CHAPTER IV

FOOD HABITS
Early in childhood food habits regarding the use of food begins to form. The food pattern may meet or often exceed, the individual's need for food to provide energy but it is not likely to satisfy requirements for certain nutrients (Mc Henry, 1957).

Food habits vary from country to country with climate, social class with income, occupations and often with race of community. Some religious systems prohibit the consumption of certain foods and prescribe some how should be prepared (Magee, 1957). Variation in food habits also derives with the productivity of soils and proximity to the sea or river. A few example will suffice. North India including Pakistan is a wheat growing area and chaat made from unleavened whole meal which is the chief article of diet. South and East India including Bangladesh are rice growing areas and rice is the staple food curries and highly spiced dishes are the rule in most of tropical countries and nearer one approaches to equator the hotter the curries. On the other hand hot and highly spiced dishes are more. In these tropics, consumption of vegetables, salad seems to be greater. Notwithstanding its abundance in warm climate, fruits, in relative sense seems to be less popular than in temperate climate.

Many so-called food habits are in fact dictated by economic circumstances. The dearest foods are of animal origin, milk and dairy products, meats of all sort, fish and poultry. Vegetables and fruits are also expensive relative to their energy content; cereals provide more energy per unit of money in most countries and this accounts for high consumption of wheat, rice and maize. About five cereals are used in most of the world.
The pattern of diets often changes with change in occupation or in income. Rice in social scale of occupation usually means an increase in income, which as a rule result in more varied diet with more foods, animal products, fruits and vegetables. But the pattern of meals is less likely to alter. Removal to a new locality would also mean an attempt to conform in some measure to local habits of diet.

**MAIN DIETARY ITEMS OF THE STUDY AREA**

Roti ( Chapati ) : Flour of wheat, maize, ragi, kodon-kutki. First of all the flour of one of the enumerated ingredients is taken and necessary amount of water is added in it to make it soft dough. Then the dough is mixed well and small balls are made which are rolled on a flat wooden flour board into thin flat and round shapes and then partially baked over hot flat "Tawa" (Frying Pan). Thus the prepared item is known as Roti ( Tigga, 1984 ).

Rice ( Bhat ) : First of all rice is washed well in water then put in an utensil with water and cooked until the grains become soft. Sometimes the water (Mad) is drained out to make the rice eatable. This water (Mad) is used for other preparations.

Pulses ( Dals ) : Pulses of red gram, black gram, green gram, Lentil, Teora. Any one of the mentioned pulses is washed well in water and boiled with water content, turmeric powder and salt cooked until the pulses become soft.

Khichari : Rice, different type of pulses ( any one pulse ) turmeric powder, salt oil etc. Rice and one of pulses are washed well and
boiled in water. When rice and pulse are cooked well, turmeric powder, salt are added to it later on. The whole mixture is baked in small quantity of oil and spices like cumin, ginger and vegetable like coriander to the taste is added.

Sattu : Maize, red gram, Gondu (Mutki), rice, sugar, jaggery, chilli, onion, salt. Each of the above ingredients is roasted with the help of sand separately. Each ingredient is mixed together in proportion. Thus this powder is known as "Sattu". People eat sattu with chilli, onion, salt or with sugar-jaggery etc.

Kuhdi : Peas, Jowar, gram, salt and chilli. These seeds are boiled and strained with water and then chopped green chillies added into it and then salt is added taste-wise.

Paj : Flour of Maize, wheat, rice, jowar, kutki, Ragi. The cooking of Paj is very simple. We take the ingredients and mix water according to proportion; then boiled up to appropriate time. The prepared item is known as Paj.

DIETARY HABITS

A food may be defined as any substance which is taken into the body and utilized to yield heat or energy to build new tissues and to regulate body process (Nottrum, 1963).

The availability of food stuffs depend on its production and economic condition and it affects the consumption. The economic condition affect the availability and its quantity. In the study area the climate, population, education, poverty, lands are the main factors which influence the different places. In this way the
production of crops is main root which attracts the utility of the people. The physical environment also influences the consumption. Due to some food habits, ignorance and superstitions people do not take the available food stuffs.

The consumption in study area means the food stuffs required for the proper physical growth. In the study area though sufficient food stuffs are available yet the consumption do not fulfil daily requirement of the people due to poverty, illiteracy and ignorance. The consumption of food stuffs takes place in two ways. Firstly the consumption of food stuffs is based on the traditional ideas. People are interested in traditional diet i.e. though the food stuffs are rich in quality and quantity. The old method of consumption which is still prevalent totally affects and destroys the nutritive value of the food stuffs. The traditional diet also influences the food intake. In the older times people were ignorant of the proper and correct method of cooking. They just consumed the food stuffs more that time fresh and unadulterated commodities were available. But now such food stuffs have become rare and lack in nutritive value. Excess intake at traditional diet causes incomplete consumption of nutritive food stuffs. Secondly consumption of food stuffs takes place in relation with vegetarian or non-vegetarian. This also affects the food consumption. Thus all basic physical needs are fulfilled.

