

NUTRITIONAL PRACTICES FOR SOUND HEALTH



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PREFACE

Man needs adequate food for growth, development and to lead an active and healthy life. Man has evolved his habitual dietary pattern to maintain good health. Satisfaction of hunger is usually the primary criteria for adequate food intake. But, satisfaction of hunger itself is not a safe guide for the selection of proper foods. Formulation of balanced diet is essential for sustaining healthy and active life. Diets should be planned on sound nutritional principles.

Mostly, woman shoulders the responsibility of family's health, education and welfare, including food needs. Therefore, she needs to be equip with sound nutritional knowledge to improve the quality of life of her own and her family. Keeping these views in mind, information on the importance of various nutritional constituents that are present in food stuffs, Recommended Dietary Allowances for different groups of people and dietary guidelines for various age groups and physiological conditions are included in this technical bulletin.

I am sure that this technical bulletin will be very useful to people in planning their daily diet to keep them healthy.

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INTRODUCTION

Food is basic need of life. Man requires a wide range of nutrients to keep him healthy and active. Adequate nutrition is one of the key factors in helping each person to achieve his full potential as an adult. Satisfaction of hunger itself is not a safe guide for the selection of proper foods. For sustaining healthy and active life, diet should be planned on sound nutritional principles. Foods can be placed in to five groups depending upon the content of the major nutrients. The five food groups are cereal grains and products, pulses and legumes, milk and meat products, fruits and vegetables and fats, sugar. (Table 1)

One food, no matter how good it is, can not make up well balanced diet. Foods should be evaluated for their total contribution and not solely in terms of one or two nutrients. A dietary pattern should be balanced. "A balanced diet is one which contains the various food stuffs such as energy yielding foods, body building foods and protective foods in the correct proportion so that an individual is assured of obtaining the minimum daily requirement of all the nutrients". The component of balanced diet will naturally differ according to age, sex, physical activity, economic status and physiological state like pregnancy and lactation etc. (Table 2) The food group plan allows a person to plan his / her diet to achieve the nutritional adequacy as per Recommended Dietary Allowances (RDA).

Recommended Dietary Allowances is the intake of nutrient derived from diet which keeps nearly all people in good health. RDA are given for various groups of individuals i.e. adults, infants, children, pregnant and lactating women. RDA takes into account individual variation in nutrient needs and also the availability of nutrients which may vary from diet to diet. (Table 3)

In India half of the population live below the poverty line. Large number of people eat less food than they require and deficient in several

nutrients specially vitamin A, vitamin C, calcium and iron. The worst sufferers being pregnant and lactating women and children. Therefore, to have a deficiency free healthy life proper meal pattern should be followed. Many people do not take 3 meals i.e. breakfast, lunch and dinner. Eating a good breakfast is a good start for the day. It gives you protein, vitamins, minerals, material needed to build and repair the body and to keep us healthy. So, the breakfast is necessary to keep us active till we take our lunch. Food insecurity is serious issue today and women can play a vital role in ensuring food security at the household level as women hold responsibility of taking care of family's health, education and welfare, including food needs. Women have to be empowered to have adequate access to food and other essential needs. Keeping these views in mind the dietary guidelines regarding the sound nutritional practices for various age groups and physiological conditions are given in subsequent chapters to follow the home makers to achieve the sound family health.

