

My Nutritional Needs



INDEX



Balanced Diet

2



Obesity in Adolescents

8



Iron Deficiency Anemia

14



Healthy Life for
Healthy Living

18



Schemes and
Entitlements

22



Activity-1

Eat Right, Future Bright (15minutes)

Materials: Formats for Eat Right, Future Bright, charts, sketch pens,

This activity helps the participants to understand the specific nutritional components of the food they eat.

- *Initiating the session, leader asks the participants to list out what all they ate during breakfast, lunch and dinner, separately on the given format*
- *Later he/she explains the nutritional needs and concerns of adolescents and, balanced diet chart with appropriate examples.*
- *On completion of the session he/she asks the participants to look at the format Eat Right, Future Bright*
- *Using the inputs received from the session participants are asked to identify the nutrients they missed and how they can supplement them in their daily diet.*

For Example: IF a participant had "Idly and chutney" for breakfast, what were the nutrients absorbed by that person.

Idly-has Rice and Urad Dal (Minapappu)

Rice- Carbohydrates and Urad Dal-Protein, carbohydrates and fat

(P=proteins, c- carbohydrates, v=vitamins, f=fats, m= minerals and w=water)



DAYS and DIET	SUNDAY	MONDAY						TUESDAY					
		P	V	C	F	M	W	P	V	C	F	M	W
BREAKFAST													
LUNCH													
SNACKS													
DINNER													



- After the activity Peer leader can use the following information to talk about the importance of nutrition.

Nutrition is a very significant indicator of the overall well-being and development of an adolescent. This is explained by the fact that it is during this period that adolescents gain up to 50% of their adult weight, more than 20% of their adult height and 50% of their adult skeletal mass. *In fact it is during the spurt in growth during adolescence that mal-nutrition can be remedied – a fact little recognized even today.*

“Today’s young girl who is on the threshold of marriage and motherhood is the most crucial segment of our population from the point of view of our future generation”.

Diet is an important determinant of growth and development during puberty. Malnutrition, be it under nutrition or over nutrition, poses a threat to human resource development. Hence emphasis on a balanced diet is very crucial at puberty and through the adolescence for the well-being and healthy growth of an individual.

Balance diet is the basis of healthy life.

The basic principles of a balanced diet are

Quantity – adequate quantity should be taken based on individual calorie requirement and nature of work.

Quality – can be ensured by including all food groups comprising of cereals, pulses, vegetables, milk etc. providing complete nutrition.

Regularity – should be consumed 4 to 5 meals per day to maintain consistent energy levels.

The basic building blocks of a balanced diet are carbohydrates, proteins, fats, vitamins and minerals.



The following tables provides recommended dietary allowances for adolescents.

Table - A

RECOMMENDED DIETARY ALLOWANCES FOR ADOLESCENTS				
	Boys 13-15 yrs	Girls 13-15 yrs	Boys 16-18 yrs	Girls 16-18 yrs
Net Energy Kcal/d	2450	2060	2440	2060
Protein (g/d)	70	65	78	63
Fnt(g/d)	22	22	22	22
(mg/d)	600	600	600	600
Iron (mg/d)	41	28	50	30
VitA ug	600	600	600	600
Vit C ug	40	40	40	40

Table - B

Nutrients needed in Diet	Need	Sources of Nutrients
Protein	Builds muscle	Animal Products (meat, milk, cheese) Nuts, pulses, cereals)
Carbohydrates	Body gains energy, helps gain weight	Rice, Bread, Cereal& Starchy vegetables (Potatoes, wheat flour, Brown rice, Oats, Peas, Sweet Potato, Beetroot)
Vitamins	Regulates our body and keeps it from getting sick; keeps our blood and nervous system healthy	Fruits, Vegetables, Eggs, Fish, Milk& meat
Fats	Body stores energy & keeps our skin, hair and blood-healthy	Animal products like meat and butter, oil and nuts
Minerals	Helps in Circulatory and Digestive Systems & Bone formation	Fruits, Vegetables, Meats, Nuts and Cereals
Water	Weight maintenance, skin health, and prevention of heat exhaustion	Water melon, mango, and tomato cucumber



Emphasis in the adolescent's diet should be on consumption of adequate cereals and pulses, abundant amounts of green leafy vegetables, other seasonal vegetables and fruits, moderation of milk and fat and minimize on salt and sugar intake to provide both the nutritive and nonnutritive beneficial substances.

