFSS) and ultra-processed foods (UPFs)*
 - *Drink adequate quantities of water and other fluids/beverages*
 - *Consume clean & safe food including water*
 - *Adopt appropriate pre-cooking/cooking methods to minimize the nutrient losses*
 - *Ensure provision of extra food and appropriate healthcare during pregnancy & lactation*
 - *Ensure exclusive breastfeeding for the first six months and continued breastfeeding till two years & beyond*
 - *Start feeding home-made semi-solid complementary foods to the infant soon after the age of six months*
 - *Ensure adequate quantities of nutritionally appropriate diets for children and adolescents, both in health and disease/sickness*
 - *Include nutrient-rich foods in the diets of the elderly for better health and well-being*
 - *Be physically active and exercise regularly to maintain good health*
 - *Adopt a healthy lifestyle to prevent overweight/obesity (esp. abdominal obesity), type 2 diabetes (T2D), hypertension (HTN), coronary artery disease (CAD) etc.*
 - *Read the information on food labels carefully to make informed and healthy food choices*
- * Based on the ICMR-NIN Dietary Guidelines for Indians-2024 with slight modifications*

These dietary guidelines strongly advocate bringing about dietary diversity and including a variety of foods from each of the food groups in our day-to-day's diets (table-1). The adage "**variety is the spice of life**"; is true in this case too. By introducing variety, our diets tend to become much more balanced since none of the foods can provide all the nutrients in the amounts required by our body; but their combinations can overcome the deficiencies and/or excesses of each other. For making the meals more attractive/appealing, one needs to bring about variety in food selection, cooking methods, appearance, colour, shape, texture/consistency and taste/flavour of the food; and by rotation, include a variety of:

- Cereals/millets (e.g. wheat, rice, maize, jowar, bajra, barley, Italian /foxtail millet, ragi, oat etc.);
- Pulses/legumes (e.g. bengal gram, green gram, black gram, red gram, lentils, moth beans, rajmah, soyabean, cowpea etc.);
- Green leafy vegetables (e.g. spinach, bathua, methi, coriander leaves, mint, cabbage, mustard leaves, amaranth leaves, radish leaves, bengal gram leaves etc.);
- Starchy roots & tubers (e.g. potato, sweet potato, colocasia, yam, tapioca etc.);
- Other vegetables (e.g. cauliflower, peas, beans, carrot, radish, turnip, beetroot, tinda, bottle gourd, brinjal, bitter gourd, cucumber, pumpkin, drum sticks, ladies finger, onion, tomato, ginger etc.);
- Fruits (e.g. apple, orange, sweet lime, guava, papaya, banana, grapes, figs, grape fruit, mango, water melon, musk melon, phalsa, pine apple, sapota, custard apple etc.);
- Nuts & oilseeds (e.g. almond, cashew nut, walnut, coconut, groundnut, sesame seeds, pumpkin seeds, sunflower seeds, flaxseeds, chia seeds, basil seeds, water melon seeds etc.);
- Milk & milk products (cow's/buffalo's/goat's milk, curds, buttermilk, skimmed milk, cottage cheese, processed cheese, khoa etc.);
- Non-vegetarian populations can include a variety of meat, poultry/ chicken,
- fish and various other sea foods in their diets
- In addition, a variety of edible oils and fats (butter/pure ghee) should be included in moderation for meeting the daily needs of essential fatty acids (esp. omega-3 and omega-6 fatty acids) and improving palatability of the diet.
- Moderate amounts of various spices, herbs & condiments should be included for improving immunity, providing protection from various diseases and maintaining good health.

Food-items with alike nutrient contribution collectively form a food group; thus all foodstuffs have been categorized into 10 different food groups (Table-1); and this helps

in making the food choices much easier with far lesser efforts. Advanced planning of weekly/fortnightly flexible menus is an excellent approach for achieving dietary diversity. The classification of different foods

into various food groups as given in the original document needs to be reviewed, below is a slightly modified version which can be revisited, if needed (Table-1).

