

What India Eats

- Macronutrient intake of different food groups for infant and children



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SUGGESTED CITATION

- Hemalatha R, Neeraja, Senthil Kumar B. What India Eats-
Macronutrient intake of different food groups for infant and children,
2023, ICMR-NIN, Hyderabad.

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ACKNOWLEDGEMENTS

We thank the Secretary, Department of Health Research, Government of India and the Director General, ICMR for the support and encouragement provided for the preparation of the report.

We thank all the Scientists and Technical Staff of Division of Community Studies who were involved in the supervision and quality control of the data collection and analysis and Project staff of National Nutrition Monitoring Bureau (NNMB) for data collection. Also, Mr. PS. Ramarao, Technical Officer, Mr. Sourab (for drafting), design and layout by Mr. S. Devendran, Senior Technician-3 (Artist) is acknowledged and appreciated.

Background

Nutrition science is one of the oldest and critically important areas of research that has immediate and direct implications on human health and quality of life. Nutrition research helps understand the nutritional needs of different categories of people in a population and provide dietary recommendations that are suitable for each sub-section of this population. Dietary recommendations not only warrant sustainable means of achieving nutritional adequacy, it also ensures maintenance of health and prevention of disease. These dietary recommendations have to be sensitive to market availability, cost, preferred local food choices and agricultural practices and a host of other sociological and population level factors to enable them to be fully adapted across diverse populations. Diet is a strong determinant of nutritional status of an individual which in turn is directly correlated with health. Collectively these indicators are an impactful measure of the welfare and health of a community or a nation. However, for a country like India, the dietary spectrum is extremely wide making it quite difficult to implement national-level nutritional assessment studies and then to design dietary recommendations that can cater to such high divergence of dietary habits. Here we have tried to present a snapshot analysis of current dietary practices pan-India by scaling this data against 'Estimated average requirement-EAR' of nutrients and energy for different sections of the population. Finally, we have laid out suggestions for achieving a balanced diet and means to fill the current nutritional gaps through 'My Plate for the Day' developed by the ICMR-National Institute of Nutrition.

Current Diet and Nutrition scenario

India, like many countries across the globe is facing the 'double' burden of malnutrition. High prevalence of micronutrient deficiencies along with an increasing proportion of people with obesity due to over nutrition is what defines this 'double' burden. This perhaps is a result of rapid urbanization leading to a shift in dietary habits of large sections of the population towards foods that are high in energy, fats, free sugars or salt/sodium, and an equivalent decrease in intake of sufficient quantities of fruits, vegetables and dietary fibers like in the form of whole grains. This has also resulted in a steep increase in non-communicable diseases (NCDs) and related conditions

in several sections of the population. Although guidelines for balanced and healthy diets for Indians exist, several factors prevent its effective translation into everyday practice. Such recommendations should be more food centric than nutrition centric and should be in a form that is easily communicated to the general public. To achieve these goals, ICMR-National Institute of Nutrition had formulated the 'My Plate for the Day' (Figure 1) to provide a simplified pictorial guideline for a healthy and balanced meal based on actual dietary intake patterns of Indians.

The current version of the 'My Plate for the Day' however caters to a 2,000-calorie diet corresponding with the 'Recommended Dietary Allowances (RDA)' of energy for a sedentary male who is 177-178 cm tall and an active female who is 162-163 cm tall with normal BMI of 18.5-22.99 kg/m². The plate recommends sourcing of macronutrients and micronutrients from a minimum of 9 food groups per day with vegetables, fruits, green leafy vegetables, tubers and roots forming essentially half the plate of the recommended foods per day. The other major portion is occupied by cereals and millets, followed by pulses/flesh foods/egg, nuts, oil seeds and milk/curd. Based on ICMR-NIN 'My Plate' recommendations, the intake of cereals should not be more than 44 % of the total energy, while for pulses, eggs and flesh foods the total energy percentage can be around 14%; total fat intake should be less than or equal to 30%, while milk and milk products intake should be 250 to 300ml/day (11%E). As for vegetables, including green leafy vegetables (GLV), tubers (excluding potato), the intake should be around 400g (8%E), fruits (3%E) and nuts and seeds intake (8%E) should be 100g and 30g per day respectively, for a 2000 Kilo-calories diet in a day (Table 1).

Though this model plate is not a representation of any therapeutic diet, regular intake of foods in the mentioned proportions, coupled with regular physical activity has the potential to reduce the risk of non-communicable diseases such as diabetes, hypertension, heart attack, stroke, cancer, arthritis and others. Although 'My Plate for the Day' provides a satisfactorily rounded recommendation for a balanced nutrition, there is a massive need for several such recommendations each tuned for different subsections of the population having different nutritional needs that cannot be met with a one-for-all approach.

KEY HIGHLIGHTS

- The report presents, how adults and children obtained the total energy (E), proteins, fats and carbohydrates from various food groups from the 2012 and 2016 dietary data of two large-scale surveys conducted in India.
- The food group 'Cereals' was the single highest contributor of 'Energy' and most of the population consumed this food group in much higher levels than suggested.
- Low intake of fruits and vegetables and low intake of milk and milk products increased the risk of diabetes and hypertension respectively.

My Plate for the Day

Promotes Health, Prevents Hidden Hunger and Protects from Diseases



Table 1. Calories (energy, Kcal) and Protein from different Food Groups ('MY PLATE' Recommendations) for a 2000 Kcal Diet

Food groups	Foods to be consumed (g) / day	Percent of Total E /day	Total E (kcal)/day	Total Protein (g) / day	Total fat (g)/ day	Carbohydrate (g)/day
Cereals (incl. Nutri-cereals)	260	44	~876	~25	~5	~178
Pulses*	85	14	~274	~19	~3	~42
Milk/ Curd (ml)	300	11	~216	~10	~13	~16
Vegetables ⁺ green leafy vegetable (GLV)	400	8	~184	~10	~2	~21
Fruits [#]	100	3	~56	~1	~1	~11
Nuts & Seeds	30	8	~155	~5	~12	~6
Fats & Oils ^{\$}	27	12	~243	-	~27	-
Total	1200	-	~2000	14% E	28% E	-

Source: ICMR-NIN My Plate

* Eggs/fish/meat can substitute a portion of pulses

+ Prescribed amount of vegetables (excluding potato) may be consumed either in cooked form/ salad

Prefer fresh fruits (avoid juices)

\$ Use different varieties of cooking oils, vegetables, fruits, nuts etc to obtain variety of phytonutrients, vitamins, minerals and bioactive compounds.

NOTE: The above quantities for different food components are recommended for people consuming approximately a 2000 Kcal diet. For people consuming more or less than a 2000 Kcal diet, they need to respectively increase more or decrease the intake of cereals and pulses while maintaining the ratio of cereal to pulse between 3:1. The recommended quantities for rest of the food groups will remain unaltered.

Methods

The causes of malnutrition (encompassing both under and over-nutrition) are complex and multilayered, yet diet is recognized as one of the major contributors for sustenance of nutritional health. Thus, an important basis of any dietary guideline should be a first-hand comprehensive understanding of what the target population is consuming regularly to be able to design recommendations that can effectively fill nutritional gaps. Dietary adequacy and diversity are two of the most important determinants of nutritional health in any population. Keeping this in view, an attempt has been made to understand food groups intake and macronutrient intake by (i) age-group, (ii) activity-level, (iii) Standard of living index (SLI) and (iv) region (v) contribution of different food groups to energy, protein, fat and carbohydrates (vi) proportion of population consuming energy obtained from various food groups as per ICMR- NIN “My Plate for the Day” recommendations, and (vii) variations in the prevalence of overweight and obesity across urban and rural areas.

The information on dietary intake in terms of food groups is essential for developing an appropriate region-specific food-based strategies for tackling the triple burden of malnutrition in India with diverse cultural and food behavior practices. Also, it would help in evolving inter-ministerial convergence related to production, processing, distribution, availability etc., for ensuring food and nutrition security to achieve 'zero hunger' by 2030.

To understand the dietary habits of urban and rural populations, macronutrients intakes and energy source from each food groups were evaluated from NNMB urban survey data collected from 16 states across 6 regions in India (Urban survey, 2016) and 10 states from 4 regions in rural India (Rural survey, 2012). Food intake was determined by 24-hour diet recall method from the household members. The nutrient intakes were computed for all participants of all age groups based on activity and standard of living index, using Indian Food Composition Tables (IFCT) (Longvah *et al.*, 2017) and Nutritive value of Indian Foods (NVIF) (Gopalan *et al.*, 1983) data. For foods that are not listed in the IFCT or NVIF, such as instant foods, biscuits or chips and so on, the data were collected from food labels and United States

Department of Agriculture (USDA) database. Foods consumed were categorized into 15 food groups as mentioned in annexures. The mean energy (calories), carbohydrate, protein and fat intakes were calculated for each food group separately and expressed as percentage of total intakes. Computations were made in SPSS (19.0 version) and R package.

Details of the survey methods are available in the respective NNMB Technical Reports on ICMR-NIN website. The states across different regions in both urban and rural areas are considered as per the NNMB survey (Table 2).

Table 2. Regions and States considered in NNMB Urban & Rural Surveys

Regions	Urban Survey	Rural Survey
	States	
North	New Delhi	NA
	Rajasthan	NA
Central	Madhya Pradesh	Madhya Pradesh
	Uttar Pradesh	Uttar Pradesh
East	Odisha	Odisha
	West Bengal	West Bengal
	Bihar	NA
Northeast	Assam	NA
West	Maharashtra	Maharashtra
	Gujarat	Gujarat
South	Kerala	Kerala
	Tamil Nadu	Tamil Nadu
	Karnataka	Karnataka
	Andhra Pradesh	Andhra Pradesh
	Andaman and Nicobar Islands	NA
	Puducherry	NA

Source: NNMB rural and urban surveys; NA: Not available

Household survey (HHs) of the total sample of children by age and gender, and the distribution of adults by age, gender and activity in rural and urban areas in India and their proportion to the total sample is given in table -3. The total sample size of children is 16990 in rural and 13547 in urban areas across the country in the above mentioned regions.