Amount of Fluids

Water plays a vital role in almost every tissue and process in human body, involving eliminating wastes and maintaining proper body temperature. Children should drink fluids, of any kind, as a daily need. The amount of fluid needs' is based on the weather and the level of activity. Generally, the amount of fluids a child should drink is shown below:

Table - C

Age	Water (serves)
4-8	1-1.2L (approx. 5 glasses)
9-13	1.4-1.6L (approx. 5 to 6 glasses)
14 and More	1.6-2L (approx.5 to8 glasses)
*A glass is 250mL	



Improper diet leads to the following issues in growing children:

- Delayed or absence of growth spurt
- Slow pubertal change
- Stunted growth
- Anemia in both girls and boys
- Low-weight babies to adolescent mothers who are anemic
- The cycle of stunted mother and stunted babies continues

Healthy cooking habits:

- Always wash hands thoroughly before cooking
- Wash vegetables and fruits with a pinch of salt properly before eating or cooking them
- Cut vegetables/fruits/cooked food should always be kept covered to prevent contamination from flies and dust
- Cooking on low flame and in covered vessels like pressure cookers helps to reduce loss of nutrients
- Over cooking and re-heating the cooked food leads to loss of nutrients in them

Good eating practices are:

- Chew the food slowly as it takes some time for the brain to experience satiety.
- Never skip any meal to lose weight as drastic diet plans and slimming medication can be harmful unless prescribed by a qualified medical practitioner
- Breakfast is an important meal as it prevents metabolic disturbances following an overnight fast.
- Water intake up to 2-3 liters per day helps to clear toxins away from the body
- Avoid canned or processed food as it contains preservatives that can be unhealthy
- Dry fruits such as almonds, dates, ground nuts, and sesame seeds with Jagerry can be a healthy snack during studies than chips and potato fries.
- Avoid junk food, and aerated drinks. Instead take healthy drinks like coconut water, butter milk, fruit juice, milk shakes etc.



OBESITY IN ADOLESCENTS



Obesity in Adolescents

Obesity is a serious worldwide health epidemic. This phenomenon is global and about 30 million Indians are obese. It is predicted to double in the next 5 years.

What is the difference between overweight and obese?

Stages of overweight are medically defined by body mass index (BMI). An individual with a BMI of 25 to 29.9 is clinically classified as overweight. A BMI of 30 or more is classified as obese.

Overweight individuals are also at risk for developing health problems, such as heart disease, stroke, diabetes, certain types of cancer, gout (joint pain caused by excess uric acid) and gallbladder disease. Being overweight can also cause problems such as sleep apnea (interrupted breathing during sleep) and osteoarthritis (wearing away of the joints).

Weight-loss can help improve the harmful effects of being overweight. However, many overweight people have difficulty reaching their healthy body weight.



Body Mass Index (BMI)

BMI is a number calculated by dividing a person's weight in kilograms by his or her height in meters squared. BMI is used in determining obesity. Obesity is most commonly calculated using BMI. An adult with a BMI of 30 or greater is clinically obese. BMI is not used to determine a person's actual percentage of body fat, but it is a good indicator to categorize weight in terms of what is healthy and unhealthy.



UNDERSTANDING CHILDHOOD OBESITY

What is Childhood Obesity

Childhood obesity affects more than 15 percent of children, making it one of the common chronic diseases of childhood.

Childhood obesity is not just a cosmetic problem. Today, more and more children are being diagnosed with diabetes, hypertension and other co-morbid conditions associated with obesity and morbid obesity.

Causes of Childhood Obesity

Although the causes of childhood obesity are widespread, certain factors are targeted as major contributors to this epidemic. Causes associated with childhood obesity include:

- Environment
- Lack of physical activity
- Heredity and family
- Dietary patterns
- Socioeconomic status



Environment

Today's environment plays a major role in shaping the habits and perceptions of children and adolescents. The prevalence of television commercials promoting unhealthy foods and eating habits is a large contributor. In addition, children and adolescents are surrounded by environmental influences that downgrade the importance of physical activity.

