

ANNEXURE: 3	Dietary Guidelines for Indian Elderly		
CHAPTER: 9	Food & Beverage - Dining Services		
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Dietary Guidelines for Indians

(Source: Dietary Guidelines for Indians, National Institute of Nutrition, Hyderabad),
Nutritional requirements for the elderly in India: A status paper, PubMed Central) &
(Training Manual on Elderly Care for Community Health Officer at Ayushman Bharat – Health
and Wellness Centres)

As people grow older, they tend to become physiologically less active and therefore need fewer calories to maintain their weights. The daily intake of oil should not exceed 20 g. Use of ghee, vanaspati, butter, and coconut oil should be avoided. They need foods rich in protein such as pulses, toned milk, egg-white etc. The elderly population is prone to various nutritional deficiencies. Therefore, the elderly need nutrient rich foods rich in calcium, micro-nutrients and fibre. Apart from cereals and pulses, they need daily at least 200-300 ml of milk and milk products and 400 g of vegetables and fruits to provide fibre, micro-nutrients and antioxidants. Inclusion of these items in the diet improves the quality of the diet and bowel function. Fresh foods and eggs add to the quality of diet. The diet needs to be well cooked, soft and less salty and spicy. Small quantities of food should be consumed at more frequent intervals and adequate water should be consumed to avoid dehydration (hyponatraemia – lower than normal levels of blood sodium) and constipation.

Micronutrients linked to age-related disorders (Source: Nutritional requirements for the elderly in India: A status paper, PubMed Central)

S,No	Micronutrient	Disorder
1	Zinc	Age-related Macular Degeneration (AMD)
2	Vitamin C and zinc	Alzheimer's disease
3	Vitamin B6, B12 and folate	Cognitive impairment
4	Vitamin D	Obesity, Cardiovascular Diseases (CVD)
5	Vitamin C	Cataract
6	Vitamin B6, B12 and folate	Cardiovascular Diseases (CVD)
7	Vitamin B6, zinc and selenium	Reduced immune response
8	Thiamine, manganese and copper	Glucose intolerance
9	Thiamine	Depression
10	Vitamin D and calcium	Osteoporosis
11	Protein, PUFA, vitamins B6, B12, C, D, E, folate, β -carotene and selenium	Frailty

The latest ICMR-2020 recommendations include three important dietary reference values (specific to age, gender and physiological groups): estimated average requirements (EAR), RDA and tolerable upper intake level (TUL).

For example, the ICMR (2020) recommendations for energy and VD for the elderly are lower and higher, respectively. These are based on the postulates that the energy requirement will decrease by 100 and 70 Kcal per decade for men and women, respectively, while increased VD was recommended considering the higher need of VD to prevent age-associated osteopenia and high prevalence of VD deficiency among the elderly population in India. Similarly, such an exercise is required for deriving the dietary requirements of other nutrients for the elderly in India.

Suggested Daily Nutrient recommendations for the Elderly (≥60 years) in India

S.No	Nutrients	Men (≥60 yr)\$		Women (≥60 yr)\$	
		EAR	RDA	EAR	RDA
1	Energy (Kcal)*	1700	-	1500	-
2	Dietary fibre (g)	-	32	-	25
3	Protein (g)	42.9	54.0	36.3	45.7
4	Vitamin A (µg)	460	1000	390	840
5	Thiamine B1 (mg)	1.2	1.4	1.1	1.4
6	Riboflavin B2 (mg)	1.6	2.0	1.6	1.9
7	Niacin (mg)	-	12	-	9
8	Vitamin C (mg)	65	80	55	65
9	Vitamin B6 (mg)	1.6	1.9	1.6	1.9
10	Folate (µg)	250	300	180	200
11	Vitamin B12 (µg)	2.0	2.2	2.0	2.2
12	Vitamin D (IU)	400	800	400	800
13	Calcium (mg)	800	1200	800	1200
14	Magnesium (mg)	370	440	310	370
15	Iron (mg)	11	19	11	19
16	Zinc (mg)	14	17	11	13.2
17	Iodine (µg)	95	150	95	150

- Estimated Average Requirement (EAR)
- Recommended Dietary Allowances (RDAs)
- Dietary Reference Intake (DRI)
- Estimated Energy Requirement (EER)
 - There is no RDA for energy. The EAR is equivalent to the EERs
 - Please note that excepting energy, vitamin D and calcium, these recommendations are same as that suggested for adults.
 - EAR for energy is 2110 Kcal/day (sedentary adult man) and 1660 Kcal (for sedentary adult woman).