Table-3: Distribution and proportion of children and adults in rural and urban India

Children by age/ gender	Rural		Urban	
	N	Total N (%)	N	Total N (%)
<6 m	2	0.0	33	0.2
6-12 m	28	0.2	179	1.3
1-3yr	2895	17.0	1820	13.4
4-6yr	2915	17.2	2315	17.1
7-9yr	2963	17.4	2415	17.8
10-12yr (B)	1654	9.7	1333	9.8
10-12yr (G)	1577	9.3	1164	8.6
13-15yr (B)	1529	9.0	1358	10.0
13-15yr (G)	1538	9.1	1220	9.0
16-18yr (B)	898	5.3	891	6.6
16-18yr (G)	991	5.8	819	6.0
Total	16990	100.0	13547	100.0
Adults by age/ gender /activity				
S_M 18-60yr	3656	11.0	10137	29.6
M-M 18-60yr	10083	30.3	4475	13.1
H_M 18-60yr	71	0.2	26	0.1
S_F 18-60yr	7641	23.0	13818	40.3
M-F 18-60yr	5717	17.2	982	2.9
H_F 18-60yr	19	0.1	0	0.0
Pregnant Women	454	1.4	360	1.1
Lactating Women	1011	3.0	425	1.2
> 60yr Men	2291	6.9	2083	6.1
> 60yr Women	2318	7.0	1970	5.7
Total	33261	100.0	34276	100.0

Source: NNMB rural and urban surveys

M= months; B: boys; G: girls; S_M: Sedentary activity male; M_M: Moderate activity male; H_M: Heavy activity male; S_F: Sedentary activity female; M_F: Moderate activity Female; H_F: Heavy activity female

Results

Intake values of different 'Food groups' (Mean values) and estimated 'Nutrients' (Median values) across different age groups (along with activity indices for adults- 18 to 50 years) in the urban and rural population pan-India are described in **Table-4: (Annexures)** respectively. Dietary data for 6 to 12 months old infants was available only for the urban survey. Mean intake of 'Cereals' was higher for all other age groups in the rural survey when compared to data from the urban population. A remarkable difference of over even 100 grams per day cereals intake was noted for groups 'Rural Girls 16-18 years' (104.1 gm more), 'Rural 18 to 50 years Men- Moderate Work' (111.7 gm more) and 'Rural 50+to 60 years Men' (118.5 gm more) as compared to data from their urban counterparts. When data was stratified to look at percent difference in intake of 'Cereals' between Urban and Rural data, several additional rural groups other than the ones mentioned above showed at least a 25% higher intake of cereals when compared to their corresponding urban groups. These were Rural Children 1 to 3 years, 4 to 6 years and 7 to 9 years; Rural Girls 13 to 15 years; Elderly Men 60+ years and Rural Women 50+ to 60 year's age.

However, mean intake of 'pulses' was higher by 10 grams across all the urban population but for one age group (1 to 3 years Rural Children). This was also reflected in the 'Cereal to Pulse' ratio for each age-group. Comparing data from all rural and urban age groups, it was observed that every age-group in the rural data had a lower 'Cereal to Pulse' ratio than the corresponding urban age group.

Milk & Milk Products: Mean/ per capita intake of 'Milk & Milk products' was higher for all urban age-groups against the corresponding rural age-groups. Data from the urban age group for children aged 4 to 6 years showed higher intake of 'Milk & Milk products' by 66.8 ml more than the corresponding rural group. The mean/per capita intake of 'Milk & Milk products' for children (1-9yr) ranged between 115.1g to 156.1g in urban and 67.1g to 118.9g in rural. The mean/ per capita intake of 'Milk & Milk products' of boys and girls (10-18 yr) age groups ranged between 92.3g to 116.6g in urban and 59.3g to 76.6g in rural. The mean / per capita intake for adult men (18-60+yr) all age groups ranged between 90g to 157g in urban and

80g to 99.1g in rural, while for adult women (18 to 60+yr) age groups ranged between 92g to 146g in urban and 75.3g to 87.8g in rural.

Fats & Oils: The mean/ per capita intake of ‘Fats & Oils’ for children (1-9yr) ranged between 9.1g and 18.5g in urban as against 6.4g to 10.3g in rural. The mean/ per capita intake for boys and girls (10-18yr) ranged between 21.2g to 28.7g in urban as against 12.4g to 15.8g in rural. The mean / per capita intake of adult men (18-60+ yr) ranged between 28g to 33g per capita in urban as against 16.1g to 18.7g in rural, while for urban women (18-60+yr) the intake ranged between 24g to 30g as against 13.6g to 16.7g in rural.

Added Sugar: The mean/ per capita intake of ‘Added Sugar’ of children (1-9yr) ranged between 8.1g to 11.1g in urban as against 10.2g and 13.1g in rural, while for boys and girls (10-18yr) ranged between 10.8 to 13.5g in urban and 10.6g to 13.3g in rural. The mean/ per capita intake of ‘Added Sugar’ for adult men (18-60+yr) ranged between 14 to 17gm in urban and 12.3g to 14.4g in rural. Similarly, the intake for adult women ranged between 15.4g to 18g in urban as against 12.9g to 13.3g in rural.

Eggs and Flesh foods: The mean/ per capita intake of ‘Eggs and flesh foods’ of children (1-9yr) ranged between 12.8 to 24g in urban and 6.2 to 11.8g in rural. The mean / per capita intake for boys and girls (10-18yr) ranged between 26 to 33.8g in urban and 12.4 to 16.5g in rural with higher intake in boys over girls. The mean/ per capita intake for men (18 to 60+yr) ranged between 33g to 44g in urban and 18.8g to 27.3 g in rural, with higher intake in men of 18-50yr (moderate work) in urban and men with 18-50yr (sedentary work) in rural. Similarly, the mean / per capita intake for women (18 to 60+ yr) ranged between 28g to 38.3g in urban as against 16.8g and 23g in rural.

Nuts and Oil Seeds: The mean / per capita intake of ‘Nuts and Oilseeds’ ranged between 2.1gm to 4.8gm in children (1-9yr) in urban as against 2g to 3.6g in rural, while in boys and girls (10-18yr) it ranged between 6g to 7.5g in urban with higher intake in girls of 13-15yr age group compared to boys in both urban and rural. The mean/per capita intake for boys and girls in rural ranged between 3.4g to 6.2g, with higher intake in boys over girls for all age groups. For adult men (18-50yr) the mean / per capita intake ranged between 8.1g to 11g in urban and 6.5g to 9g in rural, with higher intake in 50+ to 60yr

and 60+ yr age groups in urban as against 18-50yr age group in rural men. The mean/ per capita intake for adult women ranged between 7.4g to 10g in urban as against 5.2g to 8.5g in rural. Lowest intake is evident in lactating women (sedentary work) in urban, and 18 to 50yr age group (moderate work) in rural women.

Green leafy vegetables: The mean/ per capita intake of ‘Green leafy vegetables’ for children of 1-9yr age groups ranged between 1.4g to 11.6g in urban as against 7.2g and 11.2g in rural. It is surprising to note that higher intake of green leafy vegetables is visible in rural over urban for children of 1-6yr age group. For boys and girls of (10-18yr) the mean/ per capita intake ranged between 14.3g to 19g and 11.4g to 15.6g in urban and rural respectively, with higher intake in boys over girls in both areas except for 16-18yr age group in rural. The mean /per capita intake for adult men ranged between 23g to 24g in urban and 18.9g to 19.8g in rural, while in adult women it ranged between 17g to 22g in urban as against 16.7g to 20.1g in rural. It is surprising to note that lowest intake was visible in pregnant women (sedentary work) in urban and (18-50yr moderate work) in rural, while highest intake was evident in 18-50yr (sedentary work) women in both urban and rural.

Roots and Tubers: The mean / per capita intake of ‘Roots and Tubers’ for children of 1-9yr age groups ranged between 23.5g to 57.8g in urban as against 20.8g to 44.1g in rural. The mean/ per capita intake for boys and girls (10-18yr) age groups, ranged between 65.6g to 85.4g in urban as against 49.1g and 60.6g in rural, with higher intake in boys over girls in urban while higher intake is visible in girls (13-15yr) and (16-18yr) age groups in rural. As for adult men the mean/ per capita intake ranged between 81g to 96g in urban as against 63.3g to 72.5g in rural. While for adult women the mean / per capita intake ranged between 71g to 94.1g in urban as against 44.4g to 78g in rural. Higher intake is visible in 18-50yr (sedentary work) men in both urban and rural while in urban women higher intake was evident in lactating women (sedentary work) while lowest in 18-50yr (moderate work) age group women in rural.

Other Vegetables: The mean/ per capita intake of other vegetables for children (1-9yr) age groups ranged between 14.4g to 37.1g in urban as against

13.8g to 30.4g in rural. The mean / per capita intake for boys and girls (10-18yr) age groups ranged between 41.2g to 66.8g in urban as against 34.4g to 42.8g in rural. For adult men the mean / per capita intake ranged between 61g to 84g in urban and 49.7g to 55.4g in rural. In men higher intake was evident in urban elderly 60+ yr age group and lowest in 18-50yr (moderate work). On the other hand, the mean / per capita intake ranged between 57.9g to 76g in urban as against 40g to 52g in rural. Higher intake was evident in 50+-60yr age group and 18-50yr (sedentary work) women in urban and rural respectively and lower intake in pregnant women (Sedentary work) and 18-50yr (moderate work) women in urban and rural respectively.

Expectedly the ‘Other Foods’ which encompasses mean intake data for food eaten from outside was uniformly much higher across all age-groups in the urban data compared to intake data from rural India. It was evident from this data that intake of food from outside was almost twice as much in urban India as compared to rural India across all age groups.

Energy intake: Median ‘Energy’ values for Urban children from 4 to 6yr and 7 to 9 years and both Boys and Girls from 10 to 12 years (Urban) and Boys (Urban) aged 13 to 15 years were around 100 kcal more than corresponding rural groups. All other age groups only showed minimal differences in median ‘Energy’ values across urban and rural data (Table-5: Annexure). However, median energy values were higher in girls (16-18yr), adult men (18-50yr)-moderate activity, 50-60yr, and women 18-50yr with moderate work in rural areas comparatively.

Protein intake: The median ‘Protein’ intake data for all the different age-groups in the urban data was slightly higher when compared to their corresponding rural age-groups (except the rural group 18-50 years Women-Moderate Work where the protein intake was 1 gm higher than the corresponding urban group). The highest difference in protein intake (ranging from 3.3 gm to 3.9 gm more) were seen for the urban groups 10 to 12 years (both Boys and Girls) and Boys 13 to 15 years and Lactating Women (Sedentary Work) compared to their corresponding rural groups. Percent difference values for intake additionally revealed that the rural group Children 4 to 6 years consumed 10.1% lesser (2.7 gm less) protein than their

urban counterparts and this was the highest percent difference in ‘Protein’ intake across all age/activity groups.

Fat Intake: The median ‘Fat’ intake proportions were much higher for every urban age-group compared to the rural data. Majority of groups showed somewhere close to 20 gm higher intake of ‘Total Fat’ in urban settings compared to their rural counterparts. The scale of intake differences of ‘Total Fat’ across different urban and rural age/activity ranged from 1.61 times to 2.1 times higher for urban age/activity groups comparatively.

Carbohydrate intake: A reversal in trend was seen for the median intake data for ‘Carbohydrates’, where all rural age-groups showed a higher proportion of intake compared to corresponding urban age-groups. The percent difference in intake of ‘Carbohydrates’ ranged from 7.8% to 17.6% higher for rural areas for all age/activity groups compared to corresponding urban groups.