It is estimated that more money is spent on food outside home, at restaurants, cafeterias, sporting events, etc. In addition, as portion sizes have increased, when people eat out they tend to eat a larger quantity of food (calories) than when they eat at home.



Beverages such as carbonated soft drinks and juice boxes also greatly contribute to the childhood obesity epidemic. It is not uncommon for a bottle of soft drink to be marketed toward teens, which contains approximately 400 calories. The consumption of cola by children/adolescents has increased throughout the last 20 years by 300 percent. Scientific studies have documented a 60 percent increase risk of obesity for every regular soft drink consumed per day. Box drinks, juice, fruit drinks and sports drinks present another significant problem. These beverages contain a significant amount of calories and it is estimated that 20 percent of children who are currently overweight are overweight due to excessive caloric intake from beverages.

Lack of Physical Activity

Children/adolescents in today's society show a decrease in overall physical activity. The growing use of computers, increased time of watching television and decreased physical education in schools, all contribute to children and adolescents living a more sedentary lifestyle.

Another major factor contributing to the childhood obesity epidemic is the increased sedentary lifestyle of youngsters. School-aged or college going children spend most of their day in schools and colleges where their only activity comes during breaks or physical education classes.

Only 50 percent of children, 12 to 21 years of age, regularly participate in rigorous physical activity, while 25 percent of children report no physical activity. The average child spends two hours a day watching television, but 26 percent of children watch at least four hours of television per day.

Heredity and Family

Science shows that genetics play a role in obesity. It has been proven that children with obese parents are more likely to be obese. Estimates say that heredity contributes between 5 to 25 percent of the risk for obesity. However, genes alone do not always dictate whether a child is overweight or obese. Learned behaviors from parents are a major contributor. Parents, especially of those whose children are at risk for obesity at a young age, should promote healthy food and lifestyle choices early in their development.



Dietary Patterns

Over the past few decades, dietary patterns have changed significantly. The average amount of calories consumed per day has dramatically increased. Furthermore, the increase in caloric intake has also decreased the nutrients needed for a healthy diet.

Food portions also play an important role in the unhealthy diet patterns that have evolved. The prevalence of “extra-large” options and “all you can eat” buffets create a trend in overeating. Combined with a lack of physical activity, children are consuming more and expending less.

Socioeconomic Status

Educational levels contribute to the socioeconomic issue associated with obesity. Parents with little to no education have not been exposed to information about proper nutrition and healthy food choices. This makes it difficult to instill those important values in their children.

Treating Childhood Obesity

Treating obesity in children and adolescents differs from treatment in adults. Involving the family in a child’s weight management program is a key element to treatment. Obesity in children is not accomplished by just dieting. One needs to address multiple aspects of the child and the family’s lifestyle, nutrition and physical activity patterns, prior to discussing any treatment plans.

It is important to talk with your physician about options for treating childhood obesity. The various treatments of obesity in children and adolescents include:

- Dietary therapy
- Physical activity
- Behavior modification

Diet Therapy

When treating an obese child or adolescent, it is often recommended that they have a consultation with a dietitian who can address the child’s needs. Dietitians can help children understand healthy eating habits and how to implement them in their long-term diet.



Dietitians do not always recommend restricting caloric intake for children. Education on how to identify healthy food, cut back on portions, understand the food pyramid and eat smaller bites at a smaller pace is generally the information given to change a child's eating habits.

Physical Activity



Another form of obesity treatment in children is increasing physical activity. Physical activity is an important long-term ingredient for children, as studies indicate that inactivity in childhood has been linked to a sedentary adult lifestyle.

Increasing physical activity can decrease, or at least slow the increase, in fatty tissues in obese children. It is recommended that

children get at least 60 minutes of physical activity each day. Individualized programs are available and possible for those children or adolescents that are not able to meet minimum expectations.