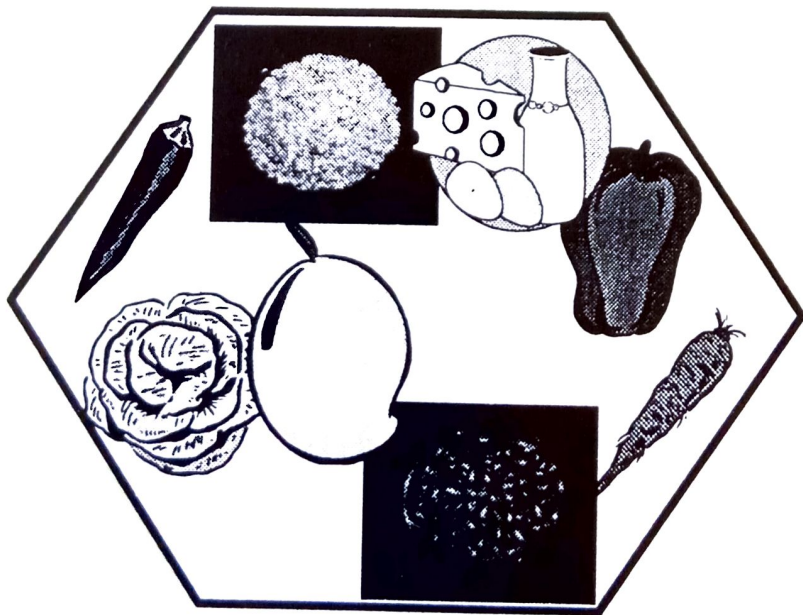


Table 1
FIVE FOOD GROUP SYSTEM

Food Group	Main Nutrients
Cereal Grains & Products Rice, Wheat, Ragi, Bajra, Maize, jowar, Barley, Riceflakes, Wheat flour	Energy, Protein, Invisible fat, Vitamin B ₁ , Vitamin B ₂ , Folic acid, Iron, Fibre
Pulses and Legumes Bengalgram, Blackgram, Greengram, Redgram, Lentil (whole as well as dhals), Cowpea, Peas, rajmah, Soyabeans, Beans etc.	 Energy, Protein, Invisible fat, Vitamin B ₁ , Vitamin B ₂ , Folic Acid, Calcium, Iron, Fibre
Milk and Meat Products Milk - Milk, Curd, Skimmed milk, Cheese Meat - Chicken, Liver, Fish, Egg, Meat	 Protein, Fat, Vitamin B ₂ , Calcium  Protein, Fat, Vitamin B ₂
Fruits and Vegetables Fruits - Mango, Guava, Tomato, ripe papaya, Orange, Sweet lime, Water melon, A. Vegetables (Green Leafy) Amaranth, Spinach, Gogu, Drumstick leaves, Coriander leaves, Mustard leaves, Fenugreek leaves B. Other Vegetables Carrots, Brinjal, Ladies fingers, Capsicum, Beans, Onion, Drumstick, Cauliflower.	Carotenoids, Vitamin-C, Fibre Invisible Fats, Carotenoids, Vitamin B ₂ , folic Acid, Calcium, Iron, Fibre Carotenoids, Folic Acid, Calcium, Fibre
Fats and Sugars Fats - Butter, Ghee, Hydrogenated oils, Cooking oils like Ground nut, Mustard, Coconut. Sugars - Sugar, Jaggary	Energy, Fat, Essential Fatty Acids Energy

Source - Nutritive Value of Indian Foods, NIN, 2002

Table 2
BALANCED DIETS

Food Item (g)	Adult Man		Adult Woman		Children		Boys		Girls	
	Sedentary	Moderate	Sedentary	Moderate	1-3	4-6	10-12	10-12	10-12	10-12
	Work	Work	Work	Work	Work	Work	Work	Work	Work	Work
Cereals	460	520	410	440	75	175	270	420	380	
Pulses	40	50	40	45	50	35	35	45	45	
Leafy Vegetables	40	40	100	100	50	40	50	50	50	
Other Vegetables	60	70	40	40	100	20	30	50	50	
Roots & Tubers	50	60	50	50	60	10	20	30	30	
Milk	150	200	100	150	200	300	250	250	250	
Oil & Fat	40	45	20	25	40	15	25	40	35	
Sugar or Jaggery	30	35	20	20	40	30	40	45	45	

Source : ICMR expert group, 1984

DIETARY GUIDELINES FOR GOOD HEALTH

- ❑ A Nutritionally adequate diet should be consumed through a wise choice from a variety of foods.
- ❑ Adequate and appropriate diet should be taken by children and adolescents, both in health and disease.
- ❑ Additional food and extra care are required during pregnancy and lactation.
- ❑ Green leafy vegetables, other vegetables and fruits should be used in plenty.
- ❑ Cooking oils and animal foods should be used in moderation and vanaspati ghee/ butter should be used sparingly.
- ❑ Overeating should be avoided to prevent overweight and obesity. Proper physical activity is essential to maintain desirable body weight.
- ❑ Salt should be used in moderation.
- ❑ Foods consumed should be safe and clean.
- ❑ Healthy and positive food concepts and cooking practices should be adopted.
- ❑ Water should be taken in adequate amount and beverages should be consumed in moderation.
- ❑ The elderly should eat a nutrient rich diet to keep fit and active.

IMPORTANCE OF NUTRIENT

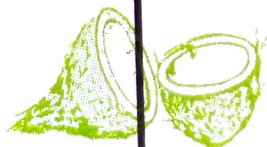
Man needs a wide range of nutrients to perform various function in the body and to lead a healthy life. The nutrients include energy, protein, fat, carbohydrate, vitamins & minerals in different amount for proper growth. Each nutrient have its own importance in the body. Various dietary surveys conducted among different age groups have shown that the intake of calcium, iron, ascorbic acid and vitamin - A are often below recommended daily allowances and their deficiency disorders are very common. Therefore it is essential to know the importance of these minerals and vitamins in the diet.