Table 1 Classification of different foods into various Food Groups

SN	Food Group	Food Items
1.	Cereals & millets	Cereals, millets and their products like bread, suji, vermicelli, noodles/pasta etc.
2.	Pulses & legumes	Pulses and legumes (whole/split/dehusked) and their products.
3.	Green leafy vegetables	Seasonal & regional green leafy vegetables (GLVs)
4.	Starchy Roots & tubers	Potato, sweet potato, arbi, yam, tapioca, etc.
5.	Other Vegetables	Seasonal vegetables other than GLVs and Roots & tubers
6.	Fruits	Seasonal fruits and fruit products
7.	Dairy products	Milk, curd, buttermilk, cottage cheese, processed cheese etc.
8.	Meat/fish/poultry & other sea foods	Eggs, meat, fish, poultry and other sea foods etc.
9.	Nuts, oil seeds, oils and fats	Nuts (Peanuts/walnuts/almonds etc), oil seeds (sesame/ sunflower seeds etc), vegetable oils, ghee, butter, cream etc.
10.	Spices, condiments & herbs	Spices, condiments & herbs like turmeric, dried ginger, mustard, pepper, cumin, coriander, etc.

Based on the ICMR-NIN Dietary Guidelines for Indians-2024 with slight modifications

Dietary fibre, anti-oxidants and phyto-chemicals etc. due to their profound role in maintaining health and well-being, can be labeled as the “Health Promoting-Disease Preventing Dietary Constituents”.

Although spices, herbs & condiments do not provide energy, by virtue of being rich in anti-oxidants/phyto-nutrients, these important food components have been included as one of the food groups in the original document (1). On the other hand, food-items like honey, jaggery, *shakkar*, sugars, jam, jelly, marmalade, preserves etc. despite not being very healthy, provide energy and add taste/flavour to our food. Further, food-items like honey and jiggery do impart health benefits too; but in the original document, these items do not appear in the list of food groups. Although, these food items need to be consumed with caution, perhaps cannot be ignored as these too serve as one of the sources of energy for our hard-working populations from the lower strata; and hence, could be included as one of the food groups. Thus, there could either be a total of **eleven** food groups or the spices, herbs & condiments could be referred as the “**important food components**” without listing them as a food group.

The ICMR-NIN’s concept of ‘**My Plate for the Day**’ recommends sourcing of the macro- & micronutrients from a minimum of eight food groups; and on daily basis, from a minimum of 5-7 food groups. Further, the vegetables (including the GLVs, roots & tubers) and fruits should essentially form half of the day’s plate; and the other half should be mainly cereals/millets, followed by pulses, flesh foods, eggs, nuts, oil seeds and milk/curds etc. Of the day’s total energy, cereals should contribute ≤ 45 en%; pulses, eggs and flesh foods around 14-15 en%; total (visible) fat ≤ 30 en%; and nuts, oil seeds, milk & milk products nearly 8-10 en%.

These guidelines particularly emphasize on restricting salt intake, keeping sugar intake to the minimum and avoiding the consumption of high fat, sugar, salt (HFSS) as well as the ultra-processed foods (UPFs). At the same time, there is an ample stress on drinking adequate quantities of water/beverages/fluids; and on food safety (including water) to prevent food-borne infections/diseases and food-toxicity. Further, it is recommended to employ appropriate methods of pre-cooking/cooking to conserve the nutrients or at least minimize the nutrient-losses.

These guidelines lay a strong emphasis on appropriate maternal and child nutrition. Proper care during pregnancy & lactation (in terms of quantity/quality of diet, proper rest and appropriate healthcare) has been advocated for a better pregnancy outcome as well as optimal growth and development of the baby. It is well known that nutrition plays an important role right from the time the baby is in the mother's womb (fetal stage) till he/she reaches old age. Undoubtedly, sound nutritional status of the mother and that of the child during the **first 1000 days of life** (from conception till two years of age; **270+365+365 days**) is closely linked to the child's growth and learning during the initial stages of development as well as to the reduced risk of metabolic syndrome, diabetes and cardiovascular diseases (diet related non-communicable diseases; DR-NCDs) later in life. Emphasis has also been laid on appropriate infant and young child feeding (IYCF) practices - exclusive breastfeeding (EBF) for the first six months; continued breastfeeding till two years & beyond; and complementary feeding (home-made semi-solid foods) soon after the age of six months. Stress has also been laid on appropriate diets – in terms of quantity and quality, for the children and adolescents both during health and disease/sickness. A special mention has been made for including nutrient-rich foods in the diets of the elderly for ensuring their health and well-being. For maintaining good health, importance of regular physical activity and exercise has also been strongly advocated.