The dietary habits of the people generally depend upon economic condition of the family having regional and cultural influence (Tiwari, 1989). Local and regional climate and agricultural production also play an important role in determining the
dietary habits. The tribal people of the study area generally take 
Paj and Daliya in routine. Daliya is a mixture of thick powder 
(granules) of rice, wheat, millet, maize etc. Non-tribal people 
consume rice, roti ( Chapati ), pulses and vegetables from forest 
vegetation or some leafy vegetables from agricultural lands crop and 
these are often preserved and dried for other seasons.

As far as the people of non-tribal villages of the study area 
are concerned they take their food thrice a day.

BREAKFAST: The bisi is used for breakfast in the study area. Basi 
in the previous day's food which is specially left for next morning, 
after putting sufficient water in it. It is a cooked rice called 
Basi. Roti ( Chapati ) is taken with Chatani ( Sauce ); salt and 
chillies grinded together. This also varies from season to season 
and quantity too in different groups of people. Males generally take 
heavy breakfast because they go to field for laborious work, while 
the females and children take light breakfast as they remain at home 
for household works.

LUNCH: The main items of lunch are: Roti ( Chapati ), Rice (Bhat), 
different pulses (Dals) and vegetables. It varies from season to 
season on the availability of production of cereals and vegetables.

DINNER: It is almost like lunch with addition of milk, curd and 
daliya.

OTHER CHARACTERISTICS: Fruits consumption depend upon their 
availability and are mostly seasonal. Special diet is given to 
oldman viz., Khichari (Mixture of boiled rice and pulses of one 
kind). Some children and sick people also given special food. The
dietary habits of the people of the study area differ in terms of quality and quantity from season to season. Intake of wheat, Rice, Pulses, Vegetables, Milk, Fruits, Sugar-jaggery, Meat, Pork and liquor are of predominance.

FOOD OF TRIBALS

The tribals of the study area scarcely have any restriction of food. They eat fowls, beef, pork, meat and fish. The common food of the labouring tribals of the study area is gruel of rice, boiled small millets in water due to poverty. This is the cheapest kind of food on which most of the tribals subsistence is based. The quantity of this kind of food taken is small. In hilly places the tribals grow small grass-millet, Kodon, Kutki for their subsistence. They sell most of their valuable crops for meeting rent and other expenses. The flowers of Mahua tree are also staple article of diet, being largely eaten and liquor prepared. The tribals take many other roots and fruits of the forest. The tribals of study area usually take food (meals) thrice a day.

BREAKFAST: Generally the breakfast consists of the remaining food which is used in the previous night. Some families take "Basi" as a item of breakfast. Paj and Roti are also used in breakfast. People eat Paj rice with Chatni (Sauce) with the help of a special type of spoon made of leaves. Some families take Chapati (Roti) as their breakfast. Water is added to the flour and dough is prepared then thick round shaped roti is made and is cooked in pan. The roti is given shape with hands. Mahua juice is also used in food stuffs.
LUNCH: In the study area the lunch time is set up according to their working system and it is usually taken at the farms where they work. They use Paj for their lunch because it is easy to carry.

Mainly, in the study area the people use, Wheat, Rice, Pulses, Kodon, Kutki, Maize, leafy vegetables, green vegetables in their lunch. The "Bhat" or Paj along with vegetables form main part of their daily lunch. Local and seasonal pulses and vegetables like pumpkin, Lady's finger, Potato, tomato, brinjal, palak (Spinach), Rajgir leaves, Ambadi leaves, chanch leaves, Mustard leaves are commonly used by the tribals. Chanch (Ambadi) and Rajgir leafy vegetables are dried and used in off-seasons. The dried leaves are called Sukti.

DINNER: In the study area the people take rice and roll made of Kodon, Kutki. They use the flour of these items. The wheat flour is used in these area on special occasions like marriage, birth day etc. Liquor is apart of the meal and is prepared in the house by using mahua.

Generally the people use non-vegetarian dishes only in night and sometimes they take it in the lunch also but strictly not in breakfast.