Calcium

Everyone needs calcium, which constitutes about 2 per cent of the body. Calcium gives strength and structure to bones and teeth. Additionally, it controls the heartbeats and is necessary for blood clotting. Lack of calcium in the diet leads to poor quality bones and teeth, stunting of growth in children. In later life calcium deficiency leads to osteomalacia, osteoporosis. On the other hand, over intake of dietary calcium leads to hypercalcemia and kidney stones.

Calcium Rich Sources

Sources	Calcium content (mg/100g)
Colocasia leaves (dried)	1546
Gingelly seeds	1450
Curry leaves	830
Khoa	650
Drumstick leaves	440
Coconut dry	400
Ragi	344
Bengalgram leaves	340
Milk	210



Iron

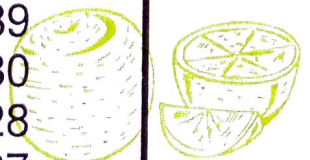
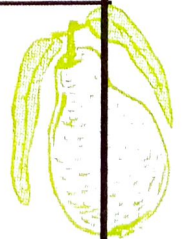
Iron is a mineral that body needs for health. It is an essential element for the formation of haemoglobin of red cells of blood and plays an important role in the transport of oxygen to body tissues. When iron is not sufficient to make blood cells, they get smaller in size and less in number and blood gets less oxygen than it needs. After a period of time, iron deficiency anemia occurs. Depending on age, sex and working pattern the need of iron in diet varies from 12-50 mg/day. Vitamin C helps to absorb the dietary iron in the body.

Iron Rich Sources

Sources	Iron content (mg/100g)
Bengal gram leaves	23.8
Rice flakes	20.0
Amaranth	18.4
Shepu	17.4
Soybean	10.4
Colocasia leaves (dried)	10.0
Moth bean	9.5
Bengal gram roasted	9.5
Cow pea	8.6
Bajara	8.0
Whole wheat flour	5.3

Vitamin - C Rich Sources

Sources	Vitamin - C (mg/100g)
Amla	600
Drumstick leaves	220
Guava	212
Coriander leaves	135
Cabbage	124
Cluster bean	49
Lime	39
Orange	30
Spinach	28
Tomato	27



Vitamin - A

Vitamin- A is necessary for clear vision in dim light. It is also essential for normal bone formation. Vitamin-A deficient people cannot see objects in dim light. Because of vitamin - A deficiency salivary glands, respiratory tract, eyes, skin and sex organs also get affected. Excess vitamin A is toxic and causes brittleness of bones. β -carotene is the precursor of vitamin - A. Depending upon age, sex and working pattern β -carotene requirement varies from 1200 to 3800 $\mu\text{g}/\text{day}$.

Deficiency of this vitamin in children is more prevalent when weaning foods are introduced and the breast feeding is discontinued.

Vitamin - A Rich Sources (β - carotene)

Sources	β -carotene ($\mu\text{g}/100\text{g}$)
Colocasia leaves (Green)	10278
Curry leaves	7560
Shepu	7182
Coriander leaves	6918
Drumstick leaves	6780
Liver (sheep)	6690
Spinach	5580
Safflower leaves	3540
Carrot	1890
Orange	1104
Butter	960
Coriander	942
Papaya	666
Ghee	600
Egg (hen)	420



Table 4

MAJOR FOOD SOURCES OF NUTRIENTS

Nutrients	Foods
Energy	Cereals, pulses, roots and tubers fats and oils, sugar and jaggery.
Protein	Milk, egg, fish, meat, liver, pulses, nuts and oilseeds
Fat	Butter, ghee, vegetable oils, hydrogenated fats, nuts and oilseeds
Carbohydrates	Cereals, pulses, sugar and jaggery, roots and tubers
Fiber	Green leafy vegetables, fruits, unrefined cereals, pulses and legumes.
Calcium	Milk and milk products, ragi, green leafy vegetables
Iron	Liver, green leafy vegetables, rice flakes, whole wheat flour, ragi, pulses
Vitamin - 'A' (Retinol & β -Carotene)	Fish, liver oil, butter, ghee, milk, carrots, green leafy vegetables, papaya, mango
B - Complex	Milk, egg and liver, handpounded rice, whole wheat, whole grams, pulses, green leafy vegetables, nuts and oil seeds
Vitamins	
Vitamin - 'C'	Amla (Indian gooseberry), lime, orange, guava, tomato, lettuce, sprouted grams
Vitamin - 'D'	Milk Other source : Sunlight