Appropriate dietary habits and physical activity through all stages of one's life are essential for the maintenance of holistic health.

These guidelines have laid ample emphasis on the prevention of overweight/obesity and various non-communicable diseases (NCDs) like type-2 diabetes (T2D), hypertension (HTN), cardio-vascular diseases (CVDs), cancers and osteoporosis – the so called diet and lifestyle related diseases/disorders. In most of these conditions, our daily diets should be low in calories/energy, moderate in fat (for providing essential fatty acids like omega-3 and omega-6 fatty acids) but high in proteins (particularly good quality proteins for providing all the

essential amino acids), minerals, vitamins, dietary fibre, antioxidants and phytochemicals. Poor intake of essential nutrients can disrupt body metabolism leading to an increased risk of insulin resistance and associated disorders right from the young age.

It is an excellent document on dietary advice for the Indians covering all age-groups. Colourful pictorial presentations not only make the document attractive but also make it easy for the general public to comprehend the information. The suggested weekly menus for all age-groups is also a welcome step for bringing about dietary diversity in the day-to-day's diets of our masses. However, looking at the meal patterns, barring pregnancy, in most of the age-groups, 4-meal pattern has been proposed – be it for the children (esp. 4-6 years/7–9 year olds), or the elderly. A gap of nearly 5 hours between the breakfast and lunch, particularly for the school-going children can be a hindrance in their concentration, learning abilities and scholastic performance. Similarly, the elderly may need smaller meals with an increase in the frequency of eating.

Again, in the suggested menus, there is a little tilt towards the southern dietary patterns; while for this National level document, either menus from different regions could be included (may be by rotation) or the southern dietary patterns could be quoted as an example to explain the concept. Perhaps the document needs editing to address certain anomalies/discrepancies. Further, the annexure-IV can be revised; it is proposed that the commonly consumed foods under each food group category can be listed along with their regional/local nomenclatures for an easy reference. These views are open to debate and discussion.

These guidelines have very aptly emphasized the need for appropriate nutrition during the life cycle - from the womb to the tomb; and also proposed the ways and means of achieving the same. Thus, for maintaining good health, appropriate dietary practices and lifestyle modifications are necessary; and these include improved eating patterns & nutrient intake along with adequate physical activity, cessation of smoking/tobacco, no/restricting

alcohol consumption and appropriately managing the stress!!

These dietary guidelines need to be widely disseminated among the masses for improving their knowledge, attitudes and practices; and thus, not only improving their health but also for preventing the diet-related diseases/disorders, especially the non-communicable diseases (NCDs). Therefore, along with the summary document, this dietary guidelines document should be translated in all the regional languages and widely circulated through the electronic/non-electronic media.

Since appropriate maternal & child nutrition, adequate healthcare and sound life style practices are of utmost importance for laying a sound foundation; adoption of these Dietary Guidelines is a step towards achieving the same!!

FINANCIAL SUPPORT AND SPONSORSHIP

Nil

CONFLICT OF INTEREST

There are no conflicts of interest.

DECLARATION OF GENERATIVE AI AND AI ASSISTED TECHNOLOGIES IN THE WRITING PROCESS

The authors haven't used any generative AI/AI assisted technologies in the writing process.

REFERENCES

1. ICMR-NIN. Dietary Guidelines for Indians. Indian Council for Medical Research/National Institute of Nutrition (7th May 2024) <https://www.nin.res.in/dietaryguidelines/pdfs/locale/DGI07052024P.pdf> (accessed on 4th October 2024)
2. Passi SJ. Dietary Guidelines for Indians-2024 - for Appropriate Nutrition & Health Promotion of the masses. Kurukshetra. October-2024; 72(12): 22-26.