CHANGING DIETARY HABITS

The problem of social economic have changed the dietary habits of the study area. Due to the various socio-economic factors lot of changes have taken place in the dietary habits of the people as follows (Tigge, 1980).
(i) Vegetarian, non-vegetarian diets have taken place according to the choice of the people.

(ii) A change in traditional diet according to its nutritional value.

(iii) Some external factors caused changes in dietary items like ready made food stuffs available, tinned or packed.

(iv) As the cropping pattern has changed, a change has also been observed in dietary habits.

(v) Tea and Coffee are used because of the effect of civilization and modernization.

These factors have changed the dietary habits of the people of the study area. However, there are some problems or traditions which do not permit the use of the food stuffs available; thus the quantity of nutrients have become less.

FOOD REQUIREMENT

The detailed study of the diets consumed daily, weekly or on a monthly basis have been analysed with reference to habits and preferences (Vidyarthi, 1979). The dietary pattern of the people of the study area shows the special significance which may be understood through the details of what people consume all day long and even on different occasions.

The people are used to a change in diet at different hours, at ceremonies and from the health point of view. On the whole it may be said that they take food items like Wheat, Rice, Pulses, Paj leafy vegetables, green vegetables, fruits, mahua, wild roots etc. However, to assess the pattern of dietary habits in general food
items taken at different times during the day is not very signif-
ificant. In Survey we found about 50.0 per cent of (Tribal families)
have their morning meals which consist generally of Paj and Roti
which is taken with Chatni (Sauce); it may be supplemented by a few
other general food items. In the morning tea and milk as beverages
are common among the families. In the afternoon people usually take
Roti-dal, Rice, Vegetables and meat or pork. These items are also
taken at dinner. It is also noted during survey that some rural
families other than settled agriculturists do not regularly take
meals thrice a day. Apart from this the young children nibble at
things irregularly when they feel hungry. Among the well to do
families the frequent irregular food items taken by children are
rice, fruits etc. During the working hours people consume their
general staple food. Due to poverty and ecological environment do
not permit them special food items. During rest period the tribal
people enjoy their traditional drink made of mahua (liquor). On
festive occasions they feel the urge to eat non-vegetarian food. A
small number of tribal families also take special vegetarian food
on special occasion. Most of the people cannot afford to eat
anything special even on special occasions except their routine
food.

Special food are used for special occasions at different
stages of life of an individual. During pregnancy period the
expectant mother is prescribed to take certain food items. A
considerable number of pregnant women eat all kinds of non-vegetarian
food and most families are habituated to a certain type of diet.
The nursing mother is made to eat the food mentioned above as well as milk, eggs and meat. Chicken is regarded as the best kind of food to help lactation. However, only very few families can afford this at considerable cost. Almost all children below three years depend absolutely on their mothers' milk. Children of about 90% families are absolutely dependent on mothers' milk. Most families use vegetarian for infants and nursing mothers. A negligible number drink Cow's milk. Among tribals as everywhere else in the world, marriage is one of the most important social occasion when every family tries to impress others and around by offering special food items to enhance their social prestige. Thus about only some families reportedly serve only vegetarian food perhaps due to poverty, whereas other arrange non-vegetarian items along with the usual staple food items. The usual items prepared during the marriage or feast are Rice, Pulses, Puri, vegetables of different varieties, pork or mutton. Special food items during funeral rites is most significant among tribals. Except few poor families all others arrange to serve non-vegetarian food along with traditional drink.

Some of the diets can be mentioned for certain people belonging to different status. Rites and rituals observed in the study area play a significant role in this respect. On special religious festivals and during feasts special vegetarian food is offered. Non-vegetarian food is also quite common on certain occasions according to customs.
BALANCED DIET

A balanced diet is one that the required calorie value and contains all the proximate principals (Proteins, fats, carbohydrates, mineral salts, vitamins, organic acid and water) of food in suitable proportions to produce the necessary calories and supply enough nutrients to the system (Neelakantan, 1973). The balanced diet must be gauged from first on a scientific point of view, and second is that an average diet must contains so much protein, yield so many calories and have so many milligram of the various mineral elements and vitamins available. The amounts will vary with the age, sex, occupation and vitality of the recipient (Mottram, 1963). The American estimates of the daily needs have been given in Table - 4.1.

Balanced diet is very essential for human beings in order to maintain formal Health and the compensate the losses incurred in metabolic changes (Mudambi, 1963). A balanced diet may vary to different categories of people. It differs person to person keeping in view his age, sex, climatic conditions, mode of work and surroundings in which he lives. It can be explained by the fact that grown up man requires more amount of calories than a child. The same rule is applicable in different sex, a male adult requires more calories than a female adult. Intensive research carried out on human beings in many countries has proved the necessity of balanced diet.