Source : Dietary tips for the elderly, ICMR, 1997

DIET DURING PREGNANCY AND LACTATION

Pregnancy

Pregnancy is a period of physical changes and high nutritional demands. Diet during pregnancy is one of the most important factor in achieving a successful outcome of pregnancy in terms of healthy baby and maintenance of woman's own health. Various studies have revealed a direct relationship between maternal diet and the nutritional status of the new born. Pregnant women are more susceptible to develop anaemia. In India more than 50 per cent of women during the third trimester of pregnancy have a haemoglobin level of less than 11 g/dl (WHO, 1990). Pregnant women should gain weight about 10 to 12 kg in whole pregnancy. In first three months 2-4 lbs weight gain is required and after three months 1 lbs per week is essential for better health of baby. Therefore, dietary guidelines are suggested for pregnant woman.

- ❑ Take small and frequent feeding throughout the pregnancy and avoid fasting or missing the meal.
- ❑ Eat cereals, pulses, vegetables in combination
- ❑ Eat more fresh fruits, vegetables to get vitamins, minerals specially iron and calcium
- ❑ Eat sprouted grams to get more protein
- ❑ Drink milk daily to improve calcium level, it prevents osteomalacia and other bone problems
- ❑ eat iron rich food like green leafy vegetables, sesamum, rajkeera, bajara etc. to avoid maternal mortality and low birth weight of infant.

- ❑ Take optimum amount of sodium and restrict sodium in case of hypertension and oedema.
- ❑ Drink plenty of water to keep the bowels regular.
- ❑ Restrict more fatty food, strong flavoured food, excessive seasoning to avoid nausea and vomiting
- ❑ Drink fruit juices in between the meals.
- ❑ Take more calories during pregnancy for foetus growth.
- ❑ Never take alcohol or tobacco during pregnancy.



Lactation

The paramount importance of nutrition of a woman during lactation for her own health and that of her offspring is widely recognised. Satisfactory performance of lactation is influenced by the nutritional status of the mother.

Milk secretion requires energy over and above mother's own energy requirements. The need of calories and other nutrients is, therefore, greater during lactation. Hence, much emphasis lies in providing adequately nutritious diet during lactation.

Apart from this, there is a wide-spread belief in the health care, nutrition and social science communities that cultural food restrictions

practiced by breast feeding women have deleterious consequences on the health status of mothers and infants. Following dietary points are useful for lactating women

- ❑ The choice of food during lactation should be wide
- ❑ No specific food need to be omitted unless there is evidence of discomfort by them.
- ❑ Occasionally strong flavoured vegetables or highly seasoned foods may be implicated.
- ❑ Raw fruits, vegetables, whole grains and an adequate amount of water should be included in the diet to control constipation.
- ❑ In addition to increase in diet, the nursing mother requires rest, moderate exercise and relaxation.
- ❑ Adequate fluid intake such as juices and milk is needed to increase calories.



WEANING FOODS FOR INFANTS (4 - 6 months)

In early infancy breast milk is adequate for meeting the nutritional requirement of the infant. But after six months, breastmilk is insufficient to sustain normal growth of an infant. Weaning is a process by which foods other than the breast milk are introduced gradually into the diet of an infant, first these foods are given to complement breast milk and progressively to replace it and adopt the child to the adult diet. An ideal weaning food should contain cereals, pulses and oilseeds in 3:2:1 proportion. But while introducing weaning food some points have to be taken into consideration

- ❑ Introduce one food at a time
- ❑ Let the child become familiar to one food and then try to introduce another
- ❑ Give very small amount of food initially eq. 1 tea spoon or less
- ❑ Prepare thin consistency mix at the beginning. As the baby grows, consistency can be made thick
- ❑ If after several trials, the baby dislikes a particular food, substitute by other food.
- ❑ While making weaning-mix season it slightly
- ❑ If you are giving fruit juices or vegetable soups to the baby, first strain it and then start feeding.
- ❑ When the baby is able to chew, introduce them to finely chopped fruits and vegetables.
- ❑ Always give freshly prepared food to the baby
- ❑ Add little oil, butter or ghee in food to increase calories.
- ❑ Too early and too much quantity of feeding may lead to

overweight of the infant. On the other hand, too less quantity may lead to underweight.

- ❑ Sterilize the utensils which are to be used for preparing and serving food to the child.

Some home made Low Cost Weaning Mixes are given below

Rajkeera mix

Ingredients	Amount (g)
Rajkeera	70
Bengalgram dhal	20
Greengram dhal	20

Procedure

- ❑ Clean all the ingredients
- ❑ Puff the rajkeera and make powder of it
- ❑ Roast bengalgram dhal and green gram dhal and make powder of it.
- ❑ Seive all powders and mix well.
- ❑ Keep it in air tight container.

