Chapter 14: Healthy Diets Everywhere

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Chapter 14: Healthy Diets Everywhere

The rapidly increasing prevalence of diet related non-communicable diseases (NCDs) in Indians has been largely linked to changes in lifestyle and dietary patterns. Rapid urbanization, hectic work schedules and high economic growth have resulted in greater access to commercially available processed and packaged foods. Scientific evidence indicates that regular consumption of foods high in simple carbohydrates (sugar), salt, fats, and industrial trans fats is one of the prime reasons for sudden increase in overweight/obesity and NCDs in India. It is therefore important to follow a healthy diet and lifestyle to lead a healthy life. Choosing foods wisely whether you eat at home or outside becomes important while trying to eat healthy.

In the previous chapters you learnt about the concept of ‘healthy diets’, macro and micronutrients, their requirements, and about ways of enriching the diet. In this chapter you would learn about how you can select and eat healthy meals whether you are at home, in school, in your workplace and even while eating out in a restaurant or any other food outlet. This chapter would also elaborate upon the concept of meal planning and other associated aspects including portion sizes and food exchanges, choosing wisely from the various food groups, impact of cooking on specific nutrients, household measures of improving diet quality, food labels and menu labelling.

A healthy diet is a solution to many of our health-care problems.
It’s the most important solution.
~John Mackey

A healthy diet can be described as a diet that helps to maintain or improve the overall health. It is one of the basic and most essential elements for maintaining good health, to prevent chronic diseases, and to provide an overall sense of wellbeing and vitality. It provides the body with essential nutrition: macronutrients, micronutrients, adequate calories and water. A healthy diet should maximize the consumption of whole grains, vegetables, fruit, and legumes and limit the consumption of red meats as well as refined and ultra-processed foods.

In the upcoming sections you would learn about the essentials of a healthy diet at home, at school, at workplace and when eating out.

Healthy diets at school
School is an educational institution which is designed to provide a learning space and environment to the students. In India a child remains in a formal schooling system for fourteen years. Apart from providing formal education, schools also nurture the overall development of the child including inculcation of good dietary and lifestyle habits. Healthy eating in childhood and adolescence is crucial for proper growth and development and to prevent various adverse health conditions. Poor dietary habits and nutrient inadequacy
during childhood and adolescence can delay growth and increase the risk of chronic diseases in adulthood.

**Nutrient requirements**

The school age includes a wide age group, from pre-schooler (3 to 4 years) to adolescence (17 years) spanning nearly 1.5 decades. During the school age the body grows, thus requirements of all the nutrients are high, however the specific requirement for each age group varies widely. As the child becomes older, peer influence and acceptance may become more important than family values thereby creating period of conflict between children and parents. Nutritional requirements vary among males and females after the age of 10 because of variations in growth rate, body composition, and physical activity level.

Micronutrient needs of youth are elevated during adolescence to support physical growth and development. Because of accelerated muscular, skeletal, and endocrine development calcium needs are greater during puberty and adolescence than during childhood or adult years. Iron requirements are increased during adolescence for the deposition of lean body mass, increase in red blood cell volume, and to support iron lost during menses among females. Other important nutrients are calcium, zinc and of course all vitamins during this period.

**Eating behaviour**

Eating behaviours evolve during the first few years of life. Most of the eating problems are behavioural in nature. Some of the most common eating issues include children being picky eaters, not eating enough or eating too much, eating the wrong foods, refusing to eat certain foods, or having erratic mealtimes. Most eating problems do not last long enough to interfere with a child’s growth and development. However, difficult eating issues among children and adolescents may lead to serious changes in eating habits that can lead to health problems.

Food habits that are seen more frequently among adolescents than other age-groups include irregular consumption of meals, excessive snacking, eating away from home (especially fast-food venues), dieting, and meal skipping. Meal skipping increases throughout adolescence as they try to lose weight through calorie restriction, and as their lives become busier in general due to academic pressure. Breakfast is the most commonly skipped meal, especially among adolescent females. Adolescents who skip meals often snack in response to hunger instead of eating a meal. Snack foods consumed are often high in fats, sugar and sodium. Sugar containing aerated beverages are commonly consumed, accounting for high daily caloric intake. Many factors contribute to these behaviours, including decreasing influence of family and increasing influence of peers on food and health choices, increasing exposure to media, and increase in time spent outside home.

Most adolescents are aware of the importance of nutrition and the components of a healthy diet; however, there are many barriers to choosing healthy foods and beverage. They cite taste, time, and convenience as the key factors that affect their food and beverage choices. Many adolescents lack the ability to associate current eating habits with future disease risk and show little concern for their future health.
Eating disorders

Avoidant/restrictive food intake disorder (ARFID) is an eating disorder characterized by eating very little food or avoiding eating certain foods. It is a common eating disorder experienced by young children. Children with this disorder experience a disturbance in their eating which can include a lack of interest in food or a sensory aversion to certain foods. ARFID usually presents in infancy or during childhood and may persist into adulthood. It may initially resemble the picky eating that’s common during childhood. For example, a child might become averse to the texture of foods they once enjoyed. They might also fear experiencing abdominal pain or vomiting after consuming a certain food. These aversions and restrictions can lead to weight loss and nutritional deficiency among young children. Pica is a type of condition where a child might have the urge to eat non-food or non-nutritional substances like, soap, chalk, sand, ice, and hair.