- EAR and RDA for vitamin D are 400 and 600 IU/day (for both adult man and woman).
- RDA for calcium is 1000 mg/day (for both adult man and woman).

Portion Size of Foods (raw) and Nutrients

(Source: Dietary Guidelines for Indians, National Institute of Nutrition, Hyderabad)

S.No		g/Portion	Energy (Kcal)	Protein (g)	Carbohydrate (g)	Fat (g)
1	Cereals & Millets	30	100	3.0	20	0.8
2	Pulses	30	100	6.0	15	0.7
3	Egg	50	85	7.0	-	7.0
4	Meat/Chicken/fish	50	100	9.0	-	7.0
5	Milk (ml) & Milk Products	100	70	3.0	5	3.0
6	Roots & Tubers	100	80	1.3	18	-
7	Green Leafy Vegetables	100	46	3.6	-	0.4
8	Other vegetables	100	28	1.7	-	0.2
9	Fruits	100	40	-	10	-
10	Sugar	5	20	-	5	-

Some Nutrient-rich Foods

S.No	Nutrients	Food Groups	Foods	Nutrient content for 100 g edible portion
1	Energy	Cereals and Tubers	Rice, Wheat and Tapioca	340 Kcal
		Nuts and Oilseeds	Almond, Cashew, Dry Coconut and Groundnut	600 Kcal
		Vegetable Oil, Ghee		900 Kcal

S.No	Nutrients	Food Groups	Foods	Nutrient content for 100 g edible portion
2	Protein	Pulses and Legumes	Bengalgram, Blackgram, Greengram, Lentil and Redgram	22 g
		Nuts and Oilseeds	Groundnuts, Cashew and Almond	23 q
		Fish		20 q
		Meat and Poultry	Meat	22 q
			Egg white	22 q
		Milk products	Cheese, Khoa, Skimmed Milk Powder (Cow) and Whole Milk Powder (Cow)	30 q
3	Beta-Carotene	Leafy Vegetables	Ambat Chukka, Coriander Leaves, Ponnaganti, Spinach, Leaves, Mint, Radish Leaves	2-6 mg
			Some other Leafy Vegetables like Agathi, Amaranth, Curry Leaves, Fenugreek Leaves and Gogu	7-15 mq
		Other Vegetables	Pumpkin and Green Chillies	1 mq
			Carrot	6.5 mq

S.No	Nutrients	Food Groups	Foods	Nutrient content for 100 g edible portion
4	Folic Acid	Green Leafy Vegetables	Amaranth, Ambat Chukka, Mint and Spinach	120 mg
		Pulses	Bengalgram, Blackgram, Greengram and Redgram	120 mg
		Oilseeds	Gingelly and Soyabean	180 mg
5	Iron	Green Leafy Vegetables	Amaranth, Bengalgram Leaves, Cauliflower Greens and Radish Leaves	18-40 mq
6	Calcium	Cereals and Legumes	Ragi, Bengalgram (whole), Horsegram (whole), Rajmah and Soyabean	200-340 mq
		Green leafy Vegetables	Amaranth, Cauliflower Greens, Curry Leaves, Kknol-khol Leaves	500-800 mq
			Agathi	1130 mq
			Colocasia Leaves	1540 mq
		Nuts and Oilseeds	Coconut Dry, Almond, Mustard Seeds and Sunflower Seeds	130-490 mq
			Gingelly Seeds	1450 mq
			Cumin Seeds	1080 mq
		Fish	Bacha, Katla, Mrigal, Pran and Rohu	320-650 mq
		Milk and Milk Products	Buffalo's Milk, Cow's Milk, Goat's Milk, Curd (Cow's)	120-210 mq
Cheese, Khoa, Skimmed Milk Powder and Whole- milk Powder	790-1370 mq			