Poha - Dalwa mix

Ingredients	Amount (g)
Poha	50
Dalwa	25
Groundnuts	25

Procedure

- ❑ Clean all the ingredients
- ❑ Roast poha and groundnuts
- ❑ Make the powder of roasted poha, groundnuts & dalwa
- ❑ Seive the all powders and mix it well
- ❑ Keep it in air tight container

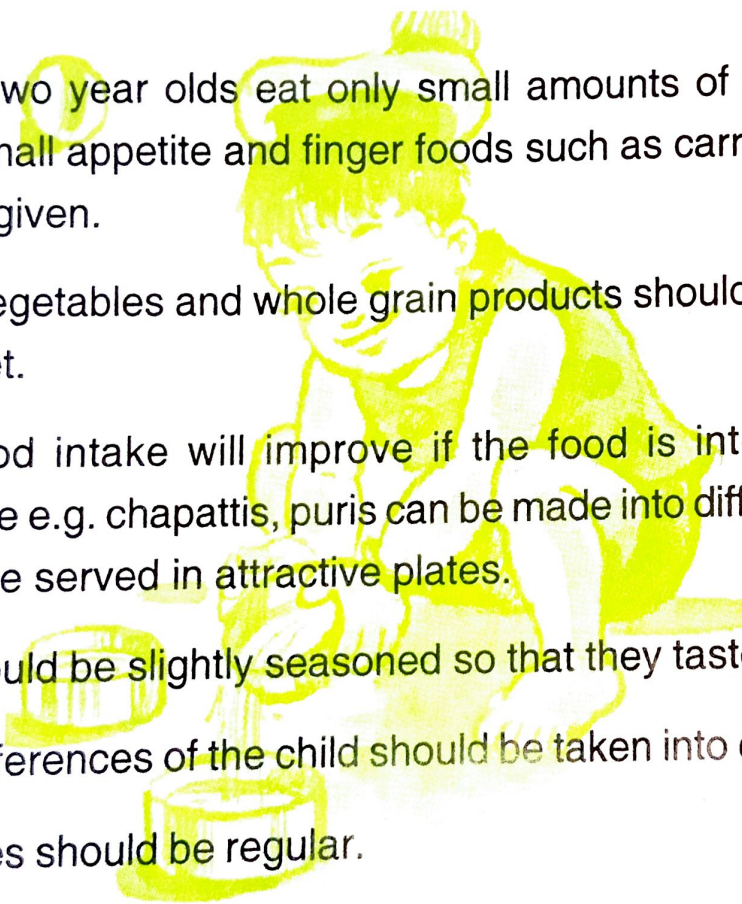
While feeding the infant, the above weaning mix should be mixed with warm water or warm milk.

DIETARY GUIDELINES FOR CHILDREN

Pre-School Children (1- 6 years)

Growth is generally slower in between 1 and 6 years than in the first year of life. But activity increases during second year of life. Therefore there is an increased need for all nutrients. Also it is the time of continuing to develop food habits that will be carried into the future. So, some points are important for healthy food habits and nutritional practices.

- Wide variety of food is essential to develop an eating interest in child.
- One or two year olds eat only small amounts of food as they have small appetite and finger foods such as carrots and fruits can be given.
- Fruits, vegetables and whole grain products should included in daily diet.
- Their food intake will improve if the food is interesting and attractive e.g. chapattis, puris can be made into different shapes or can be served in attractive plates.
- Food should be slightly seasoned so that they taste better.
- Food preferences of the child should be taken into consideration
- Meal times should be regular.
- Attractive food combinations and different cooking methods encourage the child to eat more.
- Do not give tea or coffee to a child as it over stimulates the system.
- Morning meal is important to children since it provides energy to start the day.



School going Children (6 - 12 years)

The school age period has been called as the latent time of growth. Physical growth is an extremely sensitive index of the general status of health, specially of girls. The physical dimensions of the body are much influenced by nutrition particularly in rapidly growing period of childhood. Well to do and well fed Indian children upto 14 years of age in case of boys and 12 years in case of girls were found to be growing similar to western children. Childs growth and it's nutritional status are found to be closely linked with each other. The extent of growth retardation is directly dependent upon the intake of diet.

