

Practical No. - 10

To study the nutritional intake and its effect on the nutritional status of a family by maintaining a food diary

Aim

To study the nutritional intake of family members by maintaining a food diary. Also observe the effect of nutritional intake on the nutritional status of the individual.

Introduction

You have already studied that the nutritional status is directly related to nutritional intake. Adequate food intake leads to proper physiological growth and freedom from deficiency diseases. Hence you can say that adequate food intake promotes good health and well being among all individuals. Consequently, it becomes necessary that a conscious effort should be made to consume the right kind of foods in right amounts all through ones life time.

You can maintain a food dairy for recording the actual food intake of different family members. The foods eaten by any family member could be catagorised into the five food groups that you have already studied. Refer to your text for similar foods that can he exchanged for each other within a particular group.

Procedure

You are familiar with recomended nutritional intake for different individuals having different activities. You have studied this in your previous lessons. Have you any idea of the amount of foods that you will need to eat to provide you with these nutrients?

The tables given will tell you how much of the different foods need to be eaten by each family member to maintain good nutritional status. What may happen if the actual food intake of a family member is less than the one recommended? Yes it will be reflected by a lower height-weight and body

size. Such individuals have low work efficiency as well. A higher intake than the recommended one enables you to build body reserves to withstand a short duration of low dietary intake. It also allows for the nutrient losses that take place from the time the food is harvested to the time it is finally consumed. Do you know what will happen if you eat more food than recommended on a regular basis? Yes, you will suffer from problems related to overweight / obesity.

HOW TO MAINTAIN A FOOD DIARY?

The food intake is best recorded in terms of raw weight. It will be interesting to weigh the raw foods recommended for yourself. Record these foods for your different meals for the day. See if the cooked food satisfies your hunger and appetite. This will also give you an idea about the cooked food that can be made from the raw weight recommended. You can also convert the cooked food portions to household/katori (big, medium, small) measures.

Balanced Diets for an Adult man

	SEDENTARY Work		MODERATE Work		HEAVY Work	
	Veg. (gm.)	Non-Veg (gm.)	Veg. (gm.)	Non-Veg (gm.)*	Veg. (gm.)	Non-Veg (gm.)
Cereals	400	400	475	475	650	650
Pulses	70	55	80	65	80	65
Green leafy vegetables	100	100	125	125	125	125
Other vegetables	75	75	75	75	100	100
Roots and tubers	75	75	100	100	100	100
Fruits	30	30	30	30	30	30
Milk	200	100	200	100	200	100
Fats and oils	35	40	40	40	50	50
Meats and fish	...	30	...	30	...	30
Eggs	...	30	...	30	...	30
Sugar and jaggery	30	30	40	40	55	55
Groundnuts	...	...	...	...	50*	50*

* An additional 30gm of fats and oils can be included in the diet in place of groundnuts.

Balanced Diet for an Adult Woman

	SEDENTARY WORK		MODERATE WORK		HEAVY WORK		ADDITIONAL ALLOWANCES DURING	
	Veg (gm.)	Non-Veg (gm.)	Veg (gm.)	Non-Veg (gm.)	Veg (gm.)	Non-Veg (gm.)	Pregnancy (gm.)	Lactation (gm.)
Cereals	300	300	350	350	475	475	+50	+100
Pulses	60	45	70	55	70	55	...	+10
Green leafy vegetables	125	125	125	125	125	125	+25	+25
Other vegetables	75	75	75	75	100	100	...	...
Roots and tubers	50	50	75	75	100	100	...	...
Fruits	30	30	30	30	30	30	...	...
Milk	200	100	200	100	200	100	+125	+125
Fats and oils	30	35	35	40	40	45	...	+15
Meats and fish	...	30	...	30	...	30	...	...
Eggs	...	30	...	30	...	30	...	...
Sugar and jaggery	30	30	30	30	40	40	+10	+20
Groundnuts	...	...	...	...	40*	40*	...	...