High-risk dieting practices are used by many adolescents which may lead to risk of poor nutritional status and increased risk for eating disorders. Let us look at some of the eating disorders:

- Anorexia nervosa (AN) a disorder characterized by (1) refusal to maintain a normal body weight, (2) intense fear of gaining weight, (3) body image distortion. It may be one of two sub types restricting or binge eating/purging binge. A binge eating episode is marked by three particular features: (1) the amount of food eaten is larger than most persons would eat under similar circumstances (2) the excessive eating occurs in a discrete period, usually less than 2 hours; and (3) the eating is accompanied by a subjective sense of loss of control.

- Binge eating disorder (BED) is characterized by the occurrence of binge eating episodes at least twice a week for a 6-month period.

- Bulimia nervosa (BN) is characterized by repeated episodes of binge eating followed by inappropriate compensatory methods such as purging including self-induced vomiting or misuse of laxatives, diuretics, enemas, or non-purging, including fasting or engaging in excessive exercise.

Promoting healthy eating habits

School years shape the future of a child. Healthy eating habits during this phase help the child in imbibing them in their lifestyle. Children follow what they see, thus adults need to demonstrate the healthy eating habits themselves and be role models. This can help children maintain a healthy weight and normal growth. Some of the simple practices are listed here:

- Guide the family’s choices rather than dictate foods. Make a wide variety of healthful foods available in the house. This practice will help children learn how to make healthy food choices. Leave the unhealthy choices like chips, soda, and juice at the grocery store. Serve water with meals.
• Encourage children to chew the food properly and eat slowly. A child can detect hunger and fullness better when they eat slowly. Suggest the child to chew properly, this aids in digestion and gives time to the brain to register fullness.

• Eat meals together as a family as often as possible. Try to make mealtimes pleasant with conversation and sharing, not a time for scolding or arguing. If mealtimes are unpleasant, children may try to eat faster to leave the table as soon as possible. They then may learn to associate eating with stress.

• Involve children in food shopping and preparing meals. These activities can help parents understand children’s food preferences and provides an opportunity to teach children about nutrition. In addition, children may be more willing to eat or try foods that they help prepare.

• Plan for snacks. Continuous snacking may lead to overeating, but snacks that are planned at specific times during the day can be part of a nutritious diet, without spoiling a child’s appetite at mealtimes. Snacks should be as nutritious as possible and should be within reach and at eye level of the child.

• Discourage eating meals or snacks while watching television. Try to eat only in designated areas of home, such as the dining room or kitchen. Eating in front of the television may make it difficult to pay attention to feelings of fullness and may lead to overeating.

• Encourage children to drink more water and stay hydrated. Over consumption of sweetened drinks and sodas has been linked to increased rates of obesity in children.

• Try not to use food to punish or reward children. Withholding food as a punishment may lead children to worry that they will not get enough food. For example, sending children to bed without any dinner may cause them to worry that they will go hungry. As a result, children may try to eat whenever they get a chance. Similarly, when foods, such as sweets, are used as a reward, children may assume that these foods are better or more valuable than other foods. For example, telling children that they will get dessert if they eat all their vegetables sends the wrong message about vegetables.

• Make sure that children’s meals outside the home are balanced. Also, select healthier items when dining at restaurants.

• Make sure that the child does not skip meals. Don’t let the child skip or delay meals and ensure to schedule the snacks on time. Skipping or delaying meals can lead to eating too much or choosing an unhealthy snack.

• Pay attention to portion size and ingredients. Read food labels and limit foods with trans-fat, high fat, salt and/or sugar.
Nutrition education and counselling for children and adolescents should focus on short-term benefits, such as improving school performance, looking good, and having more energy. Messages should be positive, developmentally appropriate, and concrete, emphasizing skills to help them make healthy choices. Because snacking is prevalent among adolescents and snacks are often consumed in place of meals, teens should be encouraged to make healthy choices when choosing snack foods and beverages rather than to avoid snacking.

To prevent eating disorders, healthy eating habits should be developed and promoted from early childhood. To inculcate the habit of eating healthy foods among children and adolescents, it is important to change the food environment. Healthy food must be readily available to the children and access to unhealthy options should be limited.