Due to availability of this data it is easy to assess the extent to which diets in common use are adequate or inadequate; to
<table>
<thead>
<tr>
<th></th>
<th>Calcium</th>
<th>Phosphorus</th>
<th>Iron</th>
<th>Vitamin A</th>
<th>Thiamine</th>
<th>Riboflavin</th>
<th>Niacin</th>
<th>Ascorbic Acid</th>
<th>Vitamin D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women (14 kg. or 30 lb.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mentally active</td>
<td>3.500</td>
<td>70</td>
<td>0.8</td>
<td>12</td>
<td>5,000</td>
<td>1.0</td>
<td>2.2</td>
<td>15</td>
<td>75</td>
</tr>
<tr>
<td>Very active</td>
<td>4.000</td>
<td>70</td>
<td>0.8</td>
<td>12</td>
<td>5,000</td>
<td>1.0</td>
<td>2.7</td>
<td>10</td>
<td>75</td>
</tr>
<tr>
<td>Men (25 kg. or 55 lb.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mentally active</td>
<td>2.500</td>
<td>60</td>
<td>0.8</td>
<td>12</td>
<td>5,000</td>
<td>1.0</td>
<td>1.4</td>
<td>12</td>
<td>75</td>
</tr>
<tr>
<td>Very active</td>
<td>3.000</td>
<td>60</td>
<td>0.8</td>
<td>12</td>
<td>5,000</td>
<td>1.5</td>
<td>2.2</td>
<td>10</td>
<td>75</td>
</tr>
<tr>
<td>Pregnancy (above 500 gr.)</td>
<td>2.000</td>
<td>65</td>
<td>1.0</td>
<td>15</td>
<td>5,000</td>
<td>1.2</td>
<td>1.1</td>
<td>10</td>
<td>75</td>
</tr>
<tr>
<td>Lactation</td>
<td>2.000</td>
<td>60</td>
<td>1.0</td>
<td>15</td>
<td>4,000</td>
<td>1.0</td>
<td>1.1</td>
<td>9</td>
<td>75</td>
</tr>
<tr>
<td>Children up to 12 years:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Newborn (1 year)</td>
<td>100/6 kg.</td>
<td>1.4 kg.**</td>
<td>1.0</td>
<td>6</td>
<td>1,000</td>
<td>0.4</td>
<td>6.0</td>
<td>30</td>
<td>400-400</td>
</tr>
<tr>
<td>1-1/2 years</td>
<td>1,400</td>
<td>60</td>
<td>1.0</td>
<td>7</td>
<td>2,000</td>
<td>0.8</td>
<td>6.8</td>
<td>25</td>
<td>400-400</td>
</tr>
<tr>
<td>2-3 years</td>
<td>1,800</td>
<td>60</td>
<td>1.0</td>
<td>7</td>
<td>2,000</td>
<td>0.8</td>
<td>6.8</td>
<td>25</td>
<td>400-400</td>
</tr>
<tr>
<td>4-6 years</td>
<td>2,200</td>
<td>70</td>
<td>1.2</td>
<td>12</td>
<td>2,000</td>
<td>1.2</td>
<td>1.8</td>
<td>20</td>
<td>80</td>
</tr>
<tr>
<td>7-10 years</td>
<td>2,800</td>
<td>70</td>
<td>1.2</td>
<td>12</td>
<td>4,000</td>
<td>1.2</td>
<td>1.8</td>
<td>20</td>
<td>80</td>
</tr>
<tr>
<td>Children over 12 years:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Girls 12-15 years</td>
<td>2,800</td>
<td>60</td>
<td>1.3</td>
<td>12</td>
<td>5,000</td>
<td>1.4</td>
<td>2.0</td>
<td>14</td>
<td>90</td>
</tr>
<tr>
<td>Boys 12-15 years</td>
<td>3,200</td>
<td>60</td>
<td>1.4</td>
<td>15</td>
<td>6,000</td>
<td>1.4</td>
<td>2.4</td>
<td>18</td>
<td>90</td>
</tr>
<tr>
<td>Girls 16-20 years</td>
<td>3,600</td>
<td>60</td>
<td>1.4</td>
<td>15</td>
<td>6,000</td>
<td>1.7</td>
<td>2.6</td>
<td>20</td>
<td>100</td>
</tr>
<tr>
<td>Boys 16-20 years</td>
<td>4,000</td>
<td>60</td>
<td>1.4</td>
<td>15</td>
<td>6,000</td>
<td>1.7</td>
<td>2.6</td>
<td>20</td>
<td>100</td>
</tr>
</tbody>
</table>

*Table values are given in terms of quantities which are adequate for the maintenance of health and the prevention of vitamin deficiencies. They are not intended to maintain maximum health, nor are they intended to be used in the treatment of illness.

