

## UNIT 4

# M E A L P L A N N I N G



# Meal Planning

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## **Definition:**

- Meal planning or menu planning is defined as a simple process which involves application of knowledge of food, nutrients, food habits and like and dislike to plan wholesome and attractive meals

# Aims of menu planning

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- ❑ To fasten the recovery of the patient
- ❑ To plan meals within the food cost
- ❑ To provide variety of the food
- ❑ To save money, time and energy
- ❑ To improve the quality of food
- ❑ To improve the appetite so that maximum diet is consumed and wastage is minimized

# Principles of menu planning

- ❑ It should be based on disease condition of the patient
- ❑ It should meet the nutritional requirement
- ❑ It must full feel the family needs
- ❑ Planning should save the time and energy
- ❑ Economic consideration
- ❑ Menu planning should give maximum nutrients
- ❑ Consideration of individual likes and dislikes
- ❑ Menu planning should provide variety
- ❑ Food habits
- ❑ Seasonal availability
- ❑ Psychological aspect

# The meal schedule

- It should be recommended that the daily requirement of all nutrients should be arranged in three meals
- It is essential that a combination of three meals provide a selection of food which will most nearly suit the needs, preference, habits and activity of all family members

## **Breakfast:**

- Basic breakfast should provide more than 25% of the daily requirement
- It consist of fruits, cereals, milk, bread, eggs

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## **Lunch:**

- Lunch is lighter meal than dinner, although food include are same as for dinner

## **Dinner:**

- The dinner menu should be made after plan for breakfast and lunch are complete
- This is an excellent opportunity to include foods needed in used in the other two meals. This meal should be satisfying and nutrition

# Budgeting of food

- Expenditure on food is an important and often largest part of the family's budget.
- Higher budget on will go on protective foods like milk, vegetables and fruits
- One must plan the expenditure of food and buy wisely so maximum nutrition can be achieved by money spent
- For example as a source of protein pulses are cheaper than animal food
- The fruits and vegetables are relatively cheaper in season and available in bulk
- Economy in food purchasing can be exercised in good measure by bulk purchase of foods, especially staples like cereals and pulses

# Factors to be considered while budgeting of food

- Number of family members
- Family's income
- The location of market
- Alternative marketing choice
- Home prepared and convenient food
- Snacks items and beverages
- Availability of supplementary programs where income is limited



# Nutrition requirement for different categories of people

- Infants- up to 1 year
- Toddler- 1-3 years
- Preschoolers- 4-6 years
- School age children- 6-12 years
- Adolescents- 13-18 years
- Adults
- Old age- 60 and above 60 years

# NUTRITION REQUIREMENT FOR INFANTS



# Characteristics of infants

- Infancy is a period of rapid growth
- The average birth weight of newborn is 3 kg
- In first few days the newborn loses about 10% of body weight
- Infant usually doubles the weight at 6 months and triples at the age of 1 year and 4 times at the age of 2 years
- The baby measures 50 cm at birth, 60 cm at 3 months, 70 cm at 9 months and 75 cm at 1 year

# Nutrition for infants

## RDA's of various nutrients for infant

Age (months)	Energy (Kcal)	Protein (g)	Calcium Mg/dl	Retinol µg	B-carotene µg/dl	Thiamine	Riboflavin	Niacin	VitaminC Mg/dl	Folic acid	B12 µg/d
0-6	108/kg	2.05/kg	500	350	1400	55 µg/kg	65 µg	710 µg/kg	25	25	0.2
6-12	98/kg	1.65/kg				50 µg/kg	60 µg/kg	650 µg/kg			

- Nutritional requirement for infants have largely been based on breast milk intake combine with supplementary diet
- Documented evidences shows that infants grow well on exclusive breast feeding for first 6 months of life

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## □ Nutrition contents of breast feeding

Nutrient	Content/100ml
<b>Macronutrients</b>	
• Calories	67 kcal
• Proteins	1.1 g
• Fat	3.5 g
• Lactose	7.0 g
<b>Micronutrients</b>	
<b>Minerals</b>	
• Sodium	0.9 mEq
• Potassium	1.4 mEq
• Calcium	35 mg
• Phosphorus	15 mg
• Iron	30-50 µg
• Zinc	120 µg
<b>Vitamins</b>	
• Vitamin A	60 µg
• Vitamin C	5.2 mg