**Healthy food at school**

Healthy food makes children feel better, grow better and learn better and right eating habits can be engrained in them from a young age. According to the United States (US) Centres for Disease Control and Prevention (CDC), children learn better eating habits when schools provide healthy foods. In India some private schools provide school meals to the younger children while in government schools mid-day meal service is provided. Schools need to promote healthy eating behaviour. Schools should also ensure that the food available in the school cafeteria is healthy and hygienically prepared. With the aim to ensure safe and wholesome food for School children FSSAI has notified a regulation on Food Safety and Standards (Safe Food and Balanced Diets for Children in School) Regulations, 2020 (Box 1).

**Box 1: Ten-point Charter of healthy diets for School Children**

<table>
<thead>
<tr>
<th>S. No</th>
<th>Charter</th>
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<tbody>
<tr>
<td>1</td>
<td>The School Authority itself/FBOs contracted by School Authority selling or catering school meals and FBOs contracted by Department of School Education for operation of the Mid-Day Meal scheme must obtain a registration or license as applicable and comply with the requirements of sanitary and hygienic practices to the food service establishments as specified under schedule 4 of the Food Safety and Standards (Licensing and Registration of Food Businesses) regulations, 2011.</td>
</tr>
<tr>
<td>2</td>
<td>Foods which are referred to as foods high in fat, salt and sugar (HFSS) cannot be sold to school children in school canteens/ mess premises/ hostel kitchens or within 50 meters of the school campus.</td>
</tr>
<tr>
<td>3</td>
<td>Encourage schools to adopt a comprehensive program for promoting Safe food and Healthy diets amongst school children, and to convert school campus into Eat Right School focusing safe and healthy food, local and seasonal food and no food waste as per the specified benchmarks.</td>
</tr>
<tr>
<td>4</td>
<td>Encourage School Authority to promote consumption of a safe and balanced diet in the school as per the guidelines issued by the National Institute of Nutrition (NIN).</td>
</tr>
<tr>
<td>5</td>
<td>The School Authority shall ensure that FBOs supplying prepared meals in the premises are on the basis of general guidance provided in the regulation and as per the direction issued by the Food Authority or the Commissioners of Food safety.</td>
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</tbody>
</table>
Nutritionists, dieticians may be engaged by the School authority to assist in the preparation of menu for the children, periodically.

FBOs manufacturing HFSS food products barred from advertising such foods to children in school premises or within 50 meters of the school campus.

FBOs to support healthy eating in schools and not market, sell, or give away low nutrition foods anywhere on school campus, including through logos, brand names, posters, textbook covers etc.

Regular inspection of premises to ensure that safe, healthy and hygienic food is served to students.

Creating a sub-committee by the State Level Advisory Committee to monitor the implementation of this regulations and to ensure availability of safe and wholesome food to school children.

It is also important for the parents and caregivers to understand the importance of providing healthy food in the tiffin. Box 2 presents some points to keep in mind to plan a healthy tiffin meal. Including all three food groups helps provide a balanced and healthy meal (Cereals for energy, pulses/flesh foods/eggs/milk products for body building and vegetables/fruits as protective foods).

**Box 2: Healthy tips for school tiffin**

<table>
<thead>
<tr>
<th>S. No</th>
<th>Healthy tips for school tiffin</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Choose healthy and wholesome recipes for tiffin. For example, roti wraps, rice preparations, stuffed parathas, steamed foods (idli, dhokla), and sandwiches stay best in tiffin lunch.</td>
</tr>
<tr>
<td>2</td>
<td>Include some protein (egg, paneer, pulses, sprouts, yoghurt) in the meal to keep your child satiated.</td>
</tr>
<tr>
<td>3</td>
<td>Pack vegetables or fruit with the school tiffin.</td>
</tr>
<tr>
<td>4</td>
<td>Do not fill up the meal box with creamy, cheesy, fatty or fried food.</td>
</tr>
<tr>
<td>5</td>
<td>Avoid using too much white sugar, biscuits or jams in the school meal.</td>
</tr>
<tr>
<td>6</td>
<td>Pack the meal box once the food has completely cooled. This helps keep the food fresh for longer periods.</td>
</tr>
<tr>
<td>7</td>
<td>Squeeze lemon over cut fruit (apple, pear, papaya, guava) to prevent discolouration and keep them fresh.</td>
</tr>
</tbody>
</table>

**Promoting good hygiene practices in childhood**

It is important to maintain personal hygiene to keep away food borne illness and stay healthy. Repeated illness during childhood adversely affects the growth of children. It is important to build these habits in the child’s growing years. Some of these have been highlighted in box 3.
Box 3: Personal habits for maintaining good hygiene

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Hygienic habits</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Brushing teeth twice a day</td>
</tr>
<tr>
<td>2</td>
<td>Having regular baths and thoroughly cleansing the body during a bath</td>
</tr>
<tr>
<td>3</td>
<td>Regularly washing hair and trimming nails</td>
</tr>
<tr>
<td>4</td>
<td>Washing hands before and after eating, after using toilet</td>
</tr>
<tr>
<td>5</td>
<td>Washing hands after handling a pet or touching something that isn’t “clean”</td>
</tr>
<tr>
<td>6</td>
<td>Covering the mouth and nose with a tissue while sneezing/coughing</td>
</tr>
<tr>
<td>7</td>
<td>Changing into clean clothes after getting dirty</td>
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</tbody>
</table>

Healthy diets at home

What family members consume at home largely depends on the home food environment. What are the kinds of foods that are readily available at home? When hungry, do family members easily reach out to chips, savouries, biscuits, etc. or to fresh fruits, nuts, or other healthy preparations? It is also important to consider the composition of the family and keep in mind the nutrient requirements of each age group.