**1 kg. and 2.2 lb., approximately.
estimate the amount of different food stuffs needed to bring the
diet of a given population up to a desirable level. The recommended
dietary allowance for Indian are given below; Table - 4.2.

**TABLE - 4.2**

**STATEMENT OF BALANCED DIET**

<table>
<thead>
<tr>
<th>Food Stuffs</th>
<th>Recommended Quantity in grams</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cereals</td>
<td>370</td>
</tr>
<tr>
<td>Pulses</td>
<td>60</td>
</tr>
<tr>
<td>Leafy Vegetables</td>
<td>75</td>
</tr>
<tr>
<td>Other Vegetables</td>
<td>60</td>
</tr>
<tr>
<td>Condiments and Spices</td>
<td>2C</td>
</tr>
<tr>
<td>Fats &amp; Oils</td>
<td>36</td>
</tr>
<tr>
<td>Roots and Tubers</td>
<td>50</td>
</tr>
<tr>
<td>Milk and its Products</td>
<td>180</td>
</tr>
<tr>
<td>Flesh Foods (Meat)</td>
<td>30</td>
</tr>
<tr>
<td>Fruits</td>
<td>37</td>
</tr>
<tr>
<td>Sugar &amp; Jaggery</td>
<td>40</td>
</tr>
</tbody>
</table>

**Source**: NIN, Hyderabad.

Based on the types of food available in India, nutrition
experts of Indian Council of Medical Research (ICMR), Hyderabad
has suggested the composition of typical balanced diet for an Indian
as follows (Table - 4.3).
### TABLE - 4.3

**RECOMMENDED DIETARY INTAKE OF NUTRIENTS**

(For Indians)

<table>
<thead>
<tr>
<th>Group/particulars</th>
<th>Calories (Cal.)</th>
<th>Proteins (g)</th>
<th>Calcium (g)</th>
<th>Iron (g)</th>
<th>Vitamin A (IU)</th>
<th>Thiamine (mg)</th>
<th>Riboflavin (mg)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Man</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sedentary Worker</td>
<td>2400</td>
<td>55.0</td>
<td>0.5</td>
<td>24.0</td>
<td>3000</td>
<td>1.2</td>
<td>1.4</td>
</tr>
<tr>
<td>Moderate Worker</td>
<td>2800</td>
<td>55.0</td>
<td>0.5</td>
<td>24.0</td>
<td>3000</td>
<td>1.4</td>
<td>1.7</td>
</tr>
<tr>
<td>Heavy Worker</td>
<td>3400</td>
<td>55.0</td>
<td>0.5</td>
<td>24.0</td>
<td>3000</td>
<td>2.0</td>
<td>2.3</td>
</tr>
<tr>
<td><strong>Women</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sedentary Worker</td>
<td>1900</td>
<td>45.0</td>
<td>0.5</td>
<td>32.0</td>
<td>3000</td>
<td>1.0</td>
<td>1.1</td>
</tr>
<tr>
<td>Moderate Worker</td>
<td>2200</td>
<td>45.0</td>
<td>0.5</td>
<td>32.0</td>
<td>3000</td>
<td>1.1</td>
<td>1.3</td>
</tr>
<tr>
<td>Heavy Worker</td>
<td>2300</td>
<td>45.0</td>
<td>0.5</td>
<td>32.0</td>
<td>3000</td>
<td>1.5</td>
<td>1.8</td>
</tr>
<tr>
<td>Pregnancy</td>
<td>2200</td>
<td>59.0</td>
<td>1.0</td>
<td>40.0</td>
<td>3000</td>
<td>1.2</td>
<td>1.3</td>
</tr>
<tr>
<td>Lactation</td>
<td>2400</td>
<td>70.0</td>
<td>1.0</td>
<td>40.0</td>
<td>4000</td>
<td>1.3</td>
<td>1.4</td>
</tr>
<tr>
<td>Children</td>
<td>1200</td>
<td>22.0</td>
<td>0.5</td>
<td>2.25</td>
<td>1000</td>
<td>0.6</td>
<td>0.7</td>
</tr>
<tr>
<td>Infants</td>
<td>1180</td>
<td>2.0</td>
<td>0.5</td>
<td>1 mg/ Kg</td>
<td>1200</td>
<td>0.5</td>
<td>0.7/Kg</td>
</tr>
</tbody>
</table>

Source: National Institute of Nutrition (ICMR), Hyderabad, "Recommended Dietary Intakes For Indians", p. 56.

