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Topic – Nutrition for Adolescents

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NUTRITION FOR ADOLESCENTS

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INTRODUCTION

- According to WHO, individuals between 10 and 19 years are considered adolescents.
- The period of transition from childhood to adulthood is called adolescence with accelerated physical, biochemical and emotional development.
- There are many physical and mental changes which result due to influence of hormones.
- It is during this period that the final growth spurt occurs with increase in height and weight.
- The growth spurt of boys is slower than that of girls.

NUTRITIONAL REQUIREMENTS

ICMR Recommended Dietary Allowances for Adolescents - 2010

Nutrient	Years			
	13-15		16-17	
	Boys	Girls	Boys	Girls
Body weight (kg)	47.6	46.6	55.4	55.1
Energy (kcal)	2750	2330	3020	2440
Protein (g)	54.3	51.9	61.5	55.5
Visible fat (g)	45	40	50	35
Calcium (mg)	800	800	800	800
Iron (mg)	32	27	28	26

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- **Energy:-** Caloric needs increase with the metabolic demands of growth and energy expenditure. Although individual needs vary, girls consume fewer calories than boys.
- **Proteins:-** Protein needs represent 11-12 per cent of energy intake. This meets growth needs and fir the pubertal changes in both sexes and for the developing muscle mass in boys.
- **Fat and Essential Fatty Acids:-** Food low in fat, saturated fat and trans fat should be emphasized in meal planning. The desirable level of visible fat intake for adolescents is 35-50g/d.
 - ✓ **α -linolenic** acid helps in relaxing muscles and blood vessels of the uterus and reduces menstrual cramps.

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- **Minerals:-**

- ✓ Bone growth demands calcium. About 150mg of calcium must be retained everyday to allow for the increase in bone mass.
- ✓ Girls need to ensure adequate intake of iron as they lose 0.5mg/day by way of menstruation.

- **Vitamins:-**

- ✓ Skeletal growth requires vitamin D while the structural and functional integrity of newly formed cells depends on the availability of vitamin A, C, and E.
- ✓ The need for thiamine, riboflavin, and niacin increases directly with increased caloric intake.

NUTRITIONAL GUIDELINES

- Adequate well balanced nutritious foods should be taken to prevent obesity or under nutrition.
- An adolescents girl should take enough calcium rich foods in her diet to increase bone density. This helps in delaying the onset of osteoporosis.
- No meal of the day should be missed.
- Junk food should be avoided.
- Avoid empty calorie foods such as carbonated beverages.
- Iron rich food must be included in the diet to prevent anaemia.
- Calorie and protein rich food should be taken to support the growth spurt.
- Include fruits and vegetables in the diet to meet the vitamins, minerals and fibre requirement.
- Home based diets are best.

NUTRITIONAL CONCERNS

- Obesity
- Eating disorders
 - Anorexia Nervosa
 - Bulimia Nervosa
 - Binge Eating Disorder
- Anaemia
- Premenstrual Syndrome

OBESITY

- Adolescents who eat high calorie and high fat diet become overweight and obese.
- Skipping meals at home and consuming foods that are junk also contribute to overweight.
- Other causes may be family habits, emotional stress and hormonal imbalance.
- Sometimes, they spend all their time on studies, leading a sedentary lifestyle. Thus may tend to put on weight.
- Obesity prevalence can be reduced by initiating programmes for health and nutrition education for school children, encouraging physical activity and healthy food habits.

EATING DISORDERS

- Adolescent girls perceived their diets in the light of appearance and body shape while boys are more concerned by fitness.
- There are three recognized eating disorders:-
 - Anorexia Nervosa
 - Bulimia Nervosa
 - Binge Eating Disorder

ANOREXIA NERVOSA

- A disease characterized by refusal to maintain a minimally normal body weight, intense fear of gaining weight and body image distortion.
- **Physical signs**
 - ✓ Extremely thin (less than 85% of ideal body weight).
 - ✓ Rapid loss of weight.
 - ✓ Loss of menstrual period.
 - ✓ Development of lanugo.
 - ✓ Fatigue or weakness due to malnutrition.
- **Food and exercise habits**
 - ✓ Obsessed about food but not eating, denying hunger, eating tiny portions of food.
 - ✓ Exercising excessively.
 - ✓ Avoid social invitations because of food that might served.
- **Psychological signs**
 - ✓ Social withdrawal, depression, moodiness.
 - ✓ Emotional withdrawal.
 - ✓ Low self-esteem.