Nutrient requirements

The children in the family need good quality protein in every meal to supply essential amino acids for tissue synthesis all day long. Good quality protein sources include flesh foods (meat, poultry, fish), eggs, milk and milk products, or a combination of cereals and pulses. Pregnant and lactating women also need to have good quality proteins in every meal as they support the growth of the foetus and infant respectively. In another chapter you have learnt how requirements of nutrients increase at certain age groups and physiological stages of the lifecycle. As the individual ages, the energy needs decrease in response to decrease in activity levels. Adulthood is a critical period of life when any excess weight may predispose an individual to non-communicable diseases like diabetes, hypertension or heart disease.

Every member of the family may have different nutrient requirements however the principles of what constitutes a healthy, well balanced diet remain same for all age groups. Variations in texture and digestibility may have to be accounted for infants and elderly. These can easily be made in what is being cooked for the family. For example, a portion can be taken out for little children before putting in chillies, or a separated food portion can be mashed for infants and elderly having trouble chewing. It is important to keep the special nutritional needs of all family members in mind while planning and preparing meals for the family.

Meal Planning

Eating a well-planned meal becomes important in today’s time when the population is struggling from the triple burden of malnutrition. Choosing a healthy diet for our own self and for others starts with comprehensive planning of each meal. With more people moving out for work, meal planning becomes critical in providing a combination of nutrition, taste and satisfying food preferences.
Meal planning may be defined as the science of when and how much to eat. It involves selection of each food group in adequate amounts to meet the nutritional need of the individual.

Meal planning comprises planning of balanced meals which are wholesome, nutritious, palatable, appetizing and well within the economic means of the family. It involves what, and how much to eat during each meal. The meals planned should not only ensure that nutrient requirements are adequately met but also be flexible enough to accommodate easily available seasonal foods. Further, it should also take care of the individual and family’s food preferences. A balanced diet should provide all nutrients in the amount and proportion required by the body according to individual’s age, gender and activity. Since adequate nutrition is important for physical, mental and emotional development of an individual, it therefore becomes essential that sufficient emphasis is laid on planning of proper meals. Main steps in meal planning include:

- Understanding the nutritional requirements
- Assessing acceptability of meals
- Procurement and storage of food

**Some points to remember**

- Have regular family meals.
- Serve a variety of healthy foods and snacks.
- Be a role model by eating healthy yourself.
- Involve your child in meal planning and preparation.
- Keep mealtime calm and pleasant.

Acceptability of meals is an important aspect of meal planning. To make the meals acceptable consideration needs to be given to likes and dislikes of the family members, including variety in the meals, taking care of the food habits, seasonal food availability and palatability. Preference should be given to regional and seasonal foods as they are economical, nutritious add diversity to the diet and such diets are sustainable. It is important to plan meals in advance and procure them in advance to save time and resources.

**Improving nutrient availability**

Cooking food improves digestion and increases the absorption of many nutrients, for example, the protein in cooked dals is more digestible and β-carotene is better absorbed from cooked vegetables. However, some cooking methods reduce several key nutrients like vitamins B and C which are heat labile. The most common methods of cooking are sautéing, roasting, boiling, frying and steaming.

Water-soluble vitamins like vitamin C and the B vitamins namely — thiamine, riboflavin, niacin, pantothenic acid, pyridoxine (B6), folic acid, and cobalamin (B12); and water soluble forms of minerals are easily lost if soaking or cooking water is discarded and not consumed. Exposing food to high heat or prolonged cooking time also destroys heat labile vitamins.
vitamins also get destroyed in alkaline medium when cooking soda is used for cooking pulses etc. Leaving cut fruits and vegetables exposed to air may also destroy vitamins. Additionally, vitamins like A and E may get destroyed by oxidation, if food is left exposed to air and light.

Loss of nutrients in vegetables begins from preparation onward and is greater during the cooking process.

1. When fruits and vegetables are peeled the vitamins present under the skin may be lost.
2. Nutrients are also lost when the edible leaves of carrot, beetroot and outer leaves of cabbage are discarded.
3. Vitamin B complex and Vitamin C are water soluble and are lost when the water in which vegetables are cooked is discarded. Sodium, potassium and chlorine are also lost when cooking water is discarded.
4. Vitamin C is lost by oxidation due to exposure of air.
5. During dehydration ascorbic acid and carotene are lost.
6. Addition of soda results in heavy loss of B–Vitamins during cooking.