- ❑ Nutritional requirement should meet their increasing activity growth and special requirements because of sickness or injuries.
- ❑ In this age children do not like to spend more time for eating. So, their dishes must be quick to eat and satisfying nutritionally.
- ❑ Menu need to provide variety in colour, texture, taste and flavour.
- ❑ In hot weather extra liquids, juices are to be given because children do not generally like to drink plain water.
- ❑ Nutritional snacks should be given to them to fulfill their varying appetite.
- ❑ Give plenty of milk and milk products to children to fulfill calcium need for bone development.
- ❑ Encourage to eat with family members because the interaction between family members is part of normal development.
- ❑ If the child does not like to eat green vegetables and salads, they can be incroporated in recipes like chapatti, paratha, sandwiches etc.



REFERENCE BODY WEIGHTS AND HEIGHTS OF CHILDREN AND ADOLESCENTS ACCORDING TO NCHS

Age (years)	NCHS			
	Boys		Girls	
	Height (cm)	Weight (kg)	Height (cm)	Weight (kg)
0	50.5	3.3	49.9	3.2
1/4 (3m)	61.1	6.0	60.2	5.4
1/2 (6m)	67.8	7.8	66.6	7.2
3/4 (9m)	72.3	9.2	71.1	8.6
1.0	76.1	10.2	75.0	9.5
1.5	82.4	11.5	80.9	10.8
2.0	85.6	12.3	84.5	11.8
3.0	94.9	14.6	93.9	14.1
4.0	102.9	16.7	101.6	16.0
5.0	109.9	18.7	108.4	17.7
6.0	116.1	20.7	114.6	19.5
7.0	121.7	22.9	120.6	21.8
8.0	127.0	25.3	126.4	24.8
9.0	132.2	28.1	132.2	28.5
10.0	137.5	31.4	138.3	32.5
11+	140	32.2	142	33.7
12+	147	37.0	148	38.7
13+	153	40.9	155	44.0
14+	160	47.0	159	48.0
15+	166	52.6	161	51.4
16+	171	58.0	162	53.0
17+	175	62.7	163	54.0
18+	177	65.0	164	54.4

Source : ICMR, 2000

DIETARY TIPS FOR ADOLESCENT

(13-18 years)

Adolescence is the most active period of life because of the double demands of growth and activity. During this period final growth spurt occurs. Greatest nutritional need for boys is between 12 to 15 years and for girls 10 to 13 years. Therefore, the food needs are extremely important and high. The increased needs of this period can be met if increased amounts of basic food groups are included in the diet. So, it is necessary to educate this group about the relationship between the food intake and body's needs to store up nutrients.

- ❑ Calorie and protein rich foods should be taken to support the growth spurt.
- ❑ No meal of the day should be missed
- ❑ Adequate well balanced nutritious foods should be taken to prevent obesity or undernutrition.
- ❑ An adolescent girl should take enough calcium rich foods in her diet to increase bone density which delays the onset of osteoporosis.
- ❑ Avoid empty calorie foods such as carbonated beverages.
- ❑ Iron rich foods may be included in the diet to prevent anaemia
- ◆ Include fruits and vegetables in the diet to meet the vitamins, minerals and fibre requirement.



DIETARY GUIDELINES OF ELDERLY

In human lifecycle, later part of adulthood is generally referred as elderly period or old age. Elderly are the people above the age of 60 years. Nutritional requirement of elderly are affected due to changes in absorption, utilization and excretion of nutrients which are influenced by biological changes in old age. At the same time the requirements of major nutrients are reduced by 10 to 11 per cent in view of their reduced physical activity. The diet of elderly may be modified according to physical activity of an individual and general health condition. Because of lack of physical activity, elderly need low calorie food. The following tips are suggested for dietary management of the elderly.

- Take simple but nutritious diet.
- Improve the quality of diet by adding liberal amounts of green leafy vegetables, fruits and whole cereals.
- Take frequent, but small meals.
- Take plenty of fluids and semi solids.
- Avoid fried foods.
- Reduce total fat, refined carbohydrate.
- Reduce salt intake
- Avoid fasting.



FOOD FADS AND FALLACIES

Food fads are exaggerated claims for some foods and fallacies are the wrong opinion or belief about food, something which seems true but is really false. False information may come from folklore or it may be built on subtle half truth, implide clames or even frank deception. A variety of foods fads are in vogue seems ages as are carried through generation to generation. They are widely prevelent among the common people in all the countries of the world. Most of beliefs have no scientific base. Such a faulty food habits are known to be impediments in the way of adequate nutrition and thus become noxious especially for the well being of the population.

Traditional beliefs

Traditional beliefs in food habits are still prevalent with a large majority of the population who are illiterate or ignorant regarding the nutritive value of foods. In India, consumption of papaya fruits by pregnant women is believed to lead to abortion, and consumption of garlic by lactating women will increase milk production

It is believed that consumption of milk and fish at the same meal will lead to the development of leprosy and leucoderma.