BULIMIA NERVOSA

- A disorder characterized by repeated episodes of binge eating followed by inappropriate compensatory methods such as purging, including self-induced vomiting or misuse of laxatives, diuretics or non purging including fasting or engaging in excessive exercise.
- **Physical signs**
 - ✓ Usually near ideal body weight, but often with weight fluctuations.
 - ✓ Dental enamel erosion due to forced and frequent vomiting.
 - ✓ Fatigue or weakness due to malnutrition.
 - ✓ Irregular menstrual periods
- **Food and exercise habits**
 - ✓ Frequent binge eating.
 - ✓ Strict dieting followed by bingeing.
 - ✓ Leaving room after eating, often to bathroom.
 - ✓ Purging via diuretics, laxatives, emetics or enemas, over exercising, fasting, or vomiting.
 - ✓ Avoid social invitations because of food that might served.
- **Psychological signs**
 - ✓ Feeing uncomfortable eating in front of others.
 - ✓ Feeling out of control when eating.
 - ✓ Depression, loneliness, shame and feeling of emptiness.
 - ✓ Low self-esteem.

BINGE EATING DISORDER

- A disorder characterized by the occurrence of binge eating episodes at least twice a week for a 6-month period.
- **Physical signs**
 - ✓ Usually overweight or obese.
 - ✓ May have obesity related diseases.
- **Food and exercise habits**
 - ✓ Frequent dieting.
 - ✓ Losing and regaining weight.
 - ✓ Frequently eating large amounts in short time.
 - ✓ Avoid social invitations because of food that might served.
 - ✓ Trying to avoid physical activity.
- **Psychological signs**
 - ✓ Depression, loneliness, shame, guilt and emotional emptiness.
 - ✓ Feeling out of control when eating and unable to stop binges.
 - ✓ Being preoccupied with food, dieting, body weight.
 - ✓ Having low self-esteem.

ANAEMIA

- Anaemia in adolescence is mostly due to deficiency of various factors most importantly include iron deficiency.
- Anaemia in boys and girls limits their development, learning ability, reduces concentration in daily tasks, increases their vulnerability to infection, increases school dropout rates, reduces physical fitness and work productivity.
- Anaemia is common in adolescents girls irrespective of the social class.
 - In low socioeconomic class anaemia is mainly due to the non-availability of healthy foods. With the practice of early marriages in rural India, the adolescent girls are at risk of anaemia.
 - In higher classes personal likes and dislikes and food taboos lead to anaemia.

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- **Management includes:-**

- ✓ Consuming different types of food items like pulses, chapatti or rice, green vegetables, locally available fruits and milk every day.
- ✓ Foods rich in iron are green vegetables and fruits, grains-wheat, jowar, bajra, sprouted pulses, ground nut, sesame, jaggery, dried fruits, liver, egg, fish, meat. Vitamin C rich foods help in absorption of iron. Citrus fruits (oranges, lemon), Indian gooseberry (Amla), apple, pear are rich in vitamin C.
- ✓ Tannin in tea can hamper the absorption of iron. On the other hand vitamin C and vitamin C rich foods like amla, lime juice, oranges, and sprouts) improve iron absorption. Thus tea, coffee or soda containing drinks should not be consumed immediately before or at least two hours after a meal. Adding Vitamin C rich foods to the meal should be encouraged.

PREMENSTRUAL SYNDROME

- It is characterized by physical and psychological symptoms which occur 7-10 days prior to the onset of periods and disappear within the first day or two of menstrual flow.
- Symptoms include weight gain, abdominal bloating, breast engorgement, and pain, constipation, headache, irritability, anxiety, tension, fatigue, craving for sweet and salty foods.
- Management includes exercise and dietary modifications.

HEALTHY FOOD CHOICES

- Foods that are rich in nutrients contain proper amounts of protein, unsaturated fats and fibre, which can provide youth with long-lasting energy.
- Foods that are made from wheat, rice, oats, corn, barley, or another cereal grain are grain products. Examples include whole wheat bread, brown rice, and oatmeal. Aim for mostly whole-grains.
- Go lean on protein. Choose low-fat or lean meats and poultry. Vary your protein routine. Choose more fish, nuts, seeds, peas, and beans.
- Focus on low-fat products, as well as those that are high in calcium. Examples include skimmed milk, paneer, curd.

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- Fruits and Vegetables contain nutrients, such as vitamins, minerals and fibre, which are necessary for healthy growth. They are also low in calories. They are great because they can be cooked and prepared in a variety of ways. This can help make them more appealing.
- Fruits are sweet and can often be substituted for a dessert, providing a healthy alternative while still satisfying a sweet tooth. Choose a variety of vegetables, including dark green, red, and orange vegetables, legumes (peas and beans), and starchy vegetables.
- Serve smaller portions. Bigger is not always better. Understanding portion sizes can be important for making sure that a person is eating enough, but not too much food each day. Studies have shown that the more food you are served, the more food you will eat. This can easily lead to over consumption and thus weight gain.

THANK YOU