When fruits and vegetables such as apple, banana, potato and brinjal are cut, there is a development of brown colour on the surface due to action of enzymes. This is known as enzymatic browning. When the tissue is injured or cut and the cut surface is exposed to air, phenol oxidase enzymes are released at the surface. These act with the polyphenols present in the fruits and oxidise them to orthoquinones, which gives the brown colour to cut tissues. Browning can be prevented by squeezing lemon on cut surfaces of fruits or keeping the cut vegetables soaked in water. However, it is best to use the cut vegetables soon after cutting to reduce nutrient losses.

Minimizing the nutrient loss during cooking

- When cooking vegetables, keep skins on when possible
- Do not wash vegetables after chopping/peeling
- Avoid repeated reheating of food
- Use a minimal amount of cooking liquid
- Choose steaming over boiling
- When boiling, retain the cooking liquid for a future use (like soups and stocks)
- Use a pressure cooker when possible to reduce cooking time
- Avoid using baking soda to hasten cooking or retain colour
- Cut vegetables into large chunks to reduce surface area and hence loss of nutrients
Healthy diets at workplace

A workplace is a place of employment or any location where an individual or group of individuals work. Such a place can range from a home office to a large office building or factory. The workplace is one of the most important social spaces other than the home. A working individual spends substantial part of each day at his/her workplace. It is therefore important that the meal/snacks consumed at workplace are healthy. The worksite is a central venue for influencing dietary behaviour.

Faulty eating habits at workplace

Faulty eating habits in the workplace contribute to poor health, reduced productivity and a negative working environment. Employees who have trouble in concentrating, suffer from irritability and lethargy may be making poor food choices. Talking to employees about bad eating habits is a delicate task best handled by addressing the workforce rather than targeting individuals. Small business owners should take a proactive and fun approach that encourages employees to make wise food choices. Some of the poor food habits include - consuming too much of tea/coffee, untimely snacks, unhealthy (high fat, sugar and salt) snacks during team meetings, poor meal timings, etc.

Benefits of healthy eating in the workplace

- Increased energy
- Increased productivity
- Decreased absenteeism
- Lower rates of chronic diseases
- Decreased medical claims, disability and insurance costs related to nutrition related chronic conditions

Steps to promote healthy eating behaviour

The dietary patterns of the employees/workers are also likely to be influenced by other factors in the work environment. Research studies have shown that workplace dietary interventions are generally effective, especially fruit and vegetable interventions. The following steps may help in improving eating behaviour of employees:

- Develop workplace policies that promote healthy eating
- Create an accessible area where information can be posted (such as a bulletin board), regarding healthy eating, nutritional information, and other resources
- Send out information regarding healthy eating and nutrition via emails or through workplace newsletters
- Organize health fairs that promote healthy eating, that include dietitians/ health and wellness experts to answer questions and provide consultations
• Provide access to a Registered Dietitian who can help counsel and provide support to those wishing to change their eating habits
• If selling food in the cafeteria, ensure that nutritional information is available
• Offer healthy foods in the cafeteria, vending machines, and during meetings
• Provide self-assessment tools for employees to assess their eating habits
• Offer workshops on topics such as preparing healthy meals, reading food labels etc.
• Provide a kitchenette, microwave, and refrigerator for employees to prepare, reheat and/or store healthy meals.

Table 1 provides suggestions for healthy workplace snacks and meals.

Table 14. 1: Healthy eating choices at workplace

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Meeting/ Cafeteria</th>
<th>Healthy food/ snack options</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Meeting snacks</td>
<td>Roasted, unsalted chana, nuts, puffed rice, fox nuts, dates, steamed corns and peas, sprouts, steamed dhokla, fruits, low-fat sandwiches with whole wheat bread and vegetables, etc.</td>
</tr>
<tr>
<td></td>
<td>Beverage options</td>
<td>Unsweetened lemonade and butter milk, green tea, coconut water, unsweetened juice with pulp</td>
</tr>
<tr>
<td>2</td>
<td>Cafeteria Meals</td>
<td>Wholesome meals containing roti made from whole wheat or multigrain, millets, roti wraps, steamed idli, rice, freshly cooked pulses and legumes, dairy products such as plain yogurt/curd, buttermilk and milk, fresh vegetables especially green leafy vegetables, fresh and seasonal fruits and vegetables as salads</td>
</tr>
</tbody>
</table>

In addition to awareness about healthy diets, worksites should put in effort to reduce work-related stress and provide avenues for increasing physical activity especially among employees engaged in desk work.