With respect to food availability and in distribution the quantitative as well as qualitative factors equally play important role. As far as Geographers are concerned the diet of different groups as a whole is important rather than an individual. Generally each community forms a uniform food habits. It varies from one culture group to another. Vegetarian diet is directly influenced by the local, religious and traditional concepts. Dietary habits
of the people are also influenced by the availability of food stuffs of that region. Besides this the economic structure, purchasing power also play important role in determining the food habits of any particular region. Easily available food stuffs become the part of the diet of that region. As far as the study unit is concerned, vegetarian and non-vegetarian diets have been accepted by majority of the people. The higher cost of non-vegetarian food stuffs is also one of the causes for its being uncommon. Poverty also plays an important role in determining the intake of different kinds of food stuffs available in that region. The dietary pattern of a particular area, people vary season to season on availability of Cereals, vegetables, fruits etc.

**ESSENTIAL ELEMENTS OF DIET**

These may be discussed under seven well defined categories:


1. Proteins: Proteins are very essential for growth and repair of human body. Proteins are nitrogenous foods. Proteins are of two kind (i) Vegetable and (ii) animal protein. Animal proteins are more useful to the human body particularly to growing children and pregnant women (Neelakantan, 1973). Milk and meat contain essential amino-acids and are called class I Proteins. Vegetable proteins occur chiefly in pulses and do not contain all the essential amino acids. So 1/5th of the proteins in daily use are obtainable from animal sources. Peas, grams, beans etc. are rich in proteins.
Protein deficiency causes weakness, anaemia, and dropsy in children. Discolouration of skin and hair are also caused.

2. Fats: Fats are compound of glycerine with fatty acids. These energy foods supply twice as much energy as carbohydrates and proteins. They are helpful in giving a smooth appearance to the body. The chief sources are Ghee, various vegetables, oils, sugar, mainly from sugar-cane etc.

3. Carbohydrates: These energy giving or fuel foods are found in cereals like, wheat, rice, ragi, sugar-cane beet roots etc. An excess intake of carbohydrates over a prolonged period may lead to diabetes.

4. Mineral Salts: A large number of mineral salts are needed in human nutrition. Mineral salts are essential for the growth and repair of all tissues of the body. The most important among them are calcium, magnesium, sodium, potassium, phosphorus, sulphur, chlorine, iodine and iron. There are others, though needed in much smaller amount are copper, cobalt, manganese and fluorine. The intake of these is also essential to the body.

5. Vitamins: Vitamins are organic compounds present in minute quantity in natural foods. They are essential for the performance of various vital functions in the body (Das, 1969). If these are not taken for sometime, deficiency disease such as ricket, scurvy, beri-beri, pellagra etc., may develop. Vitamins are (A) Fat soluble like vitamin A, D, and E and (B) Water soluble like vitamin B, C and d.
(A) Fat Soluble Vitamins

(i) Vitamin A: Vitamin A is necessary for body growth and it also raises the general level of resistance against infection. It is found in fish liver oils, leafy vegetables, milk, butter, eggs, carrots, tomatoes, sheep liver and oranges. Although this vitamin is not present in plants yet it yield a yellow coloured substance which fulfils the physiological functions of vitamin A. This substance is called 'carotene'. Vitamin A is soluble in fat and is resistant to moderate heating. It is somewhat readily been destroyed by oxidation. Its deficiency in food causes xerophthalmia, night blindness, eczema and reduced resistance to infection. It is useful in maintaining the skin and mucous membrane in healthy condition.

(ii) Vitamin D: Lack of this vitamin or its presence in insufficient amount in the body interferes with the deposition of calcium and phosphorus in the bones leading to their softening and ultimately resulting into deformities. It affects the children and adults alike. In children its deficiency is characterized by bow-legs, knock-knees, pigeon breasts and enlargement of the ends of long bones - a disease called Rickets; while in adults, the pain in the bones is the first sign, then the bending of bones resulting in deformities. Pregnant women are the worst sufferers. This is because it is that period when there is a great demand for calcium and phosphorus for the growth of unborn child; when their pelvic bones are affected; a serious interference occurs at the time of the birth of the child. It is found mostly in fish liver oils and in the yolk of eggs. It is also present in milk, butter, cheese, meat etc.
It may be formed in the body by exposure to sunlight. Ultra-violet rays have the power to stimulate its production.

