

FOOD AND NUTRIENT INTAKE

FOOD FREQUENCY QUESTIONNAIRE

Dietary intake of individuals, families and communities vary depending upon their socio-economic status, dietary habits and customs.

Food frequency questionnaire provides a relatively rapid and easy method of assessing food consumption patterns of the families or individual.

It also provides some idea about meal and dietary patterns, specific foods avoided or preferred.

Food frequency questionnaire does not give any information about the quantity of the food stuffs consumed.

But when combined with dietary intake assessed using 24 hour dietary recall, it will provide useful information on food security status of the family and food and nutrient intake of the individual members.

Food frequency questionnaire and dietary intake assessed by 24 hour dietary recall, help in identifying factors responsible for under-/over-nutrition and micro-nutrient deficiencies.

ASSESSMENT OF HOUSEHOLD FOOD SECURITY BY FOOD PURCHASED OVER A WEEK OR MONTH AND FOOD COOKED YESTERDAY

NUTRITION FOUNDATION OF INDIA

HOUSEHOLD FOOD SECURITY AND FOOD FREQUENCY QUESTIONNAIRE

Name: Hospital/Community Hospital: Reg No

Community : Area No: AW No: H.no.: H.Hold No: ID No:

Food items	Frequency of purchase	Quantity Purchased	Amount purchased (+ per month; * per week)	Amount /CU/day	Raw Food cooked yesterday (g/ml)		Frequency of consumption	
					Quantity cooked	Quantity /CU/day	Household	Individual
Rice+								
Wheat+								
Other Cereals+								
Pulses+								
Legumes+								
Roots(onions also) *								
Tubers(potato, arbi)*								
Other veg(tomato)*								
GLV*								
Fruits *								
Milk*								
Dahi,Chach *								
Milk Products*								
Eggs*								
Flesh food *								
Fish*								
Oil/Ghee/Butter+								
Sugar/Jaggery+								
Salt+								
Other(Specify)+								

Frequency of consumption 1. Daily 2. Alternate days 3. Twice a week 4 Weekly 5. Twice a month 6 Monthly or less 7. Never
Coding for Consumption Unit(C.U.)

Group	Age	Sed	Mod	Heavy	Group	Boys	Girls	Group	Boys & girls
Men		1.0	1.2	1.6	16 to 17yrs	1.2	0.9	7 to 9yrs	0.9
Women		0.8	0.9	1.0	13to 15yrs	1.1	1.0	4 to 6yrs	0.7
Pregnant		0.9	1.0	1.1	10to 12yrs	1.0	0.9	1 to 3 yrs	0.5
Lactating		1.3	1.4	1.5				<1 yr	0

No of HH members
Date

Total CU for the household:
Form filled by

Food cooked yesterday:

Type of Meal	Type of preparation	Food stuff (Ingredients)	Amount of the raw ingredients
Early Morning			
Breakfast			
Mid-Morning			
Lunch			
Evening Tea			
Dinner			
Before going to bed			

DIET SURVEY BY 24 HOUR RECALL

In the past when household food insecurity was the major factor responsible for under-nutrition, 24 hour dietary recall was widely used to assess the household food security (by computing the energy intake /consumption unit) and the quantum of gap between requirement and actual intake in individuals especially the vulnerable groups such as children and women.

Diet survey by 24 hour recall is an excellent method to obtain information on the family cooking patterns, intra-family distribution of food and individual's dietary intake.

It is time consuming and has to be done by well trained persons.

Single day 24 hour dietary recall may not give a very accurate information of dietary intake of the individual but the alternative of use of three day recall (one on holiday and two on week days) is not feasible either in community or in hospital settings.

Diet survey if repeated over time may provide useful information whether nutrition counselling has resulted in dietary modifications by the individual.

DIET SURVEY BY 24 HOUR RECALL

OTHER FACTORS TO BE TAKEN INTO ACCOUNT WHILE COLLECTING DATA ON INDIVIDUAL'S DIETARY INTAKE USING 24 HOUR DIETARY RECALL

Investigators in the current era have to enquire about the food intake from outside sources in addition to home cooked food shared by the members of the family.

This is especially important in school age children and working adults who may habitually consume a mid-day meal at school or at work site respectively.

It is also essential to probe and get the information from the individual about frequency and quantity of snacks, beverages and sweets purchased outside and consumed on the previous day and over the last week.

This probing will not be able to provide accurate estimation of all the nutrients consumed but can provide some idea about energy consumption and frequency of consumption of high fat and high sugar snacks and beverages in specific age groups

This may come in very useful in providing appropriate nutrition counselling in over-nourished persons

PHYSICAL ACTIVITY

In the era where under-nutrition was a major public health problem, not much attention was paid for assessing physical activity as a part of nutritional assessment of individuals.

Most Indians both in urban and rural areas were moderately active in transport, occupational and household chore domains.

In persons engaged in manual labour, excessive physical activity and insufficient food intake was a factor responsible for under-nutrition

Research studies undertook measurable physical activity eg weight of tea leaves plucked by tea garden workers - as a method of assessing impact of under-nutrition on work out put.