Healthy diets when eating out

There has been a notable shift in the global eating culture in the past 40 years. Consumption of commercially available food/snacks outside the home has become an integral part of the busy modern lives. With fewer meals being consumed at home, the overall quantity of calories has increased while nutritional quality has declined. This has further contributed to the burden of diet related non communicable diseases. It is therefore important that due care is given to the type and amount of food consumed outside home. Commercially available food/snacks can be either packaged or unpackaged, ready to consume.
Buying ready-to-eat packaged foods

When buying packaged foods, it is important to read the nutrition labelling properly. “Labelling includes any written, printed or graphic matter that is present on the label, accompanies the food or is displayed near the food, including that for the purpose of promoting its sale or disposal.” Nutrition labelling is a combination of various mandatory (Nutrition Facts Panel (NFP) and ingredients) and voluntary information (symbols and logos, nutrient claims, health claims, allergen declaration) on food labels.

The Food Safety and Standards Act, 2006, and Food Safety and Standards (Packaging and Labelling) Regulations, 2011 have laid down the requirements for labelling of pre-packaged foods. It is mandatory that every package of food should carry a label that bears all the information required under the Act. Mandatory information is compulsory to be printed on food labels while voluntary information declaration is optional for the manufacturers. However, if any voluntary claim is being made then it should be substantiated by NFP. For example, nutrient claim “sugar free” should be substantiated by reporting the sugar value as zero/nil on NFP.

The label should not carry a false, misleading or deceptive description or presentation of the pre-packaged food and the labelling should not create a misleading impression regarding the character of food. To begin with, understanding of nutrition labelling is a must to make healthy food choices by the consumers. Nutrition labelling is the first and the most important source of information regarding the nutritional content of food purchased by the consumer. It is a tool for nutrition education and information about essential components of the food which has public health implications in preventing nutrition and diet related conditions such as obesity, cardiovascular disease and diabetes. Without nutrition labelling it is difficult for the consumers to identify the nutritional content of packaged food. Packaged foods which are usually high in fat, trans fat, sodium and sugar should be consumed judiciously.

To ensure that one is making healthy food choices, one should know how to read nutrition labels. One should be able to recognise foods which are high in fat, trans fat, sodium and sugar and consume these foods occasionally. Nutrition labelling is found on Front of Pack and Back of Pack. Usually the front of the label information is short and precise, in the form of nutrient and health claims while the back of the pack includes more detailed presentation of nutrients in the form of Ingredients list and Nutrition Facts Panel.

Nutrient Claims: Nutrient claim is usually related to the function, presence or absence of a nutrient in a food. For e.g. nutrient claims like “low in fat”, “good source of calcium”, “high in dietary fibre”, “zero cholesterol”, etc. Nutrient claims are not mandatory but if it is declared on the label then it becomes inevitable to have the nutrition value declared. For e.g. when a claim “rich in iron” is made on the label then it is mandatory to have iron values as percentage/mg on the panel and this is called substantiation of a claim.

Health Claims: “Health claim means any representation that states, suggests or implies that a relationship exists between a food or a constituent of that food and health and include nutrition claims which describe the physiological role of the nutrient in growth, development and normal functions of the body”. Other functional claims can concern specific beneficial effect of the consumption of food or its constituents, in the context of the total diet, on normal functions or biological activities of the body. Such claims can relate to a positive contribution to health or to the improvement of function or to modifying or
preserving health or disease. Risk reduction claim relates to the consumption of a food or food constituents, in the context of the total diet, to the reduced risk of developing a disease or health related condition.

**Nutrition Facts Panel:** Nutrition Facts Panel (figure 1) is a tabular presentation or declaration of the nutrients contained in a food package. Nutrition information is usually given as, “per 100g” or “per serving” or “% DV” or combination of “per 100g and per serving” or combination of “per serving and % DV” or combination of per 100g, per serving and % DV.” ‘%DV’ stands for ‘Percent Daily Value’ which is the amount of nutrient needed by a person based on a 2000 Kcal diet. An individual’s Daily Value may be higher or lower depending on the calorie needs. A food is considered a rich source of a nutrient if 20% or more of the DV is present in that food; 10 – 19% is considered a good source and 5% or lower is considered a poor source.

This declaration should compulsorily comprise of the following information-

- Energy value in kcal
- Protein, fat and carbohydrate along with sugar quantity in grams
- Amount of any other nutrient for which a nutrition / health claim is made.
- The amount of vitamins and minerals should be in metric units.
- For nutrition declaration made per serving, the amount in one serving in grams or milliliter should be mentioned for reference beside the serving measure.
- When a claim is made on the amount or type of fatty acid or the amount of cholesterol, the amount of saturated fatty acids, monounsaturated fatty acids and polyunsaturated fatty acids in grams and cholesterol in milligrams should be declared. Along with this, the amount of trans fatty acids in grams should also be stated.

So, while selecting packaged foods for their nutritional value, the following can be kept in mind:

- Nutrients which are good for you include vitamins, minerals, fibre, protein and omega 3 fatty acids and it is a good idea to select foods rich in these nutrients.
- Select foods which have more than 15% DV of vitamins and minerals.
- Foods rich in fibre should have at least 6g fibre per 100g of food.
- There should be zero trans fat in the food as trans fats are bad for cardiovascular health.
- Healthy foods are low in total fat, saturated fat, sugar and salt/sodium.
- Low fat foods have no more than 3g fat/100g of food or 1.5 g fat/100 ml of beverage.
- Prefer foods with no added sugar.
- Foods with no more than 0.12 g of sodium or 0.3g salt/100g are considered to be low in sodium/salt.