* An additional 25 gm. of fats and oils can be included in place of groundnuts.

Balanced Diet for Children

	PRE-SCHOOL CHILDREN				SCHOOL CHILDREN			
	1-3Years		4-6 Years		7-9 Years		10-12Years	
	Veg (gm.)	Non-Veg (gm.)	Veg (gm.)	Non-Veg (gm.)	Veg (gm.)	Non-Veg (gm.)	Veg (gm.)	Non-Veg (gm.)
Cereals	150	150	200	200	250	250	320	320
Pulses	50	40	60	50	70	60	70	60
Green leafy vegetables	50	50	75	75	75	75	100	100
Other vegetables	30	30	50	50	50	50	75	75
Roots and tubers								
Fruits	50	50	50	50	50	50	50	50
Milk	300	200	250	200	250	200	250	200
Fats and oils	20	20	25	25	30	30	35	35
Meats and fish		30		30		30		30
Eggs								
Sugar and jaggery	30	30	40	40	50	50	50	50

Balanced Diet for Adolescent Boys and Girls

	BOYS				GIRLS	
	13-15 Years		16-18 Years		13-18 Years	
	Veg. (gm.)	Non-Veg (gm.)	Veg. (gm.)	Non-Veg (gm.)	Veg. (gm.)	Non-Veg (gm.)
Cereals	430	430	450	450	350	350
Pulses	70	50	70	50	70	50
Green leafy vegetables	100	100	100	100	150	150
Other vegetables	75	75	75	75	75	75
Roots and tubers	75	75	100	100	75	75
Fruits	30	30	30	30	30	30
Milk	250	150	250	150	250	150
Fats and oils	35	40	45	50	35	40
Meats and fish	...	30	...	30	...	30
Eggs	...	30	...	30	...	30
Sugar and jaggery	30	30	40	40	30	30
Groundnuts	...	...	50*	50*	...	...

* An additional 30 gm. of fats and oils can be included in the diet in place of groundnuts.

You have already studied the size of food helpings (of a common food menu) required by different family members in the chapter "Adequate Meals." With practice you will be able to meet the nutritional needs of all family members by altering the size of food helping. Certain amount of modification in the common family menu may also be required. The table given below is a ready reckoner from the lesson "Adequate Meals".

Meal	Menu	Adult Man	Adult Woman	Pregnant Mother	Lactating	Infant	Preschooler	School Children	Adolescents	Old People
Early Morning	Tea	1 C	1 C	1C	1C	*Milk 1C	—	—	—	1C
Break fast	Alu Parantha Sprouted pulse Raita Boiled Egg	2 1 M.K 1	1 1 B.K 1	1 2 M.K 2	1 1 M.K 2	*Mashed alu with curd 1M.K *Egg	*Milk 1G 1	*Egg Sandwich *Milk 1 G	2 1 B.K 2	1 1 M.K 1
Mid Morning		—	—	*Fruit Chat 1/2 plate	*Mango shake 1 G	—	*Sprouted Alu Parantha-1 Orange-1	*Sprouted pulse Parantha-1 Orange-1	—	—
Lunch	Chapati Methi alsoo Vegetable Urad Dal Salad Fruit (Orange)	4 1 M.K. 1 B.K. 1/2 Plate 1 1	2 1 B.K 1 1/2 Plate 1 1	3 2 M.K 1 B.K 1/2 Plate 1 1	2 1 B.K 1 B.K 1/2 Plate 1 1	*Mashed Chapati *1/2 SM mashed with curd 1/2 SM —	*Alu methi stuffed Parantha 1 SK 1/4 plate *curd 1Sk	2 1 SK 1 MK 1/4 Plate —	4 1 MK 1 BK 1/2 Plate 2	2 1 MK 1 BK *Stewed salad 1/2 plate 1
Evening Tea	Suji Upma Tea	1 BK 1 cup	1 BK 1 cup	1 BK 1C *Milk 1 G	1 BK 1C *Milk 1G	1 SK (with little paneer)	1 MK *Milk 1C	1BK *Milk 1C	1BK *Milk 1C	1MK 1C
Dinner	Chapati Rice Rajmah Curry Cauliflower Vegetable Fruit Custard	2 1/2 Plate 1BK 1SK 1MK	1 1/2 Plate 1MK 1SK 1MK	2 1/2 Plate 1BK 1SK 1MK	1 1/2 Plate 1BK 1SK 1MK	— *mashed rice 1 SK *Veg. Mashed with curd 1/2 SK	*Veg. stuffed Parantha with butter 1/2 SK 1/2 SK — 1 MK	1 1/2 Plate 1 MK 1SK 1MK	2 1/4 plate 1 MK 1SK 1MK	1 1/4 plate 1BK 1SK 1MK