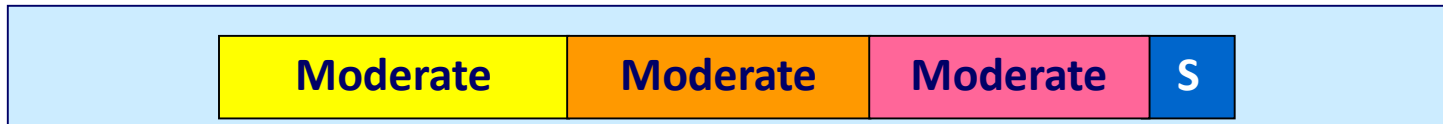
PHYSICAL ACTIVITY



India 2010



India 1960



Until two decades ago Indians had adequate moderate physical activity in domestic, occupational and transport domains.

So despite lack of discretionary activity, Indians were moderately active

Over the last five decades physical activity in daily chores has declined.

Discretionary physical activity continues to be sedentary.

As a result majority of the population is sedentary

Physical inactivity has been identified as a major independent modifiable risk factor for non-communicable diseases (NCDs).

So there is a need to increase discretionary moderate physical activity.

MEASUREMENT OF PHYSICAL ACTIVITY

Accurate measurement of physical activity of the individuals is essential for prevention and management of over-nutrition and NCD.

In the dual nutrition burden era, it is also important to undertake surveillance of levels of physical activity in groups of population using standardized protocols, so that the impact of public health interventions aimed at increase in physical activity can be assessed.

WHO had developed and validated the Global Physical Activity Questionnaire (GPAQ) using 24 hour recall of physical activity which has been used in several countries as part of the NCD risk factor surveillance (STEPS).

The GPAQ covers several components of physical activity, such as intensity, duration, and frequency.

It assesses three domains in which physical activity is performed (occupational physical activity, transport-related physical activity, and physical activity during discretionary or leisure time).

MEASUREMENT OF PHYSICAL ACTIVITY

An Indian adaptation of the physical activity questionnaire on domain and intensity of activity using 24 hour recall is given below

NUTRITION FOUNDATION OF INDIA - PHYSICAL ACTIVITY PROFORMA

Area No. AW. No. H. No. HH. No. ID No.
Name Gender - M / F BMI-

Sleeping-_____

Domain, intensity and duration of activity

Hrs & min	Household (1)	Work (2)	Transport (3)	Recreation (4)	Discretionary (5)	Personal (6)	Others (7)	Total
2.1 Sedentary								
2.2 Moderate								
2.3 Vigorous								
2.4 Total								

One week recall (difference between average week day and previous day)

Hrs & min	Household (1)	Work (2)	Transport (3)	Recreation (4)	Discretionary (5)	Personal (6)	Others (7)	Total
2.1 Sedentary								
2.2 Moderate								
2.3 Vigorous								
2.4 Total								

One week recall (difference between average week day and week end days)

Hrs & min	Household (1)	Work (2)	Transport (3)	Recreation (4)	Discretionary (5)	Personal (6)	Others (7)	Total
2.1 Sedentary								
2.2 Moderate								
2.3 Vigorous								
2.4 Total								

Sedentary No physical activity: Comfortable at rest sitting at home, chatting with friends, time spent sitting at a desk in work hours, travelling in car, bus, train, reading, playing cards or watching television, cutting vegetables.

Moderate Activities that require moderate physical effort and cause small increases in breathing or heart rate: household chores, especially swabbing, getting water, fuel, vegetables and provisions, manually washing clothes.

Vigorous Activities that cause substantial increases in breathing or heart rate like running or vigorous cycling, lifting heavy loads, digging or construction work

Date:

Form filled by:

Time	Type	Domain	Intensity			Total
			Sedentary	Moderate	Vigorous	
6.00 am to 6.30 am						
6.30 am to 7.00 am						
7.00 am to 7.30 am						
7.30 am to 8 am						
8.00 am to 8.30 am						
8.30 am to 9.00 am						
9.00 am to 9.30 am						
9.30 am to 10.00 am						
10.00 am to 10.30 am						
10.30 am to 11.00 am						
11.00 am to 11.30 am						
11.30 am to 12.00 am						
12.00 am to 12.30 pm						
12.30 pm to 1.00 pm						
1.00 pm to 1.30 pm						
1.30 pm to 2.00 pm						
2.00 pm to 2.30 pm						
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4.00 am to 4.30 am						
4.30 am to 5.00 am						
5.00 am to 5.30 am						
5.30 am to 6.00 am						

USE OF ACCELEROMETERS FOR MEASURING PHYSICAL ACTIVITY

Accelerometers which measure the acceleration of the trunk or limbs to which they are attached have the capacity to document volume and intensity of activity.

They are being used either as an alternative or supplement to traditional questionnaire method of assessing physical activity.

The demonstration that there is a good relationship between accelerometry “activity counts” and energy expenditure during locomotor activities has prompted the development of activity count “cut-off points” or thresholds that have been used to characterize activity intensity level (eg., moderate, vigorous).

In India accelerometers have been used mainly in research settings.