**Figure 14.1: Nutrition Facts Panel (Source: Pink Book, FSSAI)**
Table 14.2: Common claims and their clarifications (Source: Pink Book, FSSAI)

<table>
<thead>
<tr>
<th>Food</th>
<th>Claim</th>
<th>Clarification</th>
</tr>
</thead>
</table>
| Fats/Oils | 'This oil is good for diabetes' or other diseases or "this oil is heart friendly"
            |                                                                        | All oils are 100% fat, and therefore, should be consumed in recommended quantities only.                                                     |
|           | 'This oil does not contain cholesterol'                                | No plant-based oil contains cholesterol anyway.                                                                                        |
|           | 'Light oil' or 'Lite oil'                                              | Some oils are more easily absorbed than others but 1 gm of any oil will give the same amount of energy, i.e., 9 kcal.                        |
|           | 'This oil contains no saturated fats'                                  | This is not true because every kind of oil has some percentage of saturated fats, even though some oils contain more saturated fats than others. |
|           | 'Cholesterol-free' label                                              | Products marked 'cholesterol free' do not contain cholesterol but care has to be taken to check for total fats, especially saturated and trans fats, as they can increase cholesterol levels in the body. Our body synthesizes cholesterol. Also, vegetable oils do not contain cholesterol; only animal fats do. |
|           | 'Low-fat' or 'Non-fat' labels.                                         | Often low-fat foods have extra sugar, refined flour or starch thickeners to make them taste better. These ingredients add calories from carbohydrates, which may lead to weight gain. |
| Cereals   | Bread that is marked 'brown bread'                                     | Brown bread need not mean whole wheat bread. Brown bread is often coloured with caramel and may have only a small percentage of wheat flour. To be genuinely labelled 'whole wheat bread', it must be at least 50% whole wheat. |
| Sugars    | 'Sugar-free' and 'Brown sugar' labels                                  | People often associate sugar free foods with lower calories, and thus, consider them beneficial for diabetics and weight watchers. Sugar-free foods could actually be loaded with fats and refined cereals (refined flour, starch). Sugars could also be present in different forms (maltitol, fructose, corn syrup, molasses). 'Brown sugar' is often sucrose, tinted with caramel. |

The Food Safety and Standards Act, (2006), and Food Safety and Standards (Packaging and Labeling) Regulations, 2011 have laid down the requirements for labeling of pre-packaged foods. It is mandatory that every package of food should carry a label that bears all the information required under the Act. At the same time, it is also important that the label should not carry a false, misleading or deceptive description or presentation of the pre-packaged food and the labeling should not create a misleading impression regarding the character of food in any respect. Table 2 presents clarifications about certain claims which are seen on food packages or advertisements for food products. Box 4 lists the mandatory information each food label should have. In addition, there are certain mandatory declarations which manufacturers have to make on the label. These include:

- Addition of certain food additives like food colours, artificial sweeteners, Class II (chemical) preservatives, flavouring agents, monosodium glutamate, etc.

- For edible oils the kind of oil, names and proportions of oils in case of blends, and the declaration that the oil is not to be sold loose and that it is free of Argemone oil (an adulterant).

- For infant foods, it is mandatory to declare on the label that breast milk is the best for the baby.

- Presence of allergens in food.
A complete label gives the assurance that the food item has been manufactured by a reliable firm which is not trying to hide facts. In addition to checking whether the packets are well sealed and labelled and within the best before date, the list of ingredients should be checked for the presence of allergens. Products are also supposed to declare allergy information in case any of the known allergens like cereals with gluten, crustacean, peanut, tree nuts, egg, milk, fish, soy and sulphite in concentrations of 10 mg/kg or more have been used in the formulation of the product or the product has been processed in a plant where these ingredients are also processed.

Healthy food choices when eating out

In today’s fast paced lifestyle, eating out has become inevitable. It is mainly due to lack of time, increased mobility of younger generation, more opportunities for social activities, and availability of a variety of regional and international cuisine. Hence it has become increasingly imperative to ensure that hygienic and healthy eating options are available to consumers of all income brackets. FSSAI is trying to improve the safety of street foods through its ‘Clean Street Food Hub’ initiative. Street foods provide cheap, nutritious and
traditional meals to a sizeable population in urban areas of our country. Maintaining hygiene is an integral part of keeping food borne diseases away. Food outlet and kitchens should maintain proper hygiene. Before selecting a food outlet, one should check the hygiene rating of the food outlet, if available.