Behavior Modification

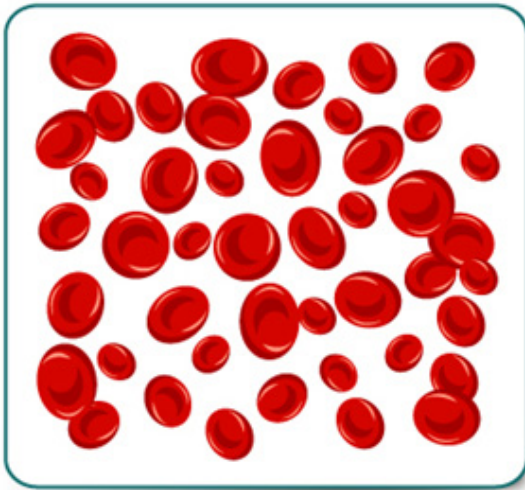
Lifestyles and behaviors are established at a young age. It is important for parents and children to remain educated and focused on making long-term healthy lifestyle choices.

There are several ways that children and adolescents can modify their behavior for healthier outcomes, such as:

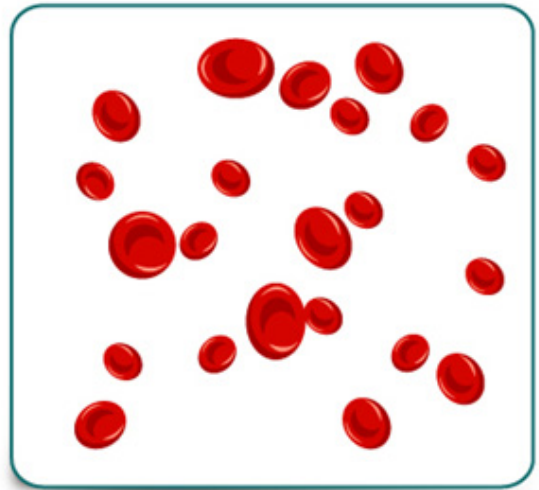
- Changing eating habits
- Increasing physical activity
- Becoming educated about the body and how to nourish it appropriately
- Engaging in a support group activity and setting realistic weight management goals



IRON DEFICIENCY ANEMIA IN ADOLESCENTS



Normal



Anemia

Another important deterrent of growth in adolescent boys and girls is Iron Deficiency Anemia



Activity-2

Anemia: A sign or Disease? (Group work) (30 minutes)

This activity helps the participants to understand all about Iron-deficiency Anemia and how to combat it

- ▶ *Participants sit in groups and prepare presentations addressing the following questions relating to Anemia*
 - i) What is Anemia?
 - ii) What are the symptoms of Anemia?
 - iii) How to identify if someone is Anemic?
 - iv) Do you know of any friend who is Anemic and the issues they have?

Peer leader can refer to the following information to discuss about Iron-deficiency Anemia.

Iron deficiency Anemia is a major public health problem worldwide and is often ignored in both boys and girls.

Iron requirement peaks during adolescence due to rapid growth and increase in blood volume.

What Is Iron Deficiency Anemia?

Anemia occurs when the level of Red Blood Cells (RBCs) in the blood is lower than normal. Iron deficiency anemia is the most common type of anemia, and it occurs when the body doesn't have enough of the mineral iron. Body needs iron to make a protein called hemoglobin. This protein is responsible for carrying oxygen to the body's tissues, which is essential for tissues and muscles to function effectively. When there isn't enough iron in the blood stream, the rest of the body can't get the amount of oxygen it needs.

What Causes Iron Deficiency Anemia?

Iron deficiency is the most common cause of anemia. There are many reasons why a person might become deficient in iron. Eating too little iron over an extended period of time can cause a shortage in our body.



Foods such as meat, eggs and dark green leafy vegetables are high in iron. Because iron is essential during times of rapid growth and development, young children may need more iron-rich foods in their diet.

What are the symptoms of Iron Deficiency Anemia?

The symptoms of iron deficiency anaemia can be very mild at first, and one may not even notice them. Most people don't realize they have mild anaemia until they have a routine blood test.