Data was also cumulatively analyzed for urban and rural populations. Food and nutrient intakes for urban and rural population are given in Tables 6, 7 & figure 2. Mean calorie intake of adults (all states) in urban areas was 2129 kcal/day with 308 g of carbohydrate (CHO) and 62g and 72 g of fat and protein intake respectively per day while in rural areas the mean calorie intake was 2152 Kcal/day with 372g of carbohydrates and 37 g of fat and 67 g of protein. As per food groups, the total energy/ calorie (hence forth referred as E) intake from cereals contributed to 1040 Kcal/day, while visible fats and pulses contributed to 266 Kcal/day and 135 Kcal/day respectively in urban areas. In contrast, the total energy intake from cereals was much higher (1508) Kcal/day, and considerably lower from fats and Pulses in rural areas (fats, 146 Kcal/day and pulses, 106 Kcal/day respectively). Whereas, milk and milk products contributed with wide variations in urban (258 Kcal/day) and rural areas (170Kcal/ day).

The % E derived from different food groups showed that cereals and millets contributed 49% of E per day in urban areas and 69% of E in rural areas, while milk and milk products, and pulses contributed 12% and 6.4% of E per day respectively, in urban areas, which was slightly higher than rural areas (8% E and 5% E respectively). Together, pulses, meat, poultry and fish

contributed to 8.8% of the total energy per day in urban areas and 6% of E in rural areas as against the recommended intake level of 14% of total energy from these foods.

Table 6. Macronutrients and total energy sourced from different food groups among urban adults in India

Food groups	Intake	Energy		Protein	Fat	Carbo- hydrate
	(g)	(Kcal)	(%)	(g)	(g)	(g)
Cereals and Millets	303	1040	49	28.2	3.7	219
Pulses	42	135	6.4	9.6	1.3	21
Meat, Poultry, Fish and Sea foods	35	52	2.4	7.3	2.4	0
Fats and Edible Oils	31	266	12.5	0	29.5	0
Milk and Milk products	126	258	12	15.6	14.4	14
Nuts and Oil seeds	9	46	2.2	1.6	3.7	1.6
Vegetables	94	33	1.6	1.8	0.3	5
Roots and tubers	89	52	2.4	1.4	0.2	10.4
Fruits	55	31	1.4	0.6	0.4	6
Others	115	215	10	5.7	6	31
Total	900	2129	100	72	62	308

In addition, energy source from fruits and vegetables was only 3% E in urban areas and 1.8% E in rural areas as against the minimum requirement of 8-11% E per day. Similarly, whole nuts and oilseeds formed only 2.2% E in urban areas and 1.7% E in rural areas as against recommendation of 8% E per day. Other foods (which include chips, biscuits, chocolates, sweets, juices, etc.,) contributed to 10% E per day in urban areas, while it was low in rural areas (4%). The pooled analysis of the mean and percent of energy from carbohydrates, protein and fat intake from different food groups among adults in urban and rural India are provided in Table-6 and Table-7 respectively.

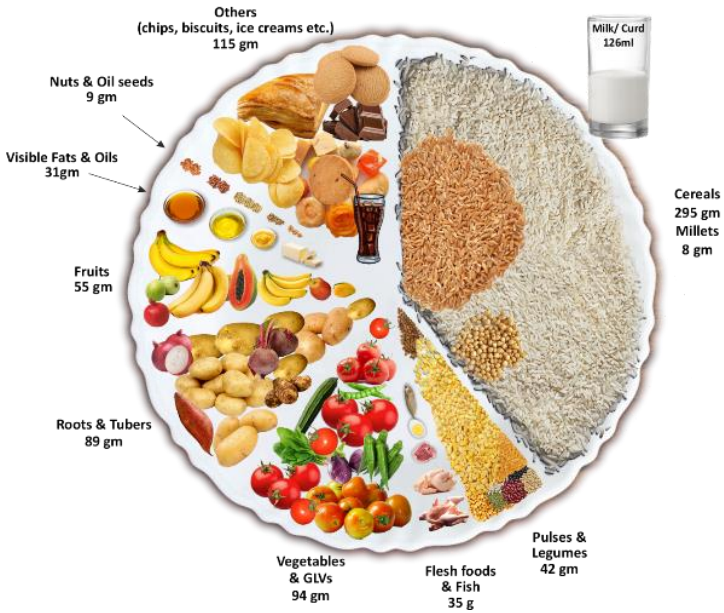
Table 7. Macronutrients and total energy sourced from different food groups among rural adults in India

Food groups	Intake	Energy		Protein	Fat	Carbo- hydrate
	(g)	(kcal)	(%)	(g)	(g)	(g)
Cereals and Millets	439	1508	70	40.8	5.3	317
Pulses	33	106	5	7.52	1	16.2
Meat, Poultry, Fish and Sea foods	16	24	1	3.3	1.08	0.7
Fats and Edible Oils	16.2	146	7	0	16.1	0
Milk and Milk products	83	170	8	10.2	9.5	6.3
Nuts and Oil seeds	7	36	1.7	1.2	2.9	1.3
Vegetables	67	24	1	1.2	0.2	3.6
Roots and tubers	64	37	1.7	1	0.1	7.5
Fruits	27	15	0.7	0.3	0.2	2.8
Others	38	86	4	1.5	0.8	17.1
Total	790	2152	100	67	37	372

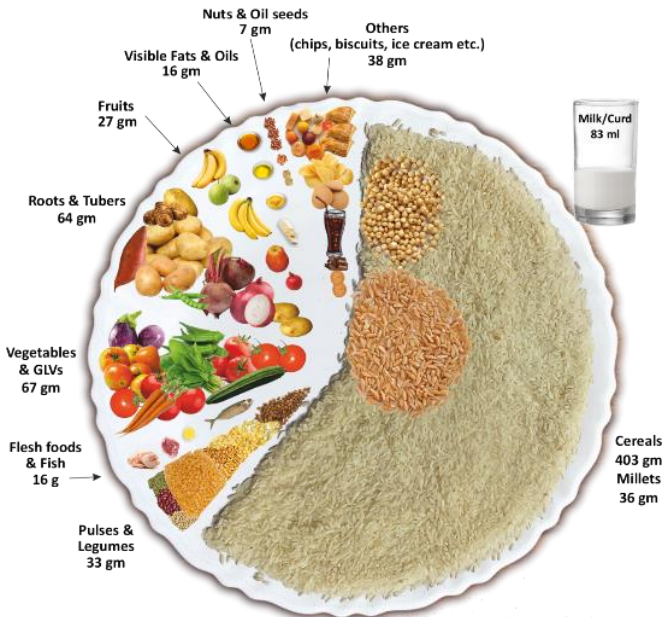
Figure 2. My plate recommendations



Urban



Rural



Comparison of ‘Energy’ intake and ‘Protein’ intake values with Estimated Average Requirement (EAR) for different Age/Activity groups.

Table 8 (Annexure) shows the recommended EAR values for different age/activity groups for Indians as published in the ‘Nutrient Requirements for Indians, 2020’ by ICMR-National Institute of Nutrition. We compared the ‘Median per kg Body Weight Energy Intake’ across Urban and Rural age/activity groups and also compared data from each of these groups to available recommended EAR values for that group. The ‘Median per kg Body Weight Energy Intake’ was slightly higher for all studied Rural age/activity groups except the urban group Children 6 to 12 months age, which had a higher value than the corresponding rural group.

The only groups that met the EAR values or had a higher ‘Median per kg Body Weight Energy Intake’ value than the recommended EAR values for that group were Rural Men 18 to 60 years (Sedentary Work), Urban and Rural Women 18 to 60 years (Sedentary Work), and Rural Women 18 to 60 years (Moderate Work) and (Heavy Work). All other urban and rural age/activity groups did not meet the recommended EAR levels corresponding to their group. The groups that were farthest away from the recommended EAR for their respective category were Urban Boys 13 to 15 years (49.2% less than EAR), Urban Boys 16 to 18 years (57.6% less than EAR) and Rural children 6 to 12 months age group (67.6% less than EAR).

The mean difference in median energy per kg body weight energy intake for children of 6-12month age group is less than EAR by 40.3% in urban and 66.6% in rural areas. Likewise, for urban children of 1-3yr, 4-6yr, 7-9yr was less than the EAR by 9.2%, 5.7% and 17.6% respectively. Among the urban children, 10-18yr old boys and girls were consuming roughly around 30 to 50 kcal less than the EAR, while the rural children of similar age groups were consuming adequate energy (calories). The lower body weights of rural children across age groups compared to the urban children explains these discrepancies.

‘Mean protein intake’ along with ‘Median protein intake per kilogram body-weight’ across different age groups (along with activity indices for adults- 18

to 50 years) in the urban and rural population pan-India are described in **Table 9** (urban) and 10 (Rural) (Annexure). It can be observed that median protein intake is higher than EAR in urban and rural children across all age groups with lower intake in girls (16-18yr) group and higher levels of median protein intake/kg is observed in rural over urban children, except for 6-12m infants. Among adults, higher median protein intake is observed in men – heavy and moderate work (18-60yr) in both rural and urban over all other age groups, with higher protein intake in rural comparatively. **Table-10 shows** that the ‘Milk and milk products’ contributed towards higher mean protein intake in 6-12m age group followed by 1-3yr age group of urban areas, while cereals and millets is contributing to nearly two-third and half of the total mean protein intake for all other age groups in rural and urban areas respectively. On the other hand, the percent contribution of the food groups ‘Fish/Meat/egg’ towards total protein intake is generally higher in the ‘Urban’ population ranging between 10.46% to 13.48% in urban as against 5.2% to 8.4% in rural children. While 11.6% to 14.5% in urban adults as against 4.1% to 9.5% in rural adults. An overall higher intake of these food groups by the ‘Urban’ population as compared to ‘Rural’ groups is observed.

Comparison of food groups and nutrients among different urban and rural adult groups based on gender and socio-economic status:

Socio-economic status of adult men and women from both urban and rural India were categorized into three groups: poor, normal and wealthy based on income levels. In food group ‘Cereals and millets’, among the individuals with low socio-economic status, females consumed around 18% less than their male counterparts in both rural and urban settings. A similar 15% to 17% difference was observed between males and females of the ‘Normal’ and ‘High’ socioeconomic category in both rural and urban data (**Table 11**). Comparing between urban and rural settings, it was seen that the urban individuals (including both genders) consumed much higher amounts of ‘Vegetables’ (35-55% higher across groups) and ‘Roots and Tubers’ (26-50% higher across groups) than their rural counterparts across all socioeconomic categories.

The intake of 'fats & oils' in male and female individuals belonging to any socio-economic group from Urban India were close to 80% more than the intake amounts recorded in the rural data.

The most drastic difference in intake patterns across rural and urban data for the low and normal socio-economic groups was observed for 'flesh foods'. Urban dwelling population (both genders) for the aforementioned socio-economic groups consumed close to 75% or even higher amounts of 'flesh foods' compared to the amounts consumed by their rural counterparts. However, this was not the case for 'high' socioeconomic category where the difference only ranged between 2 to 18% more for Urban adults.

'Pulses' intake when assessed gender-wise (male to male and female to female) across all socio-economic groups showed a higher intake pattern in urban areas with a difference range of 17% to about 40% from low to high socio-economic status ranging between 5.6g to 12.7g between the lowest and high socio-economic groups between genders.

The mean 'nuts and oil seeds' intake was very low in rural with poor socioeconomic status people (both genders) than their urban counterparts. The intake of 'nuts and oil seeds' was not too drastically different between any other compared groups, and showed an overall trend of higher intake in urban individuals than rural ones.

