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Dietary Guidelines and Menu Planning

Shri Kishore J. Maru: B.P.C.A's College of Physical Education, Wadala, Mumbai.

Dr. Kailas A. Asai, Assistant Professor, B.P.C.A's College of Physical Education, Wadala, Mumbai.

Introduction

Over the past 10 years, nutrition research and education have become a priority for many of us. We now recognize that a lack of nutrition knowledge and poor eating habits can contribute to poor fitness, low energy stores and the development of such lifestyle-related diseases as heart disease, some types of cancer and obesity. The time is right for us to start making wise food choices and commit to an exercise program. Eating well is not difficult in principle. All that is needed is to eat a selection of foods that supplies appropriate amounts of the essential nutrients and energy. Yet to put this into practice may be extremely difficult for some. As a sports person/physical educator, you will help your sports community to make appropriate food selections for good health. You should become knowledgeable about nutrition so you can provide sound, credible nutrition information to sports community

Food groups and food exchange system

Various food items that are commonly consumed in our country which are the main source of nutrients in our diet were discussed. Normally, these foods are used in formulating nutritionally adequate diets for various categories of people to meet their needs as per nutritional standards (RDA) and also for formulating special diets for therapeutic purposes. In order to do this conveniently, "food group system" and food exchange system are widely followed.

The food group system converts quantitative nutrient data into food related information that can be used both by consumer and health professionals in diet planning to achieve nutritional adequacy.

Foods can be placed into five groups depending upon the content of major nutrients.

The five groups are:

Cereal grain products
Pulses or legumes
Milk, egg and flesh foods
Fruits and vegetables
Fats and sugar

The five-group plan allows a person to plan his/her diet to achieve the nutritional adequacy as per Recommended Dietary Allowances. Information on foods which are rich sources of nutrients are given below.

Five Food Group Systems

Cereals Grains and Products

Food Group: Rice, Wheat, Ragi, Bajra, Maize, Jowar, Barley, Rice flakes, Wheat flour.

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Main Nutrients: Energy, Protein, Invisible fat, Vitamin B,, Vitamin B2, Folic Acid Iron, Fibre.

Pulses and Legumes

Food Group: Bengalgram, Blackgram, Greengram, Redgram, Lentil (whole as well as dhals), Cowpea, Peas, Rajmah, Soyabeans, Beans, etc.

Main Nutrients: Energy, Protein, Invisible fat, Vitamin B^ Vitamin B2, Folic Acid, Calcium, Iron, Fibre.

Milk and Meat Products

Milk

Food Group: Milk, Curd, Skimmed milk Cheese.

Main Nutrients: Protein, Fat, Vitamin B , Calcium.

Meat

Food Group: Chicken, Liver, Fish, Egg, Meat.

Main Nutrients: Protein, Fat Vitamin B.

Fruits and Vegetables

Fruits

Food Group: Mango, Guava, Tomato ripe, Papaya, Orange, Sweet lime, Water melon.

Main Nutrients: Carotenoids, Vitamin C, Fibre.

Vegetables A. (Green Leafy)

Food Group: Amaranth, Spinach, Gogu, Invisible Fats, Drumsick leaves, Coriander leaves, Mustard leaves, Fenugreek leaves.

Main Nutrients: Carotenoids, Vitamin B^, Folic acid, Calcium, Iron, Fibre.

Other Vegetables B.

Food Group: Carrots, Brinjal, Ladies fingers, Capsicum, Beans, Onion, Drumstick, Cauliflower.

Main Nutrients: Carotenoids, Folic Acid, Calcium, Fibre.

Fats and Sugars

Fats

Food Group: Butter, Ghee, Hydrogenated oils, Cooking oils like Ground nut, Mustard, Coconut

Main Nutrients: Energy, Fat, Essential Fatty Acids

Sugars

Food Group: Sugar, Jaggery

Main Nutrients: Energy

The five-food group system can be used by health professionals for the following purposes:

Tool for nutritional assessment and screening: A brief dietary history system can disclose inadequacies of nutrient from any of the five groups. This information can be the first clue for the possibility of the subject may be at the risk of developing nutritional deficiency.

Tool for nutritional counseling: The dietary history based on the five food group system allows a health team to counsel or teach a patient about nutrition.

Explaining therapeutic diets to a patient: Therapeutic diets are scientifically based on nutrient composition and food groups which can be used in menu planning.

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Food labeling and surveillance system: Food groups can be used for food labeling and for nutrition surveillance system.

The food exchange system

Food exchange system allows one to choose a variety of foods with adequate nutrients. The food exchange system is important in planning a nutritious diet. Essentially the food exchange system can be used to select foods in familiar measures that are adequate in nutrient content and satisfy the requirement of a given individual.