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- Weaning:
- Weaning is the process of gradually introducing foods other than breast milk in the child's feeding schedule
- Breast milk is sufficient till 6 months and after that weaning is required to meet the excess demand of the body

NUTRITION  
REQUIREMENT FOR  
TODDLER AND PRE-  
SCHOOL GOING  
CHILDREN

# Characteristics of toddler and pre-schoolers

- During the second year, the increase in height is about 10 cm and weight gain about 2.5 kg
- During 3-6 years height gain is 6-7 cm and weight gain is 1.5 to 2 kg
- As growth proceeds during childhood, there are changes in proportion of water, muscle tissues, fat deposition and the skeletal structure
- During the second year of life, the child start developing a sense of individuality which is distinct from his mother
- Preschool age is age of imitation and sex identification



# Balanced diet for toddler and pre-school children (in grams)

Food items	1-3 years	4-6 years
Cereals	175	270
Pulses	35	35
Leafy vegetables	40	50
Other vegetables	20	30
Roots and tubers	10	20
Milk	300	250
Oil and fats	15	25
Sugar and jaggery	30	40

# A day's sample diet for a 5 year old child

Meal	Food	Amount
Early morning	Milk with sugar	200 ml
Breakfast	Paratha with curd or Egg and bread	1 paratha 1 egg, 2 slice of bread
Mid morning	Fruit or fruit juice	1 fruit/ 1 glass
Lunch	Rice Mixed vegetables Curd chapati	Small plate Small katori $\frac{1}{2}$ katori 1-2
Evening tea	Milk+buiscuit	150 ml, 4-6 buiscuits
Dinner	Dal Chapati Salad	1 katori 2
Bed time	Fruit custard	1 katori

NUTRITIONAL  
REQUIREMENT FOR  
SCHOOL GOING  
CHILDREN

# Factors influence diet for school going children

- By school going age most of the children establish a particular pattern of food intake relative their peers
- At school , he is exposed to food patterns which may be different from those at homes and want to accept them
- Behaviour at meal times may be a problem as children are usually at hurry
- They may rush to their breakfast due to early school timing and with their evening meals due to play and other activities
- The adequacy of children's food depends not only on food available to them but also on food environment
- Advertising and TV have a strong influence on the type of food chosen by children

# Balanced diet for school going children

Food items	Quantity (in grams)
Cereals	300-400
Pulses	45
Leafy vegetables	50
Other vegetables	50
Roots and tubers	30
Milk	250
Fat and oil	40
Sugar and jaggery	45

# A day sample diet plan for 8 year old child

Meal	Food	Quantity
Breakfast	Sandwich and Milk Or omlet bread	2 1 cup Egg, two slice
Mid morning	Stuffed paratha paneer And one fruit	1
Lunch	Rice Curd Mixed vegetables	1 small plate Small katori ½ katori
Evening snacks	Milk or cold coffee biscuits	1 cup 4-6
Dinner	Dal/meat Vegetables chapati	Small katori ½ katori 2
Night	Friut custard/ ice cream	1 katori

# NUTRITIONAL REQUIREMENT FOR ADOLESCENCE



# Characteristics of adolescents

- During this period growth and development take place at all level namely physiological, psychological and social
- During this period rapid growth take place accomplished by hormonal changes, sexual maturation and often emotional bouts
- This stage is called as second growth spurt
- The growth spurt in girls occurs at 11-14 years and boys at 13-16 years
- Changes in body composition occur due to hormonal influence which regulates the development of sex characteristics
- At this stage of life adolescent girls and boys develop sexual maturity
- At this stage child develops his identity and decision making ability



# Balanced diet for adolescents(in grams)

Food stuffs	Boys		girls
	13-15 years	16-18 years	13-18 years
Cereals	400	420	320
pulses	70	70	70
Leafy vegetables	100	100	150
Other vegetables	150	175	150
Roots and tubers			
milk	600	600	600
Fat and oil	30	40	30
Sugar and jaggery	30	30	30

# A day sample diet plan for 14 years boy

Meal	Food	Quantity
Early morning	Milk with sugar	200 ml
Breakfast	Boiled egg/omlet, bread Or paratha with curd	1 egg, 2 slice 1, ½ katori
Mid morning	Frit salad or fruit juice	200 ml
Lunch	Fried rice, vegetables, curd chapati, salad	One plate, one katori 1-2
Dinner	Dal/ channa/ chicken curry Vegetables, chapaties	1 katori 1 katori, 2
At night	Ice cream/ kheer/ fruit custard	1 katori