Mean intake of 'milk and milk products' varied across the different socio-economic groups. Overall, people from high socioeconomic category (both genders) consumed the amount consumed by respective genders in the low socioeconomic group. Another important observation from this data was that percent difference in intake between urban females compared to rural females was always much higher than the corresponding male groups and ranged between 21% to 60% higher intake in females across socio-economic groups

The mean intake of 'fruits' was also strikingly much higher in the urban population compared to the rural individuals across all socio-economic groups. The difference was always slightly higher in case of females (urban v/s rural) than for males. Mean intake of 'other foods' was also strikingly much higher for urban individuals (both genders) across all socio-economic groups with urban high socioeconomic group consuming the highest amount

across all groups. The difference was always higher in males over females in both urban and rural across the groups.

In terms of total energy, there was not much difference when compared gender-wise across (male to male and female to female) rural and urban data from different socio-economic categories. Highest noted difference of 7% was found between urban and rural males from the normal socioeconomic group. Across the three socio-economic categories, the protein intake among adults from urban and rural India ranged between 45-55 grams. The overall fat intake by males and females was higher by around 70% among urban population over rural across the three socio economic categories.

Energy intake status and Recommendations of ICMR-NIN My Plate

‘My Plate for the day’ has been designed on the basis of Recommended Dietary Allowances (RDA) guidelines for Indians, and actual dietary intake patterns, representing proportion of different food groups for meeting a 2000 Kcal diet. **Table 12** shows the recommended intakes and energy values suggested for different food groups from the ‘My Plate’ diet.

Table 12. Criteria for assessing recommended intakes / Energy of food groups

Food groups	Recommended intake
Cereals & Millets	Intake \leq 260g (44% E)
Pulses	Intake \geq 85g (14% E)
Milk & Milk products	Intake \geq 300 ml or g (11% E)
Vegetables	Intake \geq 400 g (8% E)
Fruits	Intake \geq 100 g (3% E)
Nuts & Seeds	Intake \geq 30 g (8% E)
Fats & Oils	Intake \leq 27g (12% E)

Since ‘My Plate for the day’ caters to a 2000 Kcal diet, we compared the proportions of various food groups in the ‘My Plate’ to those groups in the NNMB data who also consumed close to 2000 Kilo-calories per day. Six groups were found to have a comparative diet based on the total energy consumed per day. These groups were Urban and Rural Sedentary Males (18-

49 years), Urban and Rural (Moderate activity) Males (18-49 years), Urban and Rural Males (50-60 years). (Figure-4).

Among the urban sedentary males (18-49yrs), the energy obtained from the 'Cereals & millets', 'fats & oils' food groups were higher by 33% and 20% respectively when compared with the reference 'My Plate (2000Kcal)'. However, the energy obtained from the rest of the food groups were very less compared to the reference 'My Plate (2000Kcal)'. The energy obtained from 'Pulses' were 30.9% less and energy obtained from 'Milk and milk products' were 53.8% less than the reference values. The intake of 'vegetables', 'fruits', 'nuts and oils seeds' were significantly below the recommended intakes with the energy obtained from them being 43%, 60.45%, 83.5% less than the recommended 'My plate (2000Kcal)' intake.

Analyzing the data for urban moderate activity males (18-49 yrs), we found that the intakes from 'Cereal and millets' food groups was higher compared to 'My plate' (2000kcal) suggestion. The energy obtained from 'Cereals and millets' was 398.59 Kcal (49.33%). On the other hand, the energy obtained from the other food groups namely 'Pulses', 'milk and milk products', 'vegetables', 'fruits', 'nuts and oil seeds' were 28.36%, 66.04%, 49.24%, 67.74%, 79.38% respectively less than the reference 'My plate (2000Kcal)'. The energy obtained from 'fats and oils' was close to the recommended intake.

A similar trend was seen among urban males of 50-60 yr age group, with energy obtained from 'cereals & millets' and 'fats & oils' was higher than the recommended 'My plate' (2000kcal) by 33.36% and 13.94% respectively. However, the energy obtained from pulses was 30.9% less and energy obtained from 'milk and milk products' was 44.11% less than the reference values. The intake of vegetables, fruits, nuts and oils seeds were significantly below the recommended intakes with the energy obtained from them being respectively 43%, 54.4%, 78.1% less than the standard 'My plate (2000Kcal)' suggested values.

The trend in the energy obtained from various food groups shows that 'cereals & millets' and 'fats & oils' were contributing to much higher energy values in these groups than the 'My plate' (2000kcal) suggestion. Whereas,

intake from the other groups containing protective foods such as legumes, milk, nuts, vegetables and fruits was significantly below the recommendation thereby perhaps increasing the risk of non-communicable diseases.

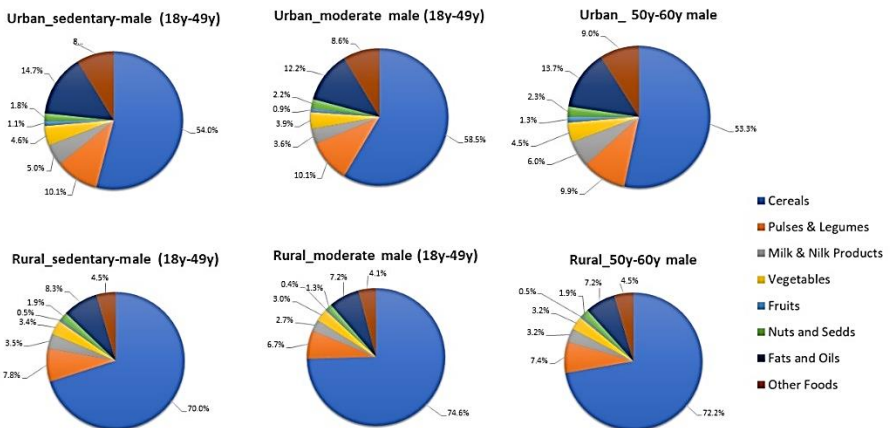
Among the rural sedentary males (18-49 years), except the energy obtained from 'cereals & millets', the rest of the food groups contributed to much less energy per day than the reference 'My plate (2000Kcal)' intake. The energy obtained from 'cereals & millets' was 75% higher than the recommendation. Whereas the energy obtained from pulses, fats and oils were (30-50%) less than reference 'My plate (2000Kcal)'. The energy obtained from 'milk & milk products' and 'vegetables' were (50-70%) less than the reference. The energy obtained from fruits, nuts and oil seeds were around 80% less than recommended intake.

Among the rural moderate activity level males (18-49yrs), the energy obtained from the 'cereals & millets' was 810.67 Kcals (100.3%) higher than the reference 'My plate (2000Kcal)'. However, the energy obtained from the rest of the food groups was very less compared to the reference 'My plate (2000Kcal)', where the energy obtained from 'pulses' was 49.6% less and energy obtained from 'milk & milk products' was 72.9% less than the reference values. The intake of vegetables, fruits, 'nuts & oils seeds', 'fats & oils' were significantly below the recommended intakes with the energy obtained from them being respectively 59.9%, 84%, 86.5%, 35.4% less than the standard 'My plate (2000Kcal)' intake.

Analyzing the intakes of rural males (50-60 years), the energy obtained from the 'cereals & millets' was 707.5 Kcals (87.5%) higher than the reference 'My plate (2000Kcal)'. On the other hand, the energy obtained from the rest of the food groups was strikingly less compared to the reference 'My plate (2000Kcal)', where the energy obtained from 'pulses' was 46.4% less and energy obtained from 'milk & milk products' was 68.9% less than the reference values.

The intake of vegetables, fruits, 'nuts & oils seeds', 'fats & oils' were significantly below the recommended intakes with the energy obtained from them being respectively 58%, 81%, 82%, 38% less than the standard 'my plate (2000Kcal)' intake as given in **Figure-4**.

Figure 4. Proportions of different food groups among Urban and Rural groups consuming a 2000 kilo-calorie diet according to NNMB data.



Overweight and Obesity among different age/activity-groups

We estimated the proportion of overweight and obesity among different age/activity-groups from the NNMB survey data (Table 13). The estimation was done using the ‘Weight-for-Height’ z-score for individuals up to 5 years of age; ‘BMI-for-z score’ for individuals 6 years to 18 years of age and BMI score for individuals above 18 years of age. Since this data was collected from India, in addition to the WHO BMI standards we also analyzed the data using WHO Asian BMI categories for overweight and obesity. Data for children up to 5 years of age showed a slightly higher proportion of children were overweight in the urban settings compared to corresponding rural children. However, the proportion of obesity was equivalent between urban and rural children up to 5 years of age. There was a steady increase in proportion of children who were overweight and obese with increasing age between the ages 6 to 18 years from the rural data with a steep increase in girls after 12 years and in boys after 15 years. It is surprising to note that there is increase in overweight in rural boys (15-18yr) by 3-fold and rural girls by 4-fold over urban, while obesity is higher in rural 15-18yr boys and girls by nearly 10-fold over urban. Overall, the rural data showed 9.5%

overweight and 9.1% obesity in the 6 to 18 years age group compared to 7.2 % overweight and 2.9% obesity in the urban data for the same age group.

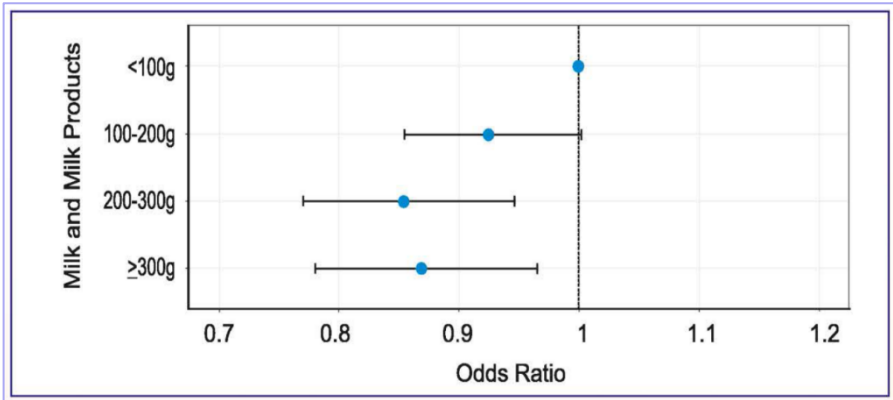
Mostly a trend of reduction in overweight and obesity proportions were seen among adults with increasing activity status among both rural and urban groups using the WHO BMI standards. The highest overweight and obesity percentages were observed among urban sedentary adult females (18 to 49 years old) with 30.6% individuals overweight and 14.1% obese among them when compared to 30.4% overweight and 6.6% obese in urban sedentary males (18-49yr).

The most important observation from analyzing the 18 to 49 years age group data using Asian BMI standards as opposed to the WHO global BMI standards was a stark increase in the proportion of obese individuals in the rural data from 1.7% to 11.4%. Surprisingly the proportion of overweight individuals decreased in the urban data from 29.2% to 17.4% and proportion of obesity increased from 10.5% to 39.7% among the urban individuals. Overall, overweight and obesity was higher in the urban data compared to the rural data (Table 13). While in the rural areas overall overweight prevalence was 16.6%.