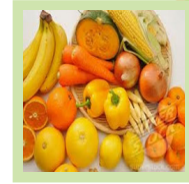
The symptoms of moderate to severe iron deficiency anaemia include:

- general fatigue
- weakness
- pale skin
- shortness of breath
- dizziness
- strange cravings to eat items that aren't food, such as dirt, ice or clay



Anemia can be prevented by:

- Eating- dried fruits and nuts, citrus fruits such as oranges, grapefruits, strawberries, guavas, papayas, pineapples, melons, and mangoes
 - Dark green leafy vegetables, red and green capsicum, cauliflower and tomatoes
 - Meat, chicken and eggs are high in Iron too
- Maintain personal hygiene and sanitation and prevent breeding of mosquitoes to protect from malaria and other mosquito borne diseases
- Cooking on low flame/slow fire and in covered vessels reduces nutrient loss in the food we cook
- Wear footwear to prevent worm infestations. De-worming medication has to be taken in case of suspected worm infection



IFA tablets:

Source – In school by teachers; Out of school by ASHA workers

Take one tablet after food. Taking a tablet on empty stomach may lead to nausea and vomiting.

Even if the tablets are not very tasty, they must be taken to prevent anemia. It is very important that these tablets are taken regularly

If symptoms of iron deficiency anemia require doctor's advice, self-diagnosing and self-treating can result in adverse health effects, hence consulting a doctor is inevitable.

For the sustenance and enhancement of a healthy living besides a **BALANCED DIET**, a **FITNESS** regime is equally essential.



HEALTHY LIFE-STYLE FOR A HEALTHY LIVING



Introduction

Lifestyle health conditions also known as non-communicable health conditions are caused due to risk factors associated with changing life styles. The adolescents and youth in particular spend a lot of time before computers, televisions, on mobile phones and social media, which results in sedentary life style, with very little physical activity.

Adolescents are also easily influenced by messages from media and advertising to follow the life style that may not always be healthy. The key risk factors are unhealthy diet, foods with low or no nutritional value including packaged or processed food, physical inactivity, consumption of tobacco and alcohol.

Being physically active is one of the most important steps to being healthy. Youth who are physically active get physical and mental health benefits. Comprehensive physical activity programs can help the youngsters to meet most of their physical activity needs. It is important for both adolescent girls and boys. Girls should equally be encouraged to participate in outdoor games and regular physical exercises.

Physical activity helps to burn calories more efficiently as, the KEY to health is to burn what we eat. Consuming more than what we can use, ends up in being obese or overweight.

How Does Physical Activity Help?

- Physical activity helps to build strong bones and muscles
- Physical activities like exercise, yoga, dance, martial arts, outdoor games etc., help build stamina and fight fatigue
- Decreases the likelihood of developing obesity and risk factors for diseases like type 2 diabetes and heart disease.
- Reduces anxiety and depression and promotes positive mental health



How Much Physical Activity Do Youth Need?

Children and adolescents should do 60 minutes (1 hour) or more of physical activity daily

Aerobic Activities:



Most of the activity should be for 60 or more minutes per day.

Examples of aerobic activities include cycle riding, walking, running, dancing, and Playing active games like tag, soccer, and basketball.

Muscle-strengthening Activities:

Include muscle-strengthening physical activity on at least 3 days of the week as part of the 1-hour activity

Examples of muscle-strengthening activities for adolescents include push-ups, pull-ups, and weightlifting exercises.

Bone-strengthening Activities:



Include bone-strengthening physical activity on at least 3 days of the week as part of the 60 or more minutes.

Examples of bone-strengthening activities include hopping, skipping, jumping, running, and sports like gymnastics, basketball, and tennis.



Some activities may address more than one category at a time. For example, gymnastics is both musclestrengthening and bone-strengthening while running is aerobic and bone-strengthening.

Activities chosen should be Age-appropriate, enjoyable and should have variety in order to sustain the interest of the individual.

There are many schemes and policies run by the Central and State Governments for an individual to lead a healthy and complete life.



SCHEMES OFFERED BY THE GOVERNMENT TO IMPROVE THE NUTRITIONAL STATUS AMONG ADOLESCENTS

Mid-Day Meal Scheme

Objectives:

The primary objective of the scheme is to provide hot cooked meal to children of primary and upper primary classes with other objectives of improving nutritional status of children, encouraging poor children, belonging to disadvantaged sections, to attend school more regularly and help them concentrate on classroom activities, thereby increasing the enrollment, retention and attendance rates.