(iii) Vitamin E: It is essential for reproduction. This vitamin maintains the child-bearing capacity in females. Wheat germ oil is the richest source of the vitamin. Green leaves of spinach, lettuce, are also rich source of it. It is also present in egg-yolk and in some vegetable oils such as Soyabean. Deficiency of vitamin E causes sterility both in males and females.

Vitamin K: Vitamin K is essential for the normal coagulation of blood. It is found in green leaves, cauli-flower, cabbage, tomatoes and Soyabean oil. Its deficiency results in the prolongation of blood clotting and tendency to haemorrhages.

(B) Water Soluble Vitamins

(1) Vitamin B₁ (Thiamine): Many sub factors are included in the vitamin B complex group. Vitamin B₁ or "Thiamine" was the first vitamin to be discovered. This is necessary for the absorption of starch and sugar. Lack of this vitamin causes a disease called "Beri-beri" which is manifested by partial or complete paralysis of limbs, low blood pressure and weakness of heart; often leading to its failure.

Yeast, whole wheat grain, unmilled rice, pulses and nuts particularly ground-nut are very rich source of this vitamin. Vitamin B₂ or riboflavin is associated with normal growth and development of the body. It is available in yeast, eggs liver, milk,
dried peas etc. Lack of vitamin B₂ causes soreness of the mouth and tongue, itching of the eyes etc.

Niacin is another member of this group. Deficiency of niacin causes pellagra which is common in people eating maize. It is found in liver, yeast, pork, eggs and ground-nut.

(ii) Vitamin C : It is very sensitive to heat and drying. It helps to build bone and tissues and increases resistance to infection. Green chillies, fresh leafy vegetables, fresh fruits. Lemons, oranges and tomatoes are the richest sources of this vitamin. Deficiency of this vitamin causes "scurvy " with bleeding from the gums, soongy, painful joints, etc.

(iii) Vitamin D : It occurs naturally along with vitamin C in fresh fruits, especially lemons. It is believed to help in maintaining capillary permeability.

(6) Organic Acids : They help in maintaining the alkalinity of blood and other fluids by forming carbonates. They also impart a small amount of energy and heat to the body and essential for the preservation of health. It is derived from fresh fruits and vegetables.

(7) Water : Water is important for our daily routine. It represents the major protein in most food stuffs. Water is absolutely necessary to make good the losses induced by its excretion through breath, sweat, urine, faeces and also replenish the various fluids in the solid organs of the body. It serves as a vehicle for the dissolving and digestion and assimilation. It is absolutely necessary for elimination of waste products of the system.
NUTRIENTS

The foods we take daily include, wheat, rice, pulses, vegetables, fruits, milk, meat, butter, egg, sugar, fish, oils etc. These different foods are made up of a number of chemical components called nutrients (Mudambi, 1989).

FUNCTIONS OF NUTRIENTS

1. Carbohydrates: Their chief function is to provide energy. Those not used immediately for the purpose are stored as glycogen or converted to fat and stored to be mobilized for energy supply when needed.

2. Proteins: Their main function is building of new tissues and maintenance and repairs of those already built. Proteins are precursors of regulatory and protective substances such as enzymes, hormones and antibodies. About 10 per cent of the total energy is supplied by proteins in the diet.

3. Fats: Fats are concentrated sources of energy, carriers of fat-soluble vitamins and essential fatty acids. If excess fats are supplied in the diet, these may be stored as fat reserves in the body.


5. Vitamins: Needed for the growth and for regulation of body processes.

6. Water: An essential part of the body structure. It is a carrier of nutrients and regulates a number of body functions.
All individuals need same nutrients for the body function. The only variation is in the amount of each nutrient required according to age, activity, size etc.

**NUTRIENTS REQUIRED**

The various foods which we eat contain different amounts of proteins, carbohydrates, fats, minerals, vitamins and other nutrients (Gopalan C, 1987). A good diet is that which contains different foods in right proportion and amount so that all the nutrients are provided in the required quantity. The daily diet should include a mixture of cereals, pulses, leafy vegetables, other vegetables, fruits, fats, oils, a glass of milk, an egg, meat or fish. Vegetarians take larger amount of pulses as compared to non-vegetarians.

Energy provided by food is used for routine work. This energy is measured in terms of calories. The number of calories required by an individual will vary with sex, age and activity.