Hypertension and Diabetes

The overall prevalence of hypertension (HTN) was 32.8% and 21.9% in urban and rural regions respectively, while the overall prevalence of diabetes was 25.4% in urban and 7.4% in rural areas. Figure 5a shows increased risk of hypertension with low intake of milk and milk products. Figure 5b shows increased risk of diabetes with low intake of vegetables and fruits. Higher intake of other foods such as sweets, ice-creams, carbonated beverages, fried snacks and packaged foods increased the risk of diabetes.

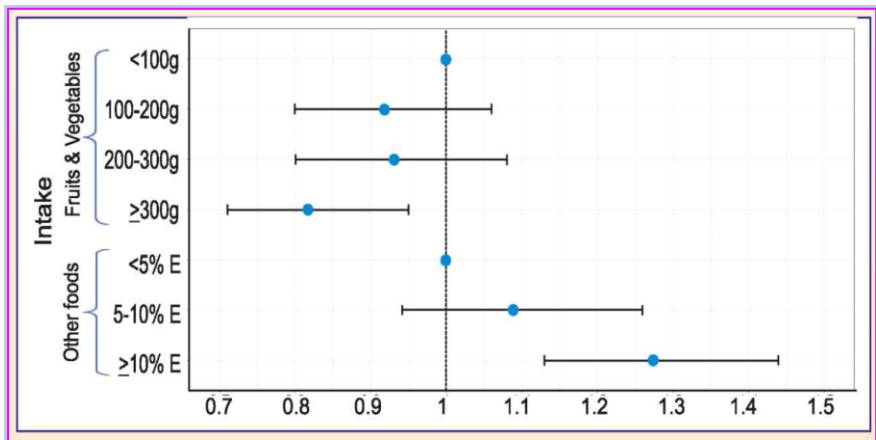
Fig 5a. Intake of milk & milk products and risk of hypertension



Total N=93,851

Odds ratio was adjusted for age, gender, BMI, total energy and total fat Source: NNMB Urban Survey 2016.

Figure 5b. Fruits & vegetables and other food intakes on the risk of diabetes



Total N=40,727;

Odds ratio adjusted for age, gender, BMI, total energy and total fat;

*Fruits & vegetables (excluding potato);

*Other foods include, sweets, ice-creams, carbonated beverages, fried snacks and packaged foods;

*E= Energy; Source: NNMB Urban Survey 2016.

Conclusions

What India eats has very wide population level differences spanning across age groups, activity levels, standard of living index and rural and urban settings. A common observation across most population groups was that there was an over-excess intake of cereals than recommended levels and far less intake of protective foods such as legumes, milk, nuts, vegetables and fruits. The impact of this observation however needs to be corroborated with prevalence levels of nutrition related non-communicable diseases in these groups. The main aspects were more or less similar across India as highlighted below

- Age-group wise data showed a higher mean intake of ‘Cereals and Millets’ in all age groups in the rural survey when compared to data from the urban population.
- Some rural groups consumed over 25% more ‘Cereals and Millets’ than their urban counterparts.
- The trend was reversed for the ‘Pulses’ food group, where almost all but one urban age group showed higher intake than their corresponding rural groups.
- This in turn affected the cereal to pulse ratio for different urban and rural age-groups. Every age-group in the rural data had a lower ‘Cereal to Pulse’ ratio than the corresponding urban age group.
- Mean intake of ‘Milk & Milk products’ and ‘Fats & Oils’ was also higher for all urban age-groups.
- Most urban age groups also consumed far higher ‘Added sugar’ than their rural counterparts.
- Most urban age groups consumed close to double or more in terms of quantity for ‘Eggs and flesh foods’ compared to rural data.
- Mean intake of ‘Nuts and Oilseeds’ was generally higher in most age-groups in the urban data.
- The mean intake of ‘Green Leafy Vegetables’ was mostly higher for majority of the age-groups from the urban data.
- All age-groups in the urban data showed a higher mean intake for food groups ‘Roots and Tubers’, ‘Other Vegetables’ and ‘Fruits’.

- Intake of food from outside (as captured by data for group ‘Other foods’) was almost twice as much in urban India as compared to rural India across all age groups.
- Most urban and rural age groups showed comparable median energy values.
- The median ‘Protein’ intake data for most age-groups in the urban data was slightly higher when compared to their corresponding rural age-groups.
- All urban age groups consumed much higher proportion of ‘Fats’ than their corresponding rural age-groups.
- However, all rural age groups showed a higher intake of carbohydrates compared to urban data.
- The only groups that met the EAR values or had a higher ‘Median per kg Body Weight Energy Intake’ value than the recommended EAR values for that group were Rural Men 18 to 60 years (Sedentary Work), Urban and Rural Women 18 to 60 years (Sedentary Work), and Rural Women 18 to 60 years (Moderate Work) and (Heavy Work). All other urban and rural age/activity groups did not meet the recommended EAR levels corresponding to their group.
- The ‘Median per kg Body Weight Protein Intake’ was higher for all studied urban and rural age/activity groups than the recommended EAR for their respective categories.
- Urban age-groups across all activity levels consumed far less ‘Cereals and millets’ compared to respective activity level groups in the rural population.
- In both rural and urban settings, adult females who categorised into low socio-economic category consumed 14% less ‘Cereals and Millets’ than their male counterparts
- The trend in the energy obtained from various food groups showed that ‘Cereals & millets’ and ‘fats & oils’ were contributing to much higher energy values overall than suggested by the ‘NIN-My plate for the day’. Whereas, intake of other groups containing protective foods such as legumes, milk, nuts, vegetables and fruits was significantly below the recommendation thereby perhaps increasing the risk of non-communicable diseases in the surveyed population.

- Low intake of vegetables and fruits increased the risk of diabetes.
- Low intake of milk and milk products increased the risk of hypertension.

For achieving health, elimination of all forms of malnutrition, to reach the SDGs and to reduce NCDs, there is an urgent need to create awareness among households for inculcating healthy dietary practices and improve intake of locally grown and available protective foods. The increased availability of inexpensive staple cereal crops has reduced hunger, but at the expense of diet diversity, displacing local ingredients and protective foods.

Also, while not everyone has equal access to diverse, micronutrient rich foods such as fresh fruits, vegetables, pulses and nuts, foods that are high in salt, sugars, saturated fats and trans fats have become cheaper and are more widely available. Healthy diet and adequate physical activity are the only strategies for halting or preventing the development of type 2 diabetes, coronary heart disease, stroke etc. Small, judicious changes in dietary intakes will result in huge benefits in the health and nutrition of our population.

ANNEXURES

Table 4. Consumption values of different ‘Food groups’ (Mean values) across different age groups (along with physical activity indices for adults- 18 to 50 years) in the urban and rural population: Pan-India

Population Group	Age (month or year)/ gender/ activity	n		Cereals & Millets (g)		Pulses & Legumes (g)		Milk & Milk products (ml)		Fats and oils (g)		Added Sugar (g)		Eggs and flesh foods (g)	
		Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
Children	6-12m	177	-	42.1	-	8.3	-	143.6	-	4.4	-	8.1	-	2.3	-
	1-3yr	883	1183	93.4	138.3	14.1	16.6	156.1	118.9	9.1	6.4	9.7	13.1	12.8	6.2
	4-6yr	1819	2232	141.5	199.3	22.1	19.9	138.1	71.3	14.5	8.5	11.2	10.8	18.9	8.6
	7-9yr	1875	2392	187	249.5	26.6	23.6	115.1	67.1	18.5	10.3	11.1	10.2	24	11.8
Boys	10-12yr	999	1129	223.8	289.3	31.1	26.1	116.6	59.3	22.3	11.9	12.2	10.7	26	12.4
Girls	10-12yr	910	1062	214.4	279.8	31.4	25.2	100.3	61.9	21.2	11.2	10.8	10.6	28.2	12.2
Boys	13-15yr	1029	1105	267.1	332.1	37.4	27.8	111.6	62.9	24.6	13.1	12.2	11.1	32.6	15.8
Girls	13-15yr	971	1143	236.5	319.7	32.4	27.8	92.3	60.4	22.5	12.4	11.5	10.6	28.1	13.7
Boys	16-18yr	929	875	310.6	386.5	39.7	31.7	108.8	76.6	28.7	15.8	13.5	13.3	33.8	16.5
Girls	16-18yr	1005	1177	248.1	352.2	33.6	28.5	94.9	62.8	24.9	13.2	11.9	11.3	29.6	13.5
Men	18-50yr (Sedentary Work)	5744	1981	323	413.8	45	34.5	120	91.5	33	18.7	15	12.3	40	27.3
	18-50yr (Moderate Work)	2502	5492	360	471.7	44	35.4	90	80	29	17.4	14	12.9	44	16.8
	50+-60yr	1952	1510	322	440.5	46	36	147	90.4	31	16.7	17	14.1	40	22.5
	Elderly 60+yr	1485	1721	293	391.7	44	33	157	99.1	28	16.1	16	14.4	33	18.8
Women	Pregnant Women (Sedentary Work)	292	306	286.3	355.4	40.4	33.7	138.3	79	27.9	15.7	16.1	13.1	30.8	21.6
	Lactating Women (Sedentary Work)	394	665	308.2	397.8	41.1	33.4	108.5	66.9	30	16.7	15.4	13.1	38.3	16.8
	18-50yr (Sedentary Work)	10416	5746	276	360.5	40	30	119	81.3	28	15.9	16	12.9	33	23
	18-50yr (Moderate Work)	751	4223	317	410.8	34	31.8	92	75.3	24	15.1	17	13	30	10.2
	50+-60yr	2027	1848	273	366.3	39	29.9	147	87.8	28	14.4	18	13.3	30	19.3
	Elderly 60+ years	1716	1799	245	319.8	37	27	146	83.7	24	13.6	17	13.6	28	17.8

Table 4. Consumption values of different ‘Food groups’ (Mean values) across different age groups (along with physical activity indices for adults- 18 to 50 years) in the urban and rural population: Pan-India