Beside these, eggs, if given to children before the teeth have erupted, will lead to stupidity.

Hot and Cold Foods

Some foods are believed to produce more heat in the body while some others are supposed to lower heat production in the body and cause cold, sore throat etc. There is no scientific base for the above beliefs.

Hot : Meat, eggs, legumes and oil seeds are supposed to be hot foods, which increase heat production and cause boils in the body.

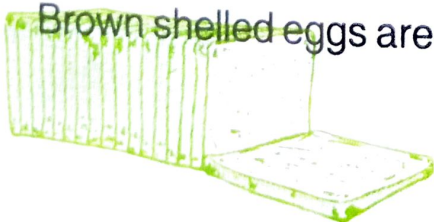
Cold : Some fruits, vegetables and milk are supposed to be cold foods, which decrease heat production in the body and cause cold, sore throat etc.

Pica

Pica is the habit of eating dirt, clay, chalk, lime stone, plaster, ashes, starch etc by pregnant women and children. Eating above things is believed to help in the normal development of the baby in the womb.

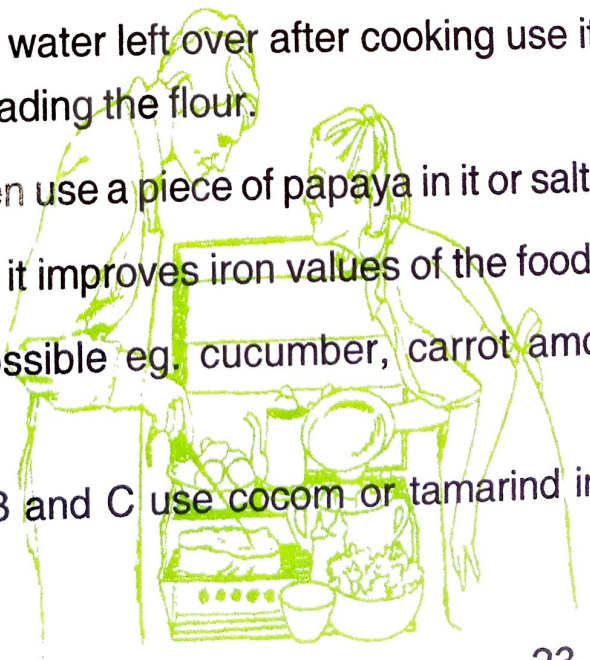
Other Common Food Fads and Fallacies

- Beet root, due to it's colour helps in the production of blood
- Raw cucumber without salt is poisonous.
- Toast has fewer calories than bread.
- Vegetables, oils and fats are not fattening.
- Adults need no milk.
- Sago is a nutritious food.
- Drinking too much water is fattening.
- Papaya fruit produces abortion in pregnant women.
- Eating two heavy meals a day is better for health than eating four small meals daily.
- Meat gives strength.
- Milk and orange juice or other citrus fruits are poisonous.
- Honey is not fattening.
- Brown shelled eggs are more nutritious than white shelled eggs.



POINTS TO REMEMBER WHILE COOKING

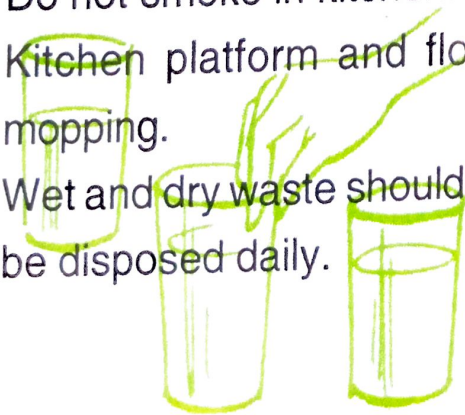
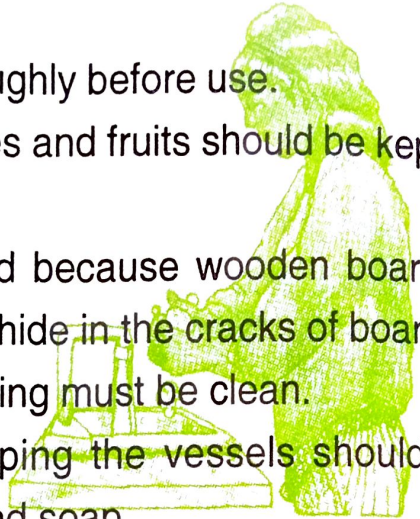
- ❑ Do not wash vegetables after cutting because many water soluble vitamins and minerals get destroyed.
- ❑ Do not keep vegetables for long time after cutting
- ❑ While cooking rice and dal, first warm the water and then put rice and dal in it.
- ❑ While cooking cover the vessel with lid.
- ❑ Do not over cook the vegetables.
- ❑ Consume sprouted and fermented food, it improves nutritional value and also requires less time for cooking
- ❑ Do not wash the rice by rubbing because B- vitamin can be lost.
- ❑ Do not cook the food again and again.
- ❑ Do not sieve the flour while making chapati. Husk improves palatability of diet and it contains more vitamins and fibres
- ❑ Avoid use of soda while cooking pulses and vegetables, it destroys Vitamin - B. It also absorbs more oil and it is heavy to digest.
- ❑ Do not discard the excess water left over after cooking use it for making soup or for kneading the flour.
- ❑ While cooking meat / chicken use a piece of papaya in it or salt.
- ❑ Use iron tawa for cooking, it improves iron values of the food.
- ❑ Eat raw vegetables if possible eg. cucumber, carrot and cabbage.
- ❑ For increasing vitamin - B and C use coconut or tamarind in food.