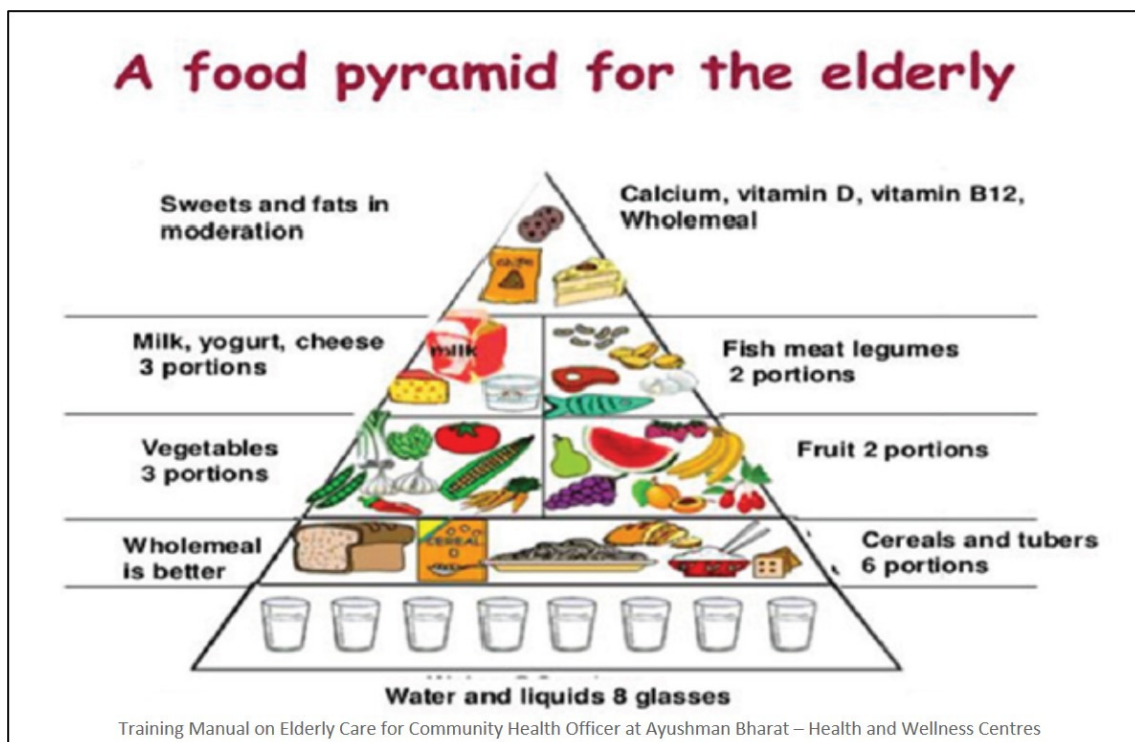
S.No	Nutrients	Food Groups	Foods	Nutrient content for 100 g edible portion
7	Vitamin C	Green leafy Vegetables	Agathi, Cabbage, Coriander Leaves, Drumstick leaves, Knol-khol Greens	120-220 mq
		Other Vegetables	Giant Chillies (Capsicum)	137 mq
			Green Chillies	117 mq
		Fruits	Amla	600 mq
			Guava	212 mq
8	Fibre	Cereals and Pulses	Wheat, Jowar, Bajra, Ragi, Maize, Legumes, Dhals and Fenugreek Seeds	>10 g
9	Vitamin A	Fats and Edible Oils	Butter, Ghee (Cow Milk) and Hydrogenated Oil (fortified)	700 mg
10	Riboflavin	Cereal, Grains and Products	Bajra, Barley, Ragi, Wheat Germs and Wheat Bread (brown)	0.2 mg
		Pulses and Legumes	Bengalgram, Blackgram, Greengram, Lentil, Redgram and Soyabean	0.2 mg
		Leafy Vegetables	Amaranthus, Carrot Leaves, Colacasia Leaves, Curry Leaves, Fenugreek Leaves, Gogu, Mint, Radish Leaves and Spinach	0.25 mg
		Nuts and Oilseeds	Gingelly Seeds, Mustard Seeds, Niger Seeds, Sunflower seeds, Almond and Walnut	0.3 mg

S.No	Nutrients	Food Groups	Foods	Nutrient content for 100 g edible portion
10	Riboflavin	Condiments and Spices	Chillies Dry, Chillies Green, Coriander and Cumin Seeds	0.35 mg
		Fruits	Apricot dried and Papaya	0.23 mg
		Meat and Poultry	Egg (hen), Sheep's Liver	0.26 mg 1.7 mg
		Milk and Milk Products	Skimmed Milk powder and Whole Milk Powder (Cow's Milk)	1.5 mg

Key Points for Diet & Nutrition for the Elderly

(Source: Training Manual on Elderly Care for Community Health Officer at Ayushman Bharat – Health and Wellness Centres)

A balanced diet inclusive of different food items like chapatti, rice, vegetables, curd, milk, salad, dal, water etc. (shown as food pyramid). It provides nutrition required for growth and maintenance of body and avoids diet related problems like constipation.