Population Group	Age (month or year)/ gender/ activity	Nuts and Oil seeds (g)		Green Leafy Veg. (g)		Roots & Tubers (g)		Other Veg. (g)		Fruits (g)		Other foods		Cereal Pulse Ratio	
		Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
Children	6-12m	0.5	-	1.4	-	7.9	-	4.9	-	13.5	-	30.1	-	05:01	-
	1-3yr	2.1	2	4.3	7.2	23.5	20.8	14.4	13.8	27.2	12.9	59.2	30.2	07:01	08:01
	4-6yr	4.2	2.5	8.2	10	43.7	36.5	29.6	20.8	36	15.1	65.6	27.7	06:01	10:01
	7-9yr	4.8	3.6	11.6	11.2	57.8	44.1	37.1	30.4	39.5	15.1	66.2	28.2	07:01	11:01
Boys	10-12yr	6	4.4	14.3	12.8	69.4	49.5	46.7	34.4	44.8	20.1	75.6	28.1	07:01	11:01
Girls	10-12yr	6	3.4	14.3	11.4	65.6	49.1	41.2	34.4	44.6	17	65.3	28.5	07:01	11:01
Boys	13-15yr	7.1	4.5	16.4	15.6	78.2	57	51.9	40.2	47.4	24.6	69.7	29.9	07:01	12:01
Girls	13-15yr	7.5	4.8	14.8	14.7	72.9	57.7	48.9	36.5	44.5	22	66.6	27	07:01	12:01
Boys	16-18yr	7.1	6.2	19	15	85.4	59.6	66.8	39.9	49.3	25	69.5	32.5	08:01	12:01
Girls	16-18yr	6.3	4.3	16.7	15.5	79.5	60.6	56.5	42.8	47.2	22.7	66.8	27.6	07:01	12:01
Men	18-50yr (Sedentary Work)	8.1	9	23	18.9	96	72.5	80	53.6	53	28.4	72	33.5	07:01	12:01
	18-50yr (Moderate Work)	10	6.5	23	19.2	88	66	61	49.7	49	28.4	76	35.4	08:01	13:01
	50+-60yr	11	8.8	24	19.6	92	66.5	83	55.4	57	29.1	78	37.1	07:01	12:01
	Elderly 60+yr	11	8.9	24	19.8	81	63.3	84	50.6	61	27.5	75	35.5	07:01	12:01
Women	Pregnant Women (Sedentary Work)	8.4	6.6	17	18.1	88	61.7	57.9	47.9	81.7	33	66.6	32.6	07:01	11:01
	Lactating Women (Sedentary Work)	7.4	6.6	21.9	19.1	94.1	70	72.5	49.3	45.6	24.3	71.9	31.6	07:01	12:01
	18-50yr (Sedentary Work)	8.1	8.4	22	20.1	86	78	68	52	54	25.5	71	31.2	07:01	12:01
	18-50yr (Moderate Work)	10	5.2	21	16.7	73	44.4	53	40	54	26.2	74	32.1	09:01	13:01
	50+-60yr	9.2	8.5	22	17	79	60.5	76	49.1	59	24.1	72	31.9	07:01	12:01
	Elderly 60+ years	10	8.1	21	18.1	71	53.3	66	41.6	52	23.5	64	30.8	07:01	12:01

Table 5: Median nutrient intakes across different age groups (along with physical activity indices for adults- 18 to 50 years) in the urban and rural population: Pan-India

Sl. No.	Population Group	Age Group (months/ year) /Physical activity	n		**Energy (kcal)		Protein		**Total Fat (g)		**Carbohydrate (g)	
			Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
1	Children	6-12m	177	-	423.2	-	12.5	-	11.8	-	66.8	-
2		1-3yr	883	1183	775.5	734.6	22.1	21.4	22.4	13.7	112.4	123.3
3		4-6yr	1819	2232	1051.4	956.2	29.5	26.8	29.8	14.1	154.8	167.8
4		7-9yr	1875	2392	1237.8	1145.5	34.1	32.3	32.8	16.8	185.7	203
5	Boys	10-12yr	999	1129	1440.9	1334.3	39.9	36.4	38.9	18.4	216	237.4
6	Girls	10-12yr	910	1062	1391.8	1267.8	38.2	34.9	36.1	17.4	206.5	227.9
7	Boys	13-15yr	1029	1105	1628.9	1523.7	45	41.1	40.5	20.4	251.4	274.1
8	Girls	13-15yr	971	1143	1452	1433.9	40.6	39.8	37.4	19.6	225.9	261.5
9	Boys	16-18yr	929	875	1804.3	1751.4	50	47.8	45.4	24.1	281.8	313.3
10	Girls	16-18yr	1005	1177	1543.4	1558.8	43	42.8	40	20.8	235.4	283.6
11	Men	18-50yr (Sedentary Work)	5744	1981	1966	1947.5	55	53.6	50	30.1	297.4	343.3
12		18-50yr (Moderate Work)	2502	5492	2026	2067.7	57	56.6	45	27.2	320.8	377.4
13		50+-60yr	1952	1510	1991	2020	57	55.5	51	28.7	303.3	363.6
14		Elderly 60+yr	1485	1721	1820	1814.9	52	50.3	46	28.1	276.5	323.1
15	Women	Pregnant Women (Sedentary Work)	292	306	1732.3	1718.3	48.1	46.4	43.8	24.5	274.2	303.9
16		Lactating Women (Sedentary Work)	394	665	1890.9	1823.2	53.1	49.3	46.9	24.9	294.7	325.5
17		18-50yr (Sedentary Work)	10416	5746	1725	1721	48	46.7	45	25.9	262.6	303.8
18		18-50yr (Moderate Work)	751	4223	1783	1813.2	48	49	39	24.2	288.3	332.8
19		50+-60yr	2027	1848	1720	1723	49	47.7	45	25.1	259.9	305.7
20		Elderly 60+ yr.	1716	1799	1549	1514.2	44	41.7	40	23	236.9	266.8

Table 8. Recommended EAR values for different age/activity groups for Indians as published in the ‘Nutrient Requirements for Indians’ by ICMR-National Institute of Nutrition

Age Group	Physical activity		Body Wt #	Energy		Protein	
			(Kg)	(Kcal/d)**	(Kcal/kg/day)	(g/d)	EAR ## (g/kg/d)
Men	Sedentary		65	2110	32	43.0	0.66
	Moderate			2710	42		
	Heavy			3470	53		
Women	Sedentary		55	1660	30	36.0	0.66
	Moderate			2130	39		
	Heavy			2720	49		
	Pregnant		55	+350		+7.6 (2nd Trimester)	
			10			+17.6 (3rd Trimester)	
	Lactating		-			+13.6	
0-6 m		+600				+10.6	
7-12 m			+350				
Infants	0-6 m*		5.8	530	90	7.0	1.16
	6-12m		8.5	680	80	9.0	1.04
Children***	1-3yr		12.9	1110	83	10.0	0.79
	4-6yr		18.3	1360	74	13.0	0.7
	7-9yr		25.3	1700	67	19.0	0.75
	10-12yr		34.9	2220	64	27.0	0.75
Boys	10-12yr		36.4	2060	57	27.0	0.73
Girls	13-15yr		50.5	2860	57	36.0	0.72
Boys	13-15yr		49.6	2400	49	35.0	0.7
Girls	16-18yr		64.4	3320	52	45.0	0.7
Boys	16-18yr		55.7	2500	45	37.0	0.67

* Adequate Intake (AI); ** There is no RDA for energy, the EAR for energy is equivalent to the Estimated Energy Requirement (EER)

*** Energy needs of children and adolescents have been computed for reference children and adolescents; these reference children were assumed to have a moderate daily physical activity level. The actual requirement in specific population groups should be adjusted for the actual weight and physical activity of that population.

Body weights are taken from Chapter 3: WHO child growth standard (for 0-5 years), WHO growth reference (for 6-17 years) and NNMB 2016 urban data (for adults)

EAR, Estimated Average Requirement

**Table 9. Comparison of ‘Energy’ intake values with Estimated Average Requirement (EAR)
for different age/ physical activity groups**

Population Group	Age Group (m/yr) /Physical activity	Urban Data				Rural Data				EAR
		N	Median Weight	Median Energy Intake	Median per kg Body Weight Energy Intake	N	Median Weight	Median Energy Intake	Median per kg Body Weight Energy Intake	
Children	<6m	-	-	-	-	-	-	-	-	90
	6-12m	177	8.0	423.20	57.47	25	7.1	330.72	47.73+E milk	80
	1-3yr	1484	11.2	853.90	76.03	1933	10.3	847.26	82.11	83
	4-6yr	1832	16.1	1136.03	69.68	2322	14.3	1037.01	71.25	74
	7-9yr	1914	22.3	1285.90	56.97	2241	19.0	1243.83	64.75	67
Boys	10-12yr	1020	29.6	1479.20	48.59	1185	25.4	1410.41	53.90	64
Girls	10-12yr	927	31.6	1405.19	44.12	1156	25.5	1329.94	51.08	57
Boys	13-15yr	993	44.2	1700.48	38.20	1023	36.0	1605.48	44.98	57
Girls	13-15yr	977	42.1	1517.63	35.83	1115	37.2	1523.38	40.95	49
Boys	16-18yr	598	51.9	1817.98	33.37	547	46.0	1783.23	38.13	52
Girls	16-18yr	675	45.4	1535.17	32.99	776	41.5	1604.44	38.16	45
Men	18-60yr (Sedentary Work)	7193	65.7	1971.01	30.14	2300	55.7	1963.20	34.06	32
	18-60yr (Moderate Work)	3003	60.8	2018.80	33.29	6673	52.3	2068.60	38.80	42
	18-60yr (Heavy Work)	17	60.2	2134.13	37.84	51	49.4	2054.74	41.75	53
	Above 60yr	1716	54.9	1548.86	28.85	1799	42.4	1516.25	34.70	-
Women	18-60yr (Sedentary Work)	12308	57.2	1724.32	30.52	6825	46.6	1727.09	36.12	30
	18-60yr (Moderate Work)	886	52.8	1770.80	33.46	4987	44.2	1812.40	40.63	39
	18-60yr (Heavy Work)	-	-	-	-	17	43.3	2035.85	49.16	49
	Pregnant Women	297	52.6	1733.07	32.36	437	47.7	1749.11	36.77	
	Lactating Women	403	51.7	1886.70	35.68	955	43.5	1896.26	42.32	
	Above 60yr	1485	61.4	1819.97	30.02	1721	49.8	1825.69	35.73	

Table 10a. Median Protein intake in Urban and Rural areas based on Age and Physical activity groups

Population Group	Age Group (m/ yr) / Physical activity	URBAN			RURAL		
		n	Total Protein (Median)	Protein/kg (Median)	n	Total Protein (Median)	Protein/kg (Median)
Children	6-12m	148	12.6	1.63	25	8.46	1.28
	1-3yr	1484	24.05	2.13	1933	23.77	2.31
	4-6yr	1832	31.89	1.94	2322	28.94	2
	7-9yr	1914	35.67	1.58	2241	34.19	1.8
Boys	10-12yr	1020	41.2	1.35	1185	38.44	1.46
Girls	10-12yr	927	39.02	1.22	1156	36.39	1.38
Boys	13-15yr	993	47.18	1.09	1023	43.77	1.22
Girls	13-15yr	977	42.14	0.99	1115	41.42	1.12
Boys	16-18yr	598	50.09	0.95	547	48.79	1.04
Girls	16-18yr	675	42.52	0.93	776	44.1	1.06
Men	18-60yr (Sedentary Work)	7193	55.23	0.85	2300	54.14	0.95
	18-60yr (Moderate Work)	3003	56.72	0.95	6673	56.9	1.07
	18-60yr (Heavy Work)	17	53.5	0.96	51	55.67	1.09
	Elderly 60+yr	1716	44.42	0.84	1799	41.99	0.95
Women	Pregnant Women (Sedentary Work)	297	48.14	0.93	437	46.9	0.98
	Lactating Women (Sedentary Work)	403	52.89	1.03	955	51.4	1.17
	18-60yr (Sedentary Work)	12308	48.27	0.86	6825	47.42	0.99
	18-60yr (Moderate Work)	886	47.71	0.94	4987	49.33	1.11
	18-60yr (Heavy Work)	0			17	52.12	1.25
	Elderly 60+yr	1485	51.8	0.88	1721	50.72	0.98