KEEP FOOD SAFE AND CLEAN

For maintaining good health, safe and good quality food is essential. Unsafe food can lead to various food born diseases. Therefore, for making your food safe and clean one has to consider the following points.

- Wash your hands and arms with soap and water before and after handling the food.
- Wash fruits and vegetables thoroughly before use.
- Perishable food items, vegetables and fruits should be kept in cool place.
- Always use plastic cutting board because wooden board is always hard to clean and germs hide in the cracks of board.
- Utensils which are used for cooking must be clean.
- Napkins which are used for wiping the vessels should be washed daily with warm water and soap.
- Do not cough or sneeze near food or dishes.
- Do not touch food by fingers, keep fingers out of food, glass and others utensils.
- Nails should be clipped regularly and must be clean.
- Apron used in kitchen requires regular washing.
- After handling garbage, wash hands with soap and water.
- Use spoon for handling food.
- Dirty dishes and other utensils should be away from the food.
- Store the utensils on clean shelves high above floor.
- Do not smoke in kitchen.
- Kitchen platform and floor should be cleaned with regular mopping.
- Wet and dry waste should be kept in two different dust bins and be disposed daily.



NUTRITIVE VALUE OF SOME COMMON INDIAN FOODS

(All the values are per 100g of edible portion)

Food Item	Protein g.	Fat g.	K.Cal	Calories	Calcium mg.	Iron mg.	Vit. A ug	Thiamine mg.	Riboflavin mg.	Niacin mg.	Vit. C mg.
Fruits											
Amla	0.5	0.1	58	50	1.2	9	0.03	0.01	0.2	600	
Apple	0.2	0.5	59	10	0.7	0	0.0	0.0	0.0	1	
Banana	1.2	0.3	116	17	0.4	78	0.05	0.08	0.5	7	
Lime&Orange	1.1	0.6	54	58	0.3	560	0.01	0.02	0.1	47	
Mango	0.6	0.4	74	14	1.3	2743	0.08	0.09	0.9	16	
Papaya	0.6	0.1	32	17	0.5	666	0.04	0.25	0.2	57	
Tomato	0.9	0.2	20	48	0.6	351	0.12	0.06	0.4	27	
Flesh Foods											
Meat	18.5	13.3	194	150	2.5	9	0.18	0.14	6.8	0	
Chicken	25.9	0.6	109	25	0.0	0	0.0	0.14	0.0	0	
Liver, sheep	19.3	7.5	150	10	6.3	6690	0.36	1.70	17.6	20	
Egg, Hen	13.3	13.3	173	60	2.1	420	0.10	0.40	0.1	0	
Fish, Fresh	18.9	1.9	100	340	2.1	0	0.01	0.03	1.2	5	
Milk											
Cow	3.2	4.1	67	120	0.2	53	0.05	0.19	0.1	2	
Buffaloe	4.3	6.5	117	210	0.2	48	0.04	0.10	0.1	1	
Fats & Oils											
Ghee	0	100	900	0	0.0	0	0.0	0.0	0.0	0	
Cooking oil	0	100	900	0	0.0	0	0.0	0.0	0.0	0	
Other Foodstuffs											
Sugar	0.1	0.0	398	12	0.1	0	0.0	0.0	0.0	0	
Jaggery	0.4	0.1	383	80	2.6	0	0.0	0.0	0.0	0	
Bread	7.8	0.7	245	11	1.1	0	0.07	0.0	0.7	0	

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Source : Dietary Guidelines for Indians, ICMR 1999

EAT SPARINGLY



EAT MODERATELY



EAT LIBERALLY



EAT ADEQUATELY