# NUTRITION FOR ADULTHOOD



# Characteristics of adulthood

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- By this stage the body growth particularly in terms of height and weight stops to a certain extent but the breakdown and repair of body tissues goes on.
- Proper nutrition in adulthood ensures good health in old age
- Various factors like age, sex, climate, activity, body growth, stress affect our body need for different nutrients

# Balanced diet for adult (in grams)

Food stuffs	Adult man			Adult women		
	Sedentary workers	Moderate workers	Heavy workers	Sedentary workers	Moderate workers	Heavy workers
Cereals	460	520	670	410	440	575
Pulses	40	50	60	40	45	50
Leafy vegetable	40	40	40	100	100	150
Other vegetable	60	70	80	40	40	100
Roots and tubers	50	60	80	50	50	60
Milk	150	200	250	100	150	200
Oil and fats	40	45	65	20	25	40

# 1 day menu for an adult (sedentary work)

- Energy- 2875 kcal
- Protein- 60 gm(60 kg wt.)

Meal	Food	Quantity
Early morning	Milk with sugar or tea	1 cup
Breakfast	Egg with bread or paratha with curd, coffee	1 egg, 2 bread, 2 paratha, 1
Mid-day	Fruit chatt or fruit juice or Tea with biscuits	1 cup, 4-6
Lunch	Vegetables, chapati, Rice, curd, salad	1 katori, 2 1 plate, 1 katori, mixed
Evening tea	Tea with snacks	1 cup
Night dinner	Dal/rajama Vegetables chapati	1 katori 1 katori 3
Bed time	Kheer/fruit	1 katori/fruit

# Nutrition during pregnancy

- Nutrition requirement is increased during pregnancy and lactation as the expectant or lactating mother not only has to nourish her self but also the growing fetus or the infant who is being breast fed
- Poor diet during pregnancy also affects the mother's health
- Inadequate diet during pregnancy affects the baby in infancy

# 1 day menu plan for pregnant women

Breakfast	Besan paratha-2 Curd-1 katori Omlet-2 eggs Bread- 4 slices
Mid day morning	Fruit juice or fruit chatt or One cup tea with roasted channa
Lunch	Vegetables- 1 katori Rice- 1 plate Raita- 1 katori Green salad- 1 plate Chapatti- 1-2
Evening tea	Milk-1 cup Biscuits-4-6
dinner	Chapati-2-3 Dal/meat- 1 katori Vegetables- 1 katori Kheer/ice cream/ fruit custard



# 1 day menu plan for lactating mother

- Energy- 2575, work- sedentary, protein- 75 gm, calcium- 1000mg

Meal	food	Amount
Early morning	Milk ith sugar, biscuits	1 glass
Breakfast	Boliled egg with milk or bread eith butter or Milk with cornflakes	2, 4 slices
Mid morning	Panjiri+tea	1 katori+1 cup
Lunch	Vegetables, curd, chapatti, rice, green salad	1 katori, 1 katori 2, 1 plate
Evening tea	Banana shakes or fruit chatts or sprouts and tea	
Dinner	Dal/bengal gram/meat, chapaties, rice	1 katori, 3-4, 1 plate

# NUTRITION FOR AGED PEOPLE



# Nutrition for aged people

- Adequate nutrition and balanced diet is important even in old age to prevent and control the common hazards of aging

The following changes are associated with aging

- Loss of teeth
- Decrease neuromuscular coordination
- Impaired hearing and failing vision
- Diminished sense of taste and smell
- Anorexia
- Physical discomfort
- Incomplete digestion of food or takes long time to digest food
- Rate of blood flow through kidneys decrease
- Loneliness, depression, anxiety
- Bones become weak and susceptible to fracture

# Energy requirement for elderly people

Body weight (kg)	60 and above 60 years Activity- sedentary	
	Male	Female
40	-	1544
45	1664	1624
50	1768	1704
55	1872	1784
60	1976	1864
65	2072	1944
70	2176	2024
75	2280	-

# Diet and feeding pattern

- Intake of energy rich food like sweets, fried or high fat foods, cereals and starches need to be reduced
- Liberal amount of milk and milk products, fresh fruits, vegetables should be given to meet vitamin and mineral need
- Adequate intake of calcium should be insured
- Intake of simple sugar is reduced
- Give more fibre rich diet
- Number of meal should be increased
- Soft cooked egg, milk and milk products and soft food should be given