Table 10b. Contribution of each ‘Food Group’ towards Mean intake of total Protein for different Age Groups in Urban Population

Population Group	Age Group/Physical activity	n	Total Protein Intake	Cereals & Millets (g)			Pulses & Legumes(g)		
				Intake Mean	Mean Protein obtained	%	Intake Mean	Mean Protein obtained	%
Children	6-12 m	177	14.2	42.14	3.97	27.96	8.27	1.73	12.22
	1-3yr	1484	25.09	106.81	9.67	38.53	16.11	3.48	13.87
	4-6yr	1832	33.68	159.96	14.66	43.54	24.4	5.16	15.33
	7-9yr	1914	37.87	196.02	17.94	47.39	27.25	5.8	15.31
Boys	10-12yr	1020	44.1	238.51	21.84	49.51	33.36	7.16	16.24
Girls	10-12yr	927	41.51	220.96	19.99	48.16	32.47	6.73	16.22
Boys	13-15yr	993	51.29	284.11	25.77	50.24	39.81	8.23	16.04
Girls	13-15yr	977	44.67	245.14	22.55	50.49	33.04	7.11	15.92
Boys	16-18yr	598	54.51	315.76	29.04	53.28	38.5	8.11	14.89
Girls	16-18yr	675	45.22	246.43	22.72	50.23	34.13	7.07	15.63
Men	18-60yr (Sedentary Work)	7193	58.61	321.7	29.34	50.05	45.4	9.38	16
	18-60yr (Moderate Work)	3003	60.03	356.79	31.76	52.91	43.85	8.73	14.54
	18-60yr (Heavy Work)	17	58.95	383.32	30.47	51.69	67.82	10.05	17.05
	Elderly 60yr +	1716	47.66	244.85	22.21	46.6	37.16	7.68	16.11
Women	Pregnant Women (Sedentary Work)	297	52.8	286.45	25.65	48.58	40.28	8.62	16.33
	Lactating Women (Sedentary Work)	403	55.9	307.7	27.9	49.91	40.82	8.95	16.01
	18-60yr (Sedentary Work)	12308	51.24	274.89	24.72	48.24	39.6	8.31	16.22
	18-60yr (Moderate Work)	886	50.78	313.79	27.04	53.25	33.82	7.18	14.13
	18-60yr (Heavy Work)	0							
	Elderly 60yr +	1485	56.02	292.8	26.82	47.87	43.84	9.25	16.51

(contd..)

Table 10b. Contribution of each ‘Food Group’ towards Mean intake of total Protein for different Age Groups in Urban Population

Population Group	Age Group/Physical activity	n	Total Protein Intake	Milk (g)			Fish/Meat/Eggs (g)			Nuts (g)		
				Intake Mean	Mean Protein obtained	Intake Mean	Mean Protein obtained	Intake Mean	Mean Protein obtained	Intake Mean	Mean Protein obtained	%
Children	6-12 m	177	14.2	143.6	5.19	143.6	5.19	143.6	5.19	0.52	0.07	0.49
	1-3yr	1484	25.09	153.26	5.43	153.26	5.43	153.26	5.43	2.45	0.23	0.92
	4-6yr	1832	33.68	128.47	4.55	128.47	4.55	128.47	4.55	4.93	0.44	1.29
	7-9yr	1914	37.87	115.27	4	115.27	4	115.27	4	4.98	0.48	1.27
Boys	10-12yr	1020	44.1	110.46	3.97	110.46	3.97	110.46	3.97	6.03	0.53	1.2
Girls	10-12yr	927	41.51	95.26	3.38	95.26	3.38	95.26	3.38	7.09	0.61	1.47
Boys	13-15yr	993	51.29	108.42	3.89	108.42	3.89	108.42	3.89	7.43	0.63	1.22
Girls	13-15yr	977	44.67	94.16	3.3	94.16	3.3	94.16	3.3	7	0.68	1.52
Boys	16-18yr	598	54.51	110.95	3.83	110.95	3.83	110.95	3.83	6.97	0.61	1.13
Girls	16-18yr	675	45.22	93.58	3.3	93.58	3.3	93.58	3.3	6.07	0.56	1.24
Men	18-60yr (Sedentary Work)	7193	58.61	127.91	4.56	127.91	4.56	127.91	4.56	8.49	0.8	1.37
	18-60yr (Moderate Work)	3003	60.03	93.65	3.31	93.65	3.31	93.65	3.31	10.48	0.89	1.49
	18-60yr (Heavy Work)	17	58.95	89.3	3.4	89.3	3.4	89.3	3.4	16.35	1.2	2.04
	Elderly 60yr +	1716	47.66	145.53	5.14	145.53	5.14	145.53	5.14	9.55	0.74	1.55
Women	Pregnant Women (Sedentary Work)	297	52.8	137.51	4.66	137.51	4.66	137.51	4.66	9.04	0.84	1.59
	Lactating Women (Sedentary Work)	403	55.9	107.85	3.94	107.85	3.94	107.85	3.94	7.46	0.67	1.21
	18-60yr (Sedentary Work)	12308	51.24	123.37	4.37	123.37	4.37	123.37	4.37	8.5	0.75	1.47
	18-60yr (Moderate Work)	886	50.78	93.91	3.27	93.91	3.27	93.91	3.27	10.17	0.99	1.94
	18-60yr (Heavy Work)	0										
	Elderly 60yr +	1485	56.02	156.9	5.39	156.9	5.39	156.9	5.39	10.6	0.81	1.45

Table 10c. Contribution of each ‘Food Group’ towards intake of total protein for different age groups in Rural population

Population Group	Age Group (m/yr) /Physical activity	n	Total Protein Intake	Cereals & Millets (g)			Pulses & Legumes(g)		
				Mean Intake	Mean Protein obtained	%	Mean Intake	Mean Protein obtained	%
Children	6-12m	25	9.6	45.33	3.83	39.9	4.83	1.18	12.3
	1-3yr	1933	25.57	157.29	14.02	54.8	17.87	4.12	16.1
	4-6yr	2322	30.99	215.26	19.29	62.3	20.87	4.67	15.1
	7-9yr	2241	36.94	264.83	23.51	63.6	24.33	5.34	14.5
Boys	10-12yr	1185	40.98	303.5	26.82	65.4	26.28	5.73	14
Girls	10-12yr	1156	39.42	292.49	25.82	65.5	26.35	5.81	14.7
Boys	13-15yr	1023	46.59	350.14	30.88	66.3	30.26	6.59	14.2
Girls	13-15yr	1115	43.91	331.97	29.11	66.3	27.4	5.94	13.5
Boys	16-18yr	547	52.02	390.93	34.14	65.6	30.9	6.73	12.9
Girls	16-18yr	776	46.95	356.78	31.81	67.8	29.64	6.47	13.8
Men	18-60yr (Sedentary Work)	2300	57.83	412.11	36.22	62.6	34.27	7.43	12.8
	18-60yr (Moderate Work)	6673	60.04	468.16	41.31	68.8	35.65	7.82	13
	18-60yr (Heavy Work)	51	55.38	434.75	35.98	65	32.87	7.33	13.2
	Elderly 60yr +	1799	44.44	319.82	27.97	62.9	27.01	5.91	13.3
Women	Pregnant Women (Sedentary Work)	437	50.12	371.89	32.63	65.1	34.43	7.54	15.1
	Lactating Women (Sedentary Work)	955	54.21	409.79	36.45	67.3	35.41	7.93	14.6
	18-60yr (Sedentary Work)	6825	50.03	358.37	30.96	61.9	29.83	6.52	13
	18-60yr (Moderate Work)	4987	51.4	408.16	35.75	69.6	31.71	6.93	13.5
	18-60yr (Heavy Work)	17	53.61	453.55	36.62	68.3	28.71	6.64	12.4
	Elderly 60yr +	1721	53.63	391.67	34.36	64.1	32.98	7.27	13.6

Table 10c. Contribution of each ‘Food Group’ towards intake of total protein for different age groups in rural population

Population Group	Age Group (m/yr) /Physical activity	n	Total Protein Intake	Milk (g)			Fish/Meat/Egg (g)		
				Mean Intake	Mean Protein obtained	%	Mean Intake	Mean Protein obtained	%
Children	6-12m	25	9.6	76.86	2.66	27.8	76.86	2.66	27.8
	1-3yr	1933	25.57	102.61	3.48	13.6	102.61	3.48	13.6
	4-6yr	2322	30.99	68.56	2.26	7.3	68.56	2.26	7.3
	7-9yr	2241	36.94	64.72	2.05	5.5	64.72	2.05	5.5
Boys	10-12yr	1185	40.98	58.24	1.86	4.5	58.24	1.86	4.5
Girls	10-12yr	1156	39.42	60.46	1.89	4.8	60.46	1.89	4.8
Boys	13-15yr	1023	46.59	72.04	2.18	4.7	72.04	2.18	4.7
Girls	13-15yr	1115	43.91	58.91	1.85	4.2	58.91	1.85	4.2
Boys	16-18yr	547	52.02	73.59	2.3	4.4	73.59	2.3	4.4
Girls	16-18yr	776	46.95	66.03	1.97	4.2	66.03	1.97	4.2
Men	18-60yr (Sedentary Work)	2300	57.83	95.2	3.06	5.3	95.2	3.06	5.3
	18-60yr (Moderate Work)	6673	60.04	80.54	2.46	4.1	80.54	2.46	4.1
	18-60yr (Heavy Work)	51	55.38	64.5	1.97	3.6	64.5	1.97	3.6
	Elderly 60yr +	1799	44.44	83.73	2.63	5.9	83.73	2.63	5.9
Women	Pregnant Women (Sedentary Work)	437	50.12	73.35	2.37	4.7	73.35	2.37	4.7
	Lactating Women (Sedentary Work)	955	54.21	69.2	2.15	4	69.2	2.15	4
	18-60yr (Sedentary Work)	6825	50.03	83.85	2.69	5.4	83.85	2.69	5.4
	18-60yr (Moderate Work)	4987	51.4	75.23	2.28	4.4	75.23	2.28	4.4
	18-60yr (Heavy Work)	17	53.61	7.98	0.27	0.5	7.98	0.27	0.5
	Elderly 60yr +	1721	53.63	99.1	3.14	5.9	99.1	3.14	5.9

Table 10d. Comparison of ‘Protein’ intake values with Estimated Average Requirement (EAR) for different age groups