The Food Exchange System (Table)

SI. No	Exchange List	Serving size or raw wt. (g)	Carbohydrate (g)	Protein (g)	Fat (g)	Energy (Kcal)
1.	Vegetable					
	Green leaf	1/2 cup	6	Nil	*	30-40
	Others	1/2 cup	6-10	Nil	Nil	50-60
2.	Fruit	Varies	10	Nil	Nil	40
3.	Cereal	25	19-21	2-3	*	85
4.	Legumes & Pulses	25	15	6	*	95
5.	Milk&	1/2 cup	4	3.5	4.0	65
	Meat	75	Nil	7.5	6.0	85
6.	Fat # &	10	Nil	Nil	10.0	90
	Sugars	10	10	Nil	Nil	40

Visible fat * Invisible Fat. 1 Cup = 200 ml.

Menu planning

The five-food group plan permits an individual to plan a menu to achieve nutrient intakes as specified by RDA. The food exchange system is important in the planning of a nutritious diet. The two components, namely, nutrient density and balance are achieved when these guidelines are used. The food exchange system can be used to select a variety of foods that are adequate in nutrient content and satisfies requirement.

While using the food exchange system for menu planning, the following points should be considered.

The foods in the five food groups can be broadly classified into six exchange lists, as given above.

Each list consists of foods of specific serving sizes and are standardized in terms of energy (Kcal), protein, fat and carbohydrate.

A particular food is placed in the list based on its energy or protein content.

Individual foods on the same list may be exchanged for each other but not for foods of different lists.

Exchange lists for different foods, vegetables A & B, fruit, pulse, legume, cereal, meat, milk, fat and sugars can be computed in terms of servings of the food and the nutrients they supply.

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With the help of Exchange lists you can prepare menu plan with nutritional value

Egg Omelet

INGREDIENT	AMOUNT (gms)	ENERGY	CARBOHYDRATE	PROTEIN	FAT
Egg	50	85	-	7	7.5
Onion	50	85	20	-	-
Tomato	50	10	2	-	-
Oil	5	45	-	-	5
		225	22	7	12.5

Fruit Salad

INGREDIENT	AMOUNT (gms)	ENERGY	CARBOHYDRATE	PROTEIN	FAT
Fruits (6)	300	150	37.5	-	-
Sugar	10	40	10	-	-
Milk (B)	50	50	3	2.2	3.2
Nuts	2.5	10	0.3	0.5	0.35
		250	50.8	2.7	3.55

Chicken Roll

INGREDIENT	AMOUNT (gms)	ENERGY	CARBOHYDRATE	PROTEIN	FAT
Chicken	50	66	-		14 1.7
Egg	25	42	-	3.5	3.75
Bread (1 Slice)	30	100	22		2 0.5
Tomato	25	5	1		- -
Oil	5	45	-	-	5
		258	23	19.5	10.95

Khichdi

INGREDIENT	AMOUNT (gms)	ENERGY	CARBOHYDRATE	PROTEIN	FAT
Rice	30	100	22	2	0.5
Moong daal	15	50	8.5	3.5	0.25
Toor daal	15	50	8.5	3.5	0.25
Oil/Ghee	5	45	-	-	5

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		245	39	9	6

Veg. Pulao

INGREDIENT	AMOUNT (gms)	ENERGY	CARBOHYDRATE	PROTEIN	FAT
Rice	20	66.66	14.66	1.33	0.33
Tomato	25	5	1	-	-
Onion	20	34	8	-	-
Pease	10	33	5.66	2.33	0.16
Oil	5	45	-	-	5
Potato	25	11.66	2.33	-	-
Carrot	20	10	2	-	-
Curd (B)	50	50	3	2.25	3.25
		255.32	36.65	6.21	8.74

Brake Fast

INGREDIENT	AMOUNT (gms)	ENERGY	CARBOHYDRATE	PROTEIN	FAT
Corn flake	30	100	22	2	0.5
EGG Omelet	155	225	22	7	12.5
Bread (2)	30	200	22	2	0.5
Butter	5	45	-	-	5
Sugar	5	40	25	-	-
Milk (Cow)	150 ml	100	6	6.5	

Calorie Exchange List. (for further information see Appendix)

FOOD EXCHANGE	QUANTITY	ENERGY	CARBOHYDRATE	PROTEIN	FAT
Cereals	30 gms	100	22	2	0.5
Pulses	30 gms	100	17	7	0.5
Soya	30 gms	100	6	12	6
Vegetable (A)	100 gms	20	4	-	-
(B)	75 gms	35	7	-	-
(C)	50 gms	85	20	-	-
Fruit	100 gms	50	12.5	-	-
Cow Milk	150 ml	100	6	6.5	6
Buffalo Milk	100 ml	100	6	4.5	6.5
Cheese	30 gms	100	2	7	7.5

Skimmed Milk liquid	350 ml	100	16	8.75	0.3
Skimmed Milk Powder	350 ml	100	15	11.5	0.1
Whole Milk Powder	15 gms	100	6.5	7	7
Toned Milk	200 ml	100	8	6	6
Standardized Milk	200 ml	100	8	6	6
Egg	50 gms	85	-	7	7.5
Meat	75 gms	100	-	20	5
Fish	100 gms	100	-	20	2
Nut	25 gms	100	3	5	3.5
Sugar	5 gms	20	5	-	-
Fat	5 gms		45	-	5
Vegetable :					
A : Green vegetable					
B : Leafy vegetable					
C : Roots					

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