- Moderate amount of salt and sugar.
- Low fat with predominantly unsaturated fat (vegetable source, no animal red meat fat),
- Fruits, dark skinned vegetables and plenty of dietary fibres.
- Adequate liquids (6-8 glasses of water/day).
- Proteins, vitamins and calcium containing food is recommended.
- Prolonged fasting and overeating should be avoided.

- Eat eggs and meat in moderation.
- Do not drink alcohol or smoke
- Practice food hygiene and food safety measures

Key messages for Diet in Elderly

- 1) Include foods like cereals, millets, pulses, nuts and oilseeds, eggs, poultry and fish (if non vegetarian) low fat milk and milk products and seasonal fruits and vegetables in the daily diet to ensure dietary diversity.
- 2) Small portion sizes consumed frequently throughout the day are recommended and the plate should be colourful (natural colours only).
- 3) Choose healthy, easy to prepare, easily digestible dietary options.
- 4) The daily intake of oil should not exceed 20 grams (4 teaspoons).
- 5) Adequate water (at least 8 glasses) should be consumed as the thirst perception in the elderly may be diminished.
- 6) A balanced antioxidant rich and nutrient dense diet, with 4-5 servings of fruits and vegetables, six servings of whole grain cereal, 2-4 serving of low-fat dairy products, 2 servings of legumes is recommended.
- 7) To stimulate appetite and promote digestion add herbs, spices and condiments in the diet like Fenugreek Seeds (Methi), Carom Seeds (Ajwain), Aniseed (Saunf), Asafetida (Hing), Clove (Laung), Garlic, Ginger, Onion, Turmeric (Haldi), Cumin (Zeera), Cardamom (Elaichi), Black Pepper (Kali Mirch). Some of these will also boost your immunity.
- 8) Elderly with chewing difficulties can include soft cooked foods:
 - A) Soft cooked foods like Vegetable Pulao / Upma / Seviyan / Poha / Khichdi / Vegetable / Idli / Cheela / Uttapam
 - B) Ragi / Semolina / Amaranth Kheer / Makhana / Porridge, Dhokla, etc., Dals, Paneer, Curd, Eggs
 - C) Soft fruits like Banana, Papaya, Mango, Cooked Apples and Soft Cooked Vegetables and Soups (Bottle Gourd, Tomato, Drumstick, Carrot etc) can be included.
 - D) Boiling / steaming as cooking methods can be opted rather than frying.
- 9) Avoid dry meals as swallowing becomes difficult

A Day's Sample Menu For Elderly

S.No	Meal Type	Food
1	Early Morning	➤ 1 cup tea/coffee (with 1/4 cup milk and 1 teaspoon sugar)
2	Breakfast	➤ 1 cup of low fat milk (with 1 teaspoon sugar) ➤ 2 slices of bread/1 bowl Porridge (Dalia / Oatmeal / Cornflakes etc.) ➤ 25 g Paneer/1 Egg White
3	Mid-morning	➤ Fruit Chaat / Sprouts Chaat ➤ Lassi / Fruits
4	Lunch	➤ Salad / Vegetable Soup ➤ Chapatti (whole wheat flour/combo of besan and whole wheat flour) ➤ 2-3 medium (20 gram each) ➤ Rice - 1 serving spoon ➤ Dal (with husk) - 1 bowl or Chicken / Fish - 1 piece ➤ Vegetable preparation - 1 bowl ➤ Curd - 1 bowl ➤ Fruit - 1 ➤ (use 1-2 teaspoon cooking oil)
5	Evening tea	➤ 1 cup Tea / Coffee (with 1/4 cup milk and 1 teaspoon sugar) ➤ 2-3 Biscuits or Upma / Poha / Sprouts - 1 small bowl
6	Dinner	➤ Salad / Vegetable Soup ➤ Chapatti (whole wheat flour/combo of besan and whole wheat flour), 2-3 medium (20 gram each) ➤ Rice - 1 serving spoon ➤ Dal (with husk) - 1 bowl or chicken/fish - 1 piece ➤ Vegetable preparation - 1 bowl ➤ Fruit - 1 ➤ (use 1-2 teaspoon cooking oil)
7	Bed Time	➤ 1/2 cup of low-fat milk (with 1 teaspoon sugar)

Note:

- This menu provides approximately 1600-1700 kcal. The amount of different food items can be varied depending upon the calorie requirement.
- The sugar intake should be kept within 4 teaspoons/day (including the sugar in any dessert)
- Total fat intake should not exceed 4 teaspoons/day (including the fat used for cooking).