Population Group	Age Group (m/yr) /Physical activity	Urban				Rural				EAR
		N	Median Weight	Median Protein Intake	Median per kg Body Weight Protein Intake	N	Median Weight	Median Protein Intake	Median per kg Body Weight Protein Intake	
Children	<6 m	-	-	-	-	-	-	-	-	1.16
	6-12 m	177	8.0	12.6	1.63	25	7.1	8.46	1.28	1.04
	1-3yr	1484	11.2	24.1	2.13	1933	10.3	23.77	2.31	0.79
	4-6yr	1832	16.1	31.9	1.94	2322	14.3	28.94	2.00	0.70
	7-9yr	1914	22.3	35.7	1.58	2241	19.0	34.19	1.80	0.75
Boys	10-12yr	1020	29.6	41.2	1.35	1185	25.4	38.44	1.46	0.75
Girls	10-12yr	927	31.6	39.0	1.22	1156	25.5	36.39	1.38	0.73
Boys	13-15yr	993	44.2	47.2	1.09	1023	36.0	43.77	1.22	0.72
Girls	13-15yr	977	42.1	42.1	0.99	1115	37.2	41.42	1.12	0.70
Boys	16-18yr	598	51.9	50.1	0.95	547	46.0	48.79	1.04	0.70
Girls	16-18yr	675	45.4	42.5	0.93	776	41.5	44.10	1.06	0.67
Men	18-60yr (Sedentary Work)	7193	65.7	55.2	0.85	2300	55.7	54.14	0.95	0.66
	18-60yr (Moderate Work)	3003	60.8	56.7	0.95	6673	52.3	56.90	1.07	0.66
	18-60yr (Heavy Work)	17	60.2	53.5	0.96	51	49.4	55.67	1.09	0.66
	Above 60yr	1716	54.9	44.4	0.84	1799	42.4	41.99	0.95	-
Women	18-60yr (Sedentary Work)	12308	57.2	48.3	0.86	6825	46.6	47.42	0.99	0.66
	18-60yr (Moderate Work)	886	52.8	47.7	0.94	4987	44.2	49.33	1.11	0.66
	18-60yr (Heavy Work)	-	-	-	-	17	43.3	52.12	1.25	0.66
	Pregnant Women	297	52.6	48.1	0.93	437	47.7	46.90	0.98	-
	Lactating Women	403	51.7	52.9	1.03	955	43.5	51.40	1.17	-
	Above 60yr	1485	61.4	51.8	0.88	1721	49.8	50.72	0.98	-

Table 11. Comparison of food and nutrient intakes among different urban and rural adult groups based on gender and Physical activity

Physical activity/ Area/ Gender (n)		Sedentary				Moderate				Heavy		
		Rural		Urban		Rural		Urban		Rural		Urban
		Male (3139)	Female (9282)	Male (8482)	Female (14651)	Male (7550)	Female (5721)	Male (3198)	Female (959)	Male (56)	Female (17)	Male (18)
Food Groups*(g)	Cereals & Millets	393.8	353.81	316.4	272.4	464.7	406.65	355.3	312.5	426.9	453.5	374.79
	Pulses & Legumes	33.2	29.58	45.3	39.4	35.6	32.28	43.6	33.7	32.7	28.7	65.92
	Fats & Oils	17.8	15.34	32.1	27.7	17.2	15.21	28.1	23.9	16.5	11.6	19.09
	Flesh Food	27.3	22.05	38.5	32.3	16.7	10.18	43.6	30.3	23.4	22.8	40.64
	Milk & Milk Products	96.9	82.66	133.2	126.1	82.5	74.97	95.2	92.7	60.4	8	93.60
	Nuts & Oil seeds	9.9	8.5	8.8	8.6	6.7	5.04	10.4	10.1	10.2	0.1	18.22
	Vegetables	73.8	69.85	106.2	91.4	69.4	56.54	84	74.2	78.3	107.8	72.62
	Roots & Tubers	71.1	72.73	93.1	83.4	65.1	44.2	88	74.6	60	58.5	83.13
	Fruits	27.9	25.09	55.9	55.2	28.6	25.79	49.3	53.9	25.2	24.2	40.89
	Other Foods	34.6	31.12	73.2	70.4	35.6	32.23	76.2	73.8	39	16.1	109.90
Total Salt	6.1	5.74	7.1	6.4	6.2	5.23	7.7	7.2	7.3	7.6	8.15	
**Nutrients	Energy (kcal)	1873.7	1686.1	1945.2	1710.2	2050.5	1802.4	2014.6	1762.4	2025.3	2000.9	2083.67
	Protein(g)	52	46.1	54.8	48	56.1	48.8	56.6	47.5	54.8	52.1	54.77
	Fat(g)	30.1	25.3	50.1	44.2	27.3	24.3	45	38.8	28.3	17.7	47.59
	Carbohydrate(g)	327.3	297.5	294.1	259.9	374.7	329.5	319.3	285.9	391.9	381.7	339.15

*Mean Intake Values (Food groups) **Median Intake Values (Nutrients)

Table 12. Comparison of food groups and nutrients among different urban and rural adult groups based on gender and socio-economic status

Socio-economic status/ Area/ Gender		Poor				Normal				Wealthy			
		Rural		Urban		Rural		Urban		Rural		Urban	
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
n		4028	5560	3434	4932	2772	3925	3335	4411	3945	5535	4925	6263
Food Groups*(g)	Cereals & Millets	468.4	399.3	353.1	297.7	462.8	392.9	330.3	276.5	405.2	335.3	306.8	255.7
	Pulses & Legumes	34.4	30.1	40.1	35.1	35.9	32	45.7	39.4	34.8	30.1	47.5	41.9
	Fats & Oils	15.7	13.6	27	24.1	17.1	15.2	30.1	27.1	19.3	17	34.4	30.5
	Flesh Food	10.3	9.1	39.2	32	14.8	11.7	41.9	34.1	33.1	30.1	39	30.8
	Milk & Milk Products	60.2	53.3	73.8	76.2	90.7	80.2	111.7	115	110.6	105.7	164.4	168
	Nuts & Oil seeds	2.3	2.3	6.4	6	7.6	6.8	9	8.9	13.3	12.3	11.4	10.7
	Vegetables	71.6	63.7	97.7	87.5	63.4	59.6	98.5	88.6	75	69.7	102.9	93.9
	Roots & Tubers	75.1	69.1	105.5	94.1	58.4	53.4	87.3	79.9	64.3	60.6	85.1	76.2
	Fruits	21.4	19	38.5	40.3	33.8	30.3	51	53.5	31.7	28.2	67	67.9
	Other Foods	28.2	25.9	66.7	63.6	41.8	34.2	73.6	69.2	38.1	35.2	79.6	77
Total Salt	5.6	5.1	7	6.4	6.8	6.1	7.4	6.5	6.3	5.7	7.4	6.6	
**Nutrients	Energy (kcal)	1969.5	1726	1934.4	1695.9	2092.9	1799.2	1956.1	1701.7	1963	1688.2	1984.7	1737
	Protein(g)	54.5	47.5	54.3	46.8	55.2	47.2	55.7	48	54.7	46.9	55.9	48.9
	Fat(g)	23.6	21	39.9	36.8	27.5	24.4	47.1	43.2	33.6	30.1	56	50.6
	Carbohydrate(g)	366.3	319.1	314.9	275.1	384.6	328.7	301.8	261.9	341.9	289.6	288.7	251.1

*Mean Intake Values (Food groups) **Median Intake Values (Nutrients)

Table 14. Age/activity groupwise Rural and Urban Overweight and Obese data

Age Groups	Rural				Urban			
	n	Overweight n (%)	Obesity n (%)	Total n(%)	n	Overweight n (%)	Obesity n (%)	Total n(%)
WHZ (6m-5y)								
6-12 m	65	1(1.5)	1(1.5)	2(3.1)	149	4(2.7)	4(2.7)	8(5.4)
1-3yr	1259	7(0.6)	18(1.4)	25(2)	883	17(1.9)	8(0.9)	25(2.8)
3-5yr	1357	13(1)	10(0.7)	23(1.7)	1184	25(2.1)	10(0.8)	35(3)
Total	2681	21(0.8)	29(1.1)	50(1.9)	2216	46(2.1)	22(1)	68(3.1)
BAZ (6m-18yr)								
6-9yr	3150	17(0.5)	8(0.3)	25(0.8)	2510	112(4.5)	75(3)	187(7.5)
9-12yr (B)	1129	8(0.7)	9(0.8)	17(1.5)	999	85(8.5)	41(4.1)	126(12.6)
9-12yr (G)	1062	21(2)	9(0.8)	30(2.8)	910	78(8.6)	23(2.5)	101(11.1)
12-15yr (B)	1105	62(5.6)	42(3.8)	104(9.4)	1029	98(9.5)	28(2.7)	126(12.2)
12-15yr (G)	1142	141(12.3)	98(8.6)	239(20.9)	971	72(7.4)	23(2.4)	95(9.8)
15-18yr (B)	1229	292(23.8)	262(21.3)	554(45.1)	929	78(8.4)	21(2.3)	99(10.7)
15-18yr (G)	1595	449(28.2)	519(32.5)	968(60.7)	1005	75(7.5)	29(2.9)	104(10.3)
Total	10412	990(9.5)	947(9.1)	1937(18.6)	8353	598(7.2)	240(2.9)	838(10)
BMI_WHO (18-49yr)								
S_M	1744	248(14.2)	35(2)	283(16.2)	5651	1717(30.4)	374(6.6)	2091(37)
M-M	5375	358(6.7)	39(0.7)	397(7.4)	2482	554(22.3)	118(4.8)	672(27.1)
H_M	41	3(7.3)	1(2.4)	4(9.8)	15	3(20)	0(0)	3(20)
S_F	5449	732(13.4)	170(3.1)	902(16.6)	10316	3153(30.6)	1456(14.1)	4609(44.7)
M-F	4144	288(6.9)	32(0.8)	320(7.7)	750	191(25.5)	68(9.1)	259(34.5)
H_F	12	0(0)	0(0)	12(100)	0	0	0	0
Total	16765	1629(9.7)	277(1.7)	1918(11.4)	19214	5618(29.2)	2016(10.5)	7634(39.7)
BMI Asia (18-49yr)								
S_M	1744	215(12.3)	283(16.2)	498(28.6)	5651	1135(20.1)	2088(36.9)	3223(57)
M-M	5375	469(8.7)	397(7.4)	866(16.1)	2482	462(18.6)	670(27)	1132(45.6)
H_M	41	4(9.8)	4(9.8)	8(19.5)	15	1(6.7)	3(20)	4(26.7)
S_F	5449	574(10.5)	902(16.6)	1476(27.1)	10316	1626(15.8)	4600(44.6)	6226(60.4)
M-F	4144	331(8)	320(7.7)	651(15.7)	750	119(15.9)	259(34.5)	378(50.4)
H_F	12	2(16.7)	0(0)	2(16.7)	0	0	0	0
Total	16765	1595(9.5)	1906(11.4)	3501(20.9)	19214	3343(17.4)	7620(39.7)	10963(57.1)

WHZ: Weight for Height; BAZ: BMI for Age; BMI: Body Mass Index; WHO: World Health Organization

S_M: Sedentary male; M_M Moderate male; H_M: Heavy male

S_F: Sedentary female; M_F: Moderate Female; H_F: Heavy Female; (B): Boys; (G): Girls

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