**DIET FOR PREGNANCY PERIOD**

Every pregnant women dreams of giving birth to a chubby, health infants. The foetus slowly depends upon mother for its nourishment. The nutritional needs of a pregnant women gradually increases as pregnancy period progresses. A mother has to supply through blood stream all nutrients for this growing foetus (Chandra, 1986). Many people do not consider or appreciate that by the time of birth the instant is already 270 days old. The child in fact grows more rapidly inside the mother’s womb than after birth. Naturally a good diet is very essential for a pregnant women.
Before the onset of pregnancy a woman needs enough food to maintain her own health. But as she becomes pregnant, she needs additional food to enable the foetus to grow normally in the womb and in addition she also needs foods specially rich in nutrients.

There are no rules stating that particular foods alone should or should not be taken. All the cereals are energyyielders but differ in their vitamin and mineral contents as such a mixed diet will be more nutritious. A pregnant woman should take 80.0 g of pulses everyday which will provide enough protein for the proper growth of tissues and muscles of the foetus.

Sufficient quantity of milk should be taken by the pregnant woman is some form or the other as coffee, curds or any other preparation. It is also better to use jaggery in place of sugar.

As the pregnancy progresses, the need for nutrients becomes greater and the intake of foods like leafy vegetables and pulses should therefore, be more, specially during the last three months pregnancy. If the diet is nutritionally inadequate, the foetus will grow at the expense of the mother and thus the mother's health will naturally go down. The infant would also be born under-weight and its subsequent growth would not be satisfactory while the mother would also become anaemic. Thus as soon as a woman knows that she has become pregnant, she must begin with her daily diet at least two glasses of milk, 80 g of pulses and adequate amount of leafy vegetables. This supplement in diet will in fact be much cheaper in the long run, as one can prevent ill-health in pregnancy period, costly treatment for deficiency, diseases at a later stage.
DIET FOR NURSING WOMAN

After birth the new-born depends entirely on mother's milk. The nursing mother should therefore, take enough nutritious food to be able to provide adequate quantity of milk for her infant (Choudhury, 1977).

During lactation the mother requires more calories than a normal woman due to extra need for secreting the milk and for synthesizing the nutrients in the milk. It is not true to say that good nutrition increases the output of milk but there is no doubt that it enables the woman to reach her maximum lactation potential. The requirement of proteins is high during this period; good quality proteins should be consumed. A mixed cereal diet including rice, wheat, ragi, etc. would be better than a single cereal based diet. Besides this it is also desirable that the diet of the nursing woman should contain three handful of pulses daily and adequate amount of vegetables.

INFANT FEEDING

Mother's milk is the ideal food for infants and atleast for a period of six months the infant solely depends on it. After this period the nutritional requirements cannot be met by mother's milk alone. Building up of blood cells and teething call for essential nutrients such as iron and vitamin C. Moreover as the infant grows nutritional needs will also progressively increase and at the same time the milk output of the mother would also on the decrease. About three glassesfuls of milk will meet the infant's need. Similarly only
two glassfuls of mother's milk would be available as against four
glassfuls needed by the infant when he/she is one year old.

DIETARY HABITS OF HEAVY WORKERS

A diet of a person depends on the nature of work. A person
expends energy for daily activities which are of non-occupational
nature, such as sitting, standing, dressing, walking etc. All
activities is required in normal. Additional calories are required
for the performance of daily work. The diet of heavy workers should
be rich in proteins, fats, vitamins and minerals. This energy they
can get mainly from the cereals and pulses.

DIET AND NUTRITION

Human diet is not restricted to any special category of food.
Man can and does eat a variety of foods of both plant and animal for
origin. Variety is, for him, the spice of life more so in foods than
in anything else. This natural desire for variety is justified by
the fact that no single food provides us with all the nutrients that
we need. Cereals like wheat, rice which form the staple food of
mankind supply us only with a fraction of our nutritional require-
ments. We have to supplement cereals with other foods, provide
plenty of fats and proteins and minor quantities of a number of
vitamins and minerals. This means that the larger our diet sheet,
the better our health will be. This will become evident if we
analyse what nutrients our foods contain and in what proportion.
The primary work of food, is, of course, to satisfy hunger. The
necessity for food varies according to age, sex, body size, climate
and activities.
A good diet is thus defined as one which yields nutrients daily in proper amounts to satisfy the body needs. Such term is termed as 'balanced diet'. In other words a balanced diet is one which contains different types of food is such quantity and proportion that the need for calories, minerals, vitamins and other nutrients is adequately met. And a small provision is made for extra nutrients to withstand short durations of leanness (Gopalan, 1980).

REFERENCES


Tigga, A.R. (1989): A Study of Consumption and Nutritional Status of Children (0-6 years) in Rural Area of Chhettisgarh Region, Ph.D. Thesis (Home Science), Dr. H.S. Gour Vishwavidyalaya, Sagar (M.P.)