

**BA (IV Semester)
HSC CC409
Nutrition: A Life Cycle Approach
Unit - I**

PRINCIPLES OF MEAL PLANNING

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BALANCED DIET

- **Balanced diet** is a diet which contains different types of food in such quantities and proportion that the requirements for proteins, fats, carbohydrates, vitamins and minerals and other nutrients are in proper quantity for maintaining the health, vitality and general well being.
- In addition balanced diet should provide bioactive phytochemicals such as dietary fibre, antioxidants and other nutraceuticals which have positive health benefits.
- A balanced diet should provide around 60-70% of total calories from carbohydrate, 10-12% from protein and 20-25% from fat.

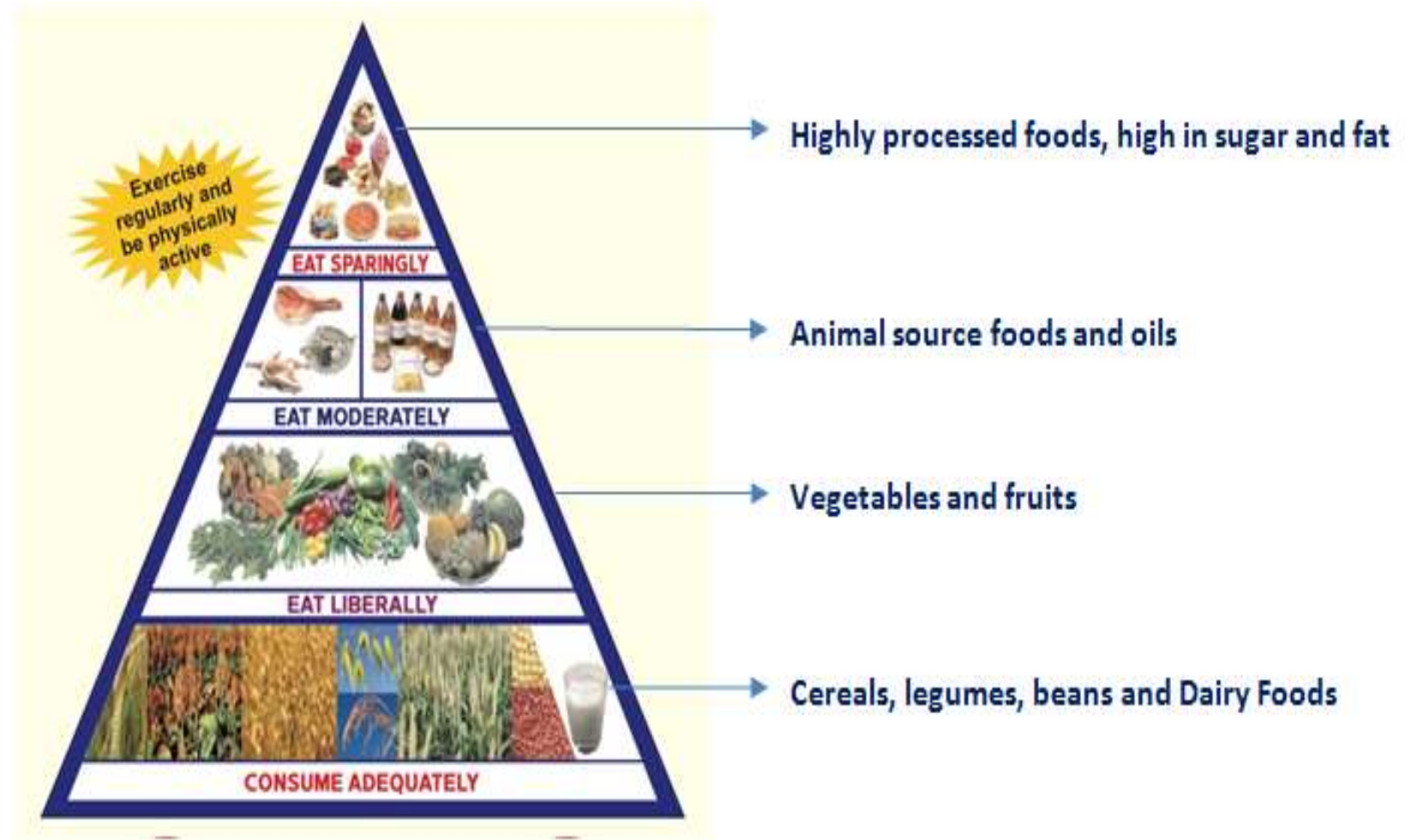
CHARACTERISTICS OF BALANCED DIET

It should:

- ✓ meets the nutritional requirements of an individual.
- ✓ contains a variety of foods.
- ✓ includes foods from all the food groups.
- ✓ consists of seasonal foods.
- ✓ provides phytochemicals.
- ✓ improves longevity.
- ✓ covers energy expenditure and for tissue maintenance, repair and growth.

FOOD PYRAMID

As basis for the balanced diet, ICMR suggested 'Food Pyramid' which is self explanatory.



RECOMMENDED DIETARY ALLOWANCES

- The **Recommended Dietary Allowances (RDAs)** estimates of nutrients to be consumed daily to ensure the requirements of all individuals in a given population.
- It also includes addition of safety factor, to the requirement of the nutrient, to cover the variation among individuals, losses during cooking and lack of precision inherent in the estimated requirement.
- The RDAs are suggested for physiological groups such as infants, pre-schoolers, children, adolescents, pregnant women, lactating mothers and adult men and women, taking into account their physical activity.