Beneficiaries: Provision for free lunch on working days for children in Primary and Upper Primary Classes in Government, Government Aided, Local Body, Education Guarantee Scheme (EGS) and Alternate Innovative Education (AIE) Centers, Madarsa and Maqtabas supported under SarvaShikshaAbhiyan and National Child Labor Project (NCLP) Schools run by Ministry of Labor.

Entitlements: Provision of cooked free meals including micro nutrients (Vitamin A and Iron-Folate) tablets and de-worming medicines

NATIONAL PROGRAMME FOR YOUTH AND ADOLESCENT DEVELOPMENT -as is being conducted by NYKS in the current financial year

The scheme titled National Programme for Youth Adolescent Development (NPYAD) has been formulated by the Ministry of Youth Affairs & Sports during 10th Plan and revised scheme in the 11thFive-year Plan. The scheme contains programmes like:

- Promotion of Youth Activities & Training,
- Promotion of National Integration,
- Promotion of Adventure, and,
- Development and Empowerment of Adolescents.



Objectives:-

Provide opportunity for holistic development of youth including adolescents for realization of their full potential and to develop leadership qualities among them; Promote national integration and strengthen secular and creative worldview of the youth about their country, society and future; Foster the spirit of adventure, risk taking and teamwork; and to, Acknowledge adolescents as a distinct sub-group among youth and address to their distinct needs.

Beneficiaries:

The targeted beneficiaries of the programmes include members of the youth clubs affiliated to the Nehru Yuva Kendra Sangathan, National Service Scheme, and State Government Youth Organizations, Bharat Scouts & Guides or student youth in Schools, Colleges and Universities. Adolescents and Youth from other established youth organizations or NGOs may be considered provided they are the registered members of such organizations. Preference may be given to the youth with special abilities and youth belonging to scheduled caste, scheduled tribes, minorities and weaker sections.

WIFS (Weekly Iron Folic Acid Supplementation)

The Ministry of Health and Family Welfare has launched the Weekly Iron and Folic Acid Supplementation (WIFS) Programme to meet the challenge of high prevalence and incidence of anaemia amongst adolescent girls and boys. WIFS is evidence based programmatic response to the prevailing anaemia situation amongst adolescent girls and boys through supervised weekly ingestion of IFA supplementation and biannual helminthic control. The long term goal is to break the intergenerational cycle of anaemia, the short term benefits is of a nutritionally improved human capital. The programme, implemented across the country both in rural and urban areas.



Salient features of WIFS:

- i. **Objective** of Weekly Iron Folic acid Supplementation (WIFS) To reduce the prevalence and severity of anaemia in adolescent population (10-19 years).
- ii. **Target groups:** School going adolescent girls and boys in 6th to 12th class enrolled in government/government aided/municipal schools. Out of school adolescent girls.
- iii. **Intervention:** Administration of supervised Weekly Iron-folic Acid Supplements of 100mg elemental iron and 500ug Folic acid using a fixed day approach.
 - Screening of target groups for moderate/severe anaemia and referring these cases to an appropriate health facility.
 - Biannual de-worming (Albendazole 400mg), six months apart, for control of infestation.
 - Information and counselling for improving dietary intake and for taking actions for prevention of intestinal worm infestation.

Nutrition is a critical element for human development, and the government has been constantly aiming for universal access and provision of nutrition to all citizens, specially the children. To develop to their optimal potential, it is vital that children are provided with nutritionally sound diets. Diet and exercise patterns during childhood and adolescence may spell the difference between health and risk of disease in later years. Different stages of the life cycle dictate differing nutrient needs.



References and Links

<http://www.healthsupplementsnutritionalguide.com/mineral-deficiency-symptoms.htm>

<http://www.womens-health-advice.com/>

<http://www.wscpedia.org/>

<http://www.omicsonline.org/prevalence-of-anemia-and-its-associated-factors-among-adolescent%20school-girls->

Nutrition for adolescents by Dr. G. Vijaya Lakshmi

apps.searo.who.int

www.ncbi.nlm.nih.gov

www.childlineindia.org.in

icmr.nic.in

obesityfoundationindia.com



Notes





Improving the Lives of Adolescents