**Menu labelling** refers to providing and displaying the calories and/or other nutritional information for each food item available at a food outlet. It is aimed at helping people make informed – and ideally healthier – food choices when eating out. To facilitate informed consumer choices, regulations on advertising and claims and mandatory menu labelling has been notified. FSSAI has issued draft packaging and labelling regulations making it mandatory for restaurant chains to declare on the menu cards, the calorie content of all the dishes served at their outlets. It also intends to bring online food-delivery platforms and food aggregators under the ambit of these regulations. Apart from menu labelling there are some other points to be considered when eating out for healthful and mindful eating, these have been outlined below:

- Avoid eating out when you are overly hungry. Eat a small healthy snack, such as carrots or a small apple, just before going out.
- Check the menu online so you can make healthy choices ahead of time
- The portion sizes at many restaurants are very large. The temptation for overeating can be hard to resist at these places. Think and plan ahead and order for smaller portion sizes or share your food.
- When ordering, ask about food items cooked in a healthier manner such as baked or steamed instead of fried.
- Prefer salads and other vegetable side dishes. Order salads or uncooked food items only if you are sure of the hygienic standards of the outlet.
- Prefer foods that are broiled, grilled, steamed, poached, roasted, or baked
- Avoid anything creamy, fried, crispy, breaded, battered, or au gratin
- Avoid sauces or soups with lots of butter, cream, or cheese
- Avoid thick or creamy salad dressings
- Limit fried foods, creamy curry sauces, cream sauces such as Korma or Makhani, and foods made with clarified butter or ghee.
- Prefer water or low-fat milk over beverages that have empty calories, such as sodas.
- Avoid ordering the value or combo meal unless the restaurant offers healthy sides such as salad.

Thus, whether we eat at home or at school, in the workplace or any food outlet, keeping some of these pointers in mind will help us select healthier food options which will increase the overall healthfulness of our diets.
Summary

- Eating a healthy diet is the basic step towards good health. Following a healthy diet at home, in school, at workplace and while eating out is possible and achievable.

- Healthy eating in childhood and adolescence is crucial for proper growth and development and to prevent various health conditions.

- Adequate nutrition is crucial during the school age, however there are several hindrances in achieving it, one such factor is ‘eating behaviour’ during the school age.

- Nutritional requirements vary greatly among males and females because of variations in growth rate, body composition, and physical activity level.

- It is also important for the parents and caregivers to understand the importance of providing healthy food in the tiffin. Choose healthy and wholesome recipes for tiffin. For example, roti wraps, rice preparations, stuffed parathas, steamed foods (idli, dhokla etc. Combination of a cereal with pulse along with some vegetables/fruits provides a wholesome meal.

- How healthy the family diet is, is partly dependent upon the home food environment. It is therefore essential that healthy, well balanced meals are prepared, which cater to all family members of different age groups at home.

- Meal planning comprises planning of balanced meals which are wholesome, nutritious, palatable, appetizing and well within the economic means of families.

- Faulty eating habits in the workplace contribute to poor health, reduced productivity and a negative working environment. Employees who have trouble concentrating, irritability and lethargy may be making poor food choices. The workplace food environment should encourage and improve availability of healthy food options.

- Consumption of commercially available food/snacks outside the home has become an integral part of the busy modern lives. With fewer meals being consumed at home, the overall quantity of calories has increased while nutritional quality has declined.

- When buying packaged foods, it is difficult to check the food quality by looking at the food. In these cases, reading the food label helps in selecting more nutritious options of food.

- Before selecting a food outlet, one should check the hygiene rating of the food outlet, if available.
Key Words

**Health claim** - means any representation that states, suggests or implies that a relationship exists between a food or a constituent of that food and health.

**Nutrition claim** - is usually related to the function, presence or absence of a nutrient in a food.

**Nutrition Facts Panel** - is a tabular presentation or declaration of the nutrients contained in a food package.

**Nutrition labelling** - information on the label of packaged food regarding ingredients and nutrients present in food.

**Percent Daily Value** - which is the amount of nutrient needed by a person based on a 2000 Kcal diet.

Exercises

1. Discuss the things to be considered and the healthy food options when eating out.
2. Explain why meal planning is important.
3. What are some concerns regarding eating behaviour of children and adolescents?
4. Explain the things to be kept in mind when buying packed foods. Discuss importance of reading food labels.
5. What can be the best options for healthy tiffin?
6. Why is it important for employers to improve the food environment at the workplace? Discuss giving suggestions on how meals and snacks offered at workplaces can be improved.

Activity

1. Visit a college/school canteen or observe the service of a mid-day meal being served in a school. Make a note of the menu. Critically evaluate the nutritional quality of the meals served. (Hint: Look at the food groups included. Are any of the dishes high in fat, sugar or salt?)
2. Visit an office and check out the meals served in the cafeteria. How would you rate the healthfulness of the dishes? Use a nutrient profiling model to evaluate.
References

1. Food Safety and Standards (Safe Food and Balanced Diets for Children in School) Regulations, 2020 Available at: https://fssai.gov.in/eatrightschool/school-regulations.php