Recommended Dietary Allowances for Indians suggested by ICMR- 2010

| Group | Category/Age | Body Weight (Kg) | Net Energy (kcal/d) | Protein (g/d) | Visible Fat (g/d) | Calcium (mg/d) | Iron (mg/d) | Zinc (mg/d) | Magnesium (mg/d) |
|------------------------|-------------------|------------------|---------------------|---------------|-------------------|----------------|-------------|-------------|------------------|
| Men | Sedentary work | 60 | 2320 | 60.0 | 25 | 600 | 17 | 12 | 340 |
| | Moderate work | | 2730 | | 30 | | | | |
| | Heavy Work | | 3490 | | 40 | | | | |
| Women | Sedentary work | 55 | 1900 | 55.0 | 20 | 600 | 21 | 10 | 310 |
| | Moderate work | | 2230 | | 25 | | | | |
| | Heavy Work | | 2850 | | 30 | | | | |
| | Pregnant | | +350 | 78 | 30 | 1200 | 35 | 12 | |
| | Lactating 0 - 6 m | | +600 | 74 | 30 | 1200 | 21 | | |
| | 6 - 12 m | | +520 | 68 | 30 | | | | |
| Infants | 0 - 6 months | 5.4 | 92 (kcal/d/kg) | 1.16 g/kg/d* | -- | 500 | 46 µg/kg/d* | -- | 30 |
| | 6 - 12 months | 8.4 | 80 (kcal/d/kg) | 1.69 g/kg/d* | 19 | | 05 | -- | 45 |
| Children (boys+ girls) | 1 - 3 years | 12.9 | 1060 | 16.7 | 27 | 600 | 09 | 5 | 50 |
| | 4 - 6 years | 18.0 | 1350 | 20.1 | 25 | | 13 | 7 | 70 |
| | 7 - 9 years | 25.1 | 1690 | 29.5 | 30 | | 16 | 8 | 100 |
| Boys | 10 - 12 years | 34.3 | 2190 | 39.9 | 35 | 800 | 21 | 9 | 120 |
| Girls | 10 - 12 years | 35.0 | 2010 | 40.4 | 35 | 800 | 27 | 9 | 160 |
| Boys | 13 - 15 years | 47.6 | 2750 | 54.3 | 45 | 800 | 32 | 11 | 165 |
| Girls | 13 - 15 years | 46.6 | 2330 | 51.9 | 40 | 800 | 27 | 11 | 210 |
| Boys | 16 - 17 years | 55.4 | 3020 | 61.5 | 50 | 800 | 28 | 12 | 195 |
| Girls | 16 - 17 years | 52.1 | 2440 | 55.5 | 35 | 800 | 26 | 12 | 235 |

FACTORS AFFECTING RDA

- **Age:-** Infants require more protein per kilogram of body weight than adolescents.
- **Sex:-** Adolescent girls require more iron than adolescent boys in order to replace the iron lost during menstruation every month.
- **Body size:-** A tall heavy build man needs more calories than a small statured man.
- **Physiological state:-** A pregnant woman requires more nutritious food than an ordinary adult woman.
- **Type of work:-** A sedentary worker requires less calories than a heavy worker.

MEAL PLANNING

- It is both an art and a science; an art in the skilful blending of colour, texture and flavour and a science in the wise choice of food for optimum nutrition and digestion.
- A well planned meal is always appealing to the eye and it is rightly said that “we eat with our eye”.
- Therefore we should obtain adequate nutrition by including foods from all the food groups in sufficient quantity and proportion.

PRINCIPLES OF PLANNING DIET

- 1) Meeting nutritional requirements.
- 2) Meal pattern must fulfil family needs.
- 3) Meal planning should save time and energy.
- 4) Meal planning should consider economic constraints.
- 5) Meal planned should provide variety.
- 6) Meal plan should give maximum nutrients.
- 7) Meal planning considers individuals likes and dislikes.
- 8) Meal should give satiety.
- 9) Meal should include locally available foods.
- 10) Meal should include health foods.

LOW COST FOOD

➤ **Diets of economically weaker sections can be improved nutritionally by:-**

- ✓ replacing a single cereal with mixed cereals.
- ✓ inclusion of at least 50 gram green leafy vegetables to improve the intake of Vitamin A, iron and calcium.
- ✓ inclusion of inexpensive yellow fruits like papaya or mango.
- ✓ inclusion of at least 150 ml of milk improves intakes of riboflavin and calcium.
- ✓ kitchen gardening at home reduces the expenditure of fruits and vegetables.
- ✓ jaggery can be used instead of sugar.
- ✓ fermentation, malting and sprouting can be done at home to enhance the nutritive value.
- ✓ foodstuffs that are distributed through Public Distribution System (Ration shops) can be used.



DIETARY GUIDELINES FOR INDIANS

- Eat variety of foods to ensure a balanced diet.
- Ensure provision of extra food and healthcare of pregnant and lactating women.
- Promote exclusive breast feeding for six months and encourage breast feeding till 2 years.
- Feed home based semisolid foods to the infant after six months.
- Ensure adequate and appropriate diets for children and adolescents both in health and sickness.



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- Eat plenty of fruits and vegetables.
- Ensure moderate use of edible oils and animal foods and very less use of ghee/ butter/ vanaspati.
- Avoid overeating to prevent overweight and obesity.
- Exercise regularly and be physically active to maintain ideal weight.
- Restricts salt intake to minimum.



CONCLUSION

Balanced diet is a diet that contains an adequate quantity of the nutrients that we require in a day. It enhances quality of life. Good nutrition is an important part of leading a healthy lifestyle. Combined with physical activity, your diet can help you to reach and maintain a healthy weight, reduce risk of chronic diseases and promote overall health.

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