* BK - Big Katori
MK - Med. Katori
SK - Small Katori
C - Cup
G - Glass

Maintaining of food diary for family members besides being an interesting exercise will help us keeping a check on their nutritional status. You can compare the actual food intake with the recommended dietary intakes for all your family members. This record is of special importance for all growing children and can be done in the format given below

Food Group	Recommended Dietary Intake (RDI)	Actual Intake of the individual	Difference (+/-)
Cereals			
Pulses			
Green leafy vegetables			
Other vegetables			
Roots and tubers			
Fruits			
Milk			
Fats and oils			
Meats and fish			
Eggs			
Sugar and jaggery			
Groundnuts			

In case the food intake is more than recommended, the individual in due course will have problems related to over weight and obesity.

Growing children having inadequate food intake will have malnutrition. Prolonged malnutrition will make an individual suffer from deficiency diseases. How would you know the growing child in your family is having a low nutritional status? First, by low RDI as recorded in the food diary format given earlier. Secondly, it will be reflected by the child having low height and weight measurements. It is a good practice to keep a record of height and weight measurements along with food intake and compare them with reference table 22.1 and 22.2 given in the chapter "Nutritional Status And Health."

Age of the Child	Food Intake (+/-)	Height		Weight	
		Expected	Actual	Expected	Actual

A low nutritional status could also be due to certain other personal and environmental factors. Given below is a check list you could mark and then try and improve the conditions to solve the nutritional problems of your family members.

Factors responsible for low nutritional status	Influences & consequences	What can be done by the family & you	Remarks
1. Over population	Decreased food availability	Restrict population	
2. Low production	Low food reserves	Increase food production by using improved agricultural techniques and checking food water	
3. Ignorance	Inability to affect food exchanges.	Study to select cheap and nourishing food exchanges	
4. Poverty	Low purchasing capacity	Generate more income	
5. Stress conditions	Periods of rapid growth (Children, adolescents, pregnant women, lactating mothers, old & sick persons)	Provide additional/appropriate food intake with/ without some degree of modification	
6. Poor personal and environmental sanitation	Increased susceptibility to infections and diseases	Improve your personal, home and environmental sanitation	

Case Study

Study the nutritional status of 2-3 children in your neighbourhood and (✓)
 Tick mark your observations.

	Child - I Age Boy/Girl	Child-II Age Boy/Girl	Child-III Age Boy/Girl
1. Physical Activity (Active/slow)			
2. Appetite (good/poor)			
3. Digestion (Good/frequent motion)			
4. Abdomen (Normal/Shrunken/Bolty)			
5. Skin (Healthy / pallor / wrinkled)			
6. Hair (Strong/brittle)			
7. Physical Growth (+/- in height +/- weight)			
8. Ability to learn (quick/slow)			
9. Eyes (Vision—good/poor)			

The above exercise will enable you to make simple observations thereby assessing the nutritional status of growing children in the absence of

- i) food diary and
 - ii) Height and weight records. After doing this exercise you will emerge as a confident Home Science student capable of looking after yourself and your family.
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