CHAPTER - VIII

Nutritional Health Disorders

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NUTRITIONAL HEALTH DISORDERS

The maintenance of the body in a healthy condition depends upon a diet consisting not only of different proximate principles but also of the vitamins and inorganic salts. A well balanced diet is essential for growth and normal development of the many factors basic for a healthy life and for building up resistance against environmental stresses, the foremost is perhaps nutrition.

The inadequacy of nutrition in the human body can result from inadequate quantity of quality of food consumed. The quantitative deficiency generates hunger and calorie deficiency. When the quantity of food consumed is adequate to mitigate hunger but fails to provide all the nutrients the human body needs in appropriate proportion and quantity, the body is in the state malnourishment. Malnutrition may also results from impaired physiology during sickness even though the diet may be adequate. It is thus clear that those who are undernourished must be malnourished too, but all those who are malnourished need not necessarily be undernourished[1]. In India, this problem assumes alarming dimensions when the existing state of under - nutrition is coupled with malnutrition.

In the study region, the deficiency diseases are rampant in all most all the blocks. It is due to both under-nutrition and malnutrition. The poor people of the region

do not get adequate food as well as they are ignorant of food values. The inadequate food and ignorance of food value among the people causes different nutritional deficiency health disorders in the study region.

TABLE - 8.1

INCIDENCE OF DEFICIENCY DISEASES IN NORTHERN ORISSA

(Block - Wise)

		In percentage
High (Above 25.00)		
i)	Jamda	33.89
ii)	Morada	31.56
Moderately High (20.10 to 25.00)		
i)	Thakurmunda	24.14
ii)	Kutra	23.40
iii)	Harichandrapur	23.26
iv)	Ghatgaon	23.14
v)	Saraskana	22.79
vi)	Khunta	21.77
vii)	Kuliana	20.86
viii)	Betnati	20.72
ix)	Jashipur	20.28
Moderate (15.10 to 20.00)		
i)	Lathikata	19.89
ii)	Balisankar	19.85
iii)	Barasahi	19.81

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iv)	Rajgangpur	18.62
v)	Raruan	18.52
vi)	Rasgovindpur	18.47
vii)	Bahalda	17.89
viii)	Bisoi	17.43
ix)	Saharpada	16.96
x)	Suliapada	16.71
xi)	Subdega	16.45
xii)	Joda	16.07
xiii)	Nuagaon	15.94
xiv)	Hemgiri	15.82
xv)	Karanjia	15.38
xvi)	Tiring	15.23

<u>Moderately Low (10.10 to 15.00)</u>

i)	Patna	15.00
ii)	Bisra	14.84
iii)	Baripada	14.34
iv)	Ghasipura	14.12
v)	Keonjhar	13.76
vi)	Lahunipada	13.70
vii)	Sukruli	13.56
viii)	Kusumi	12.31
ix)	Bangriposi	12.21
x)	Hatadihi	12.17
xi)	Samakhunta	11.83
xii)	Rairangpur	11.67

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xiii)	Bargaon	11.64
xiv)	Champua	11.34
xv)	Jhumpura	11.25
xvi)	Tangnapalli	11.19
xvii)	Bonei	10.59
xviii)	Gurundia	10.56
xix)	Lephripada	10.40
xx)	Anandpur	10.21

Low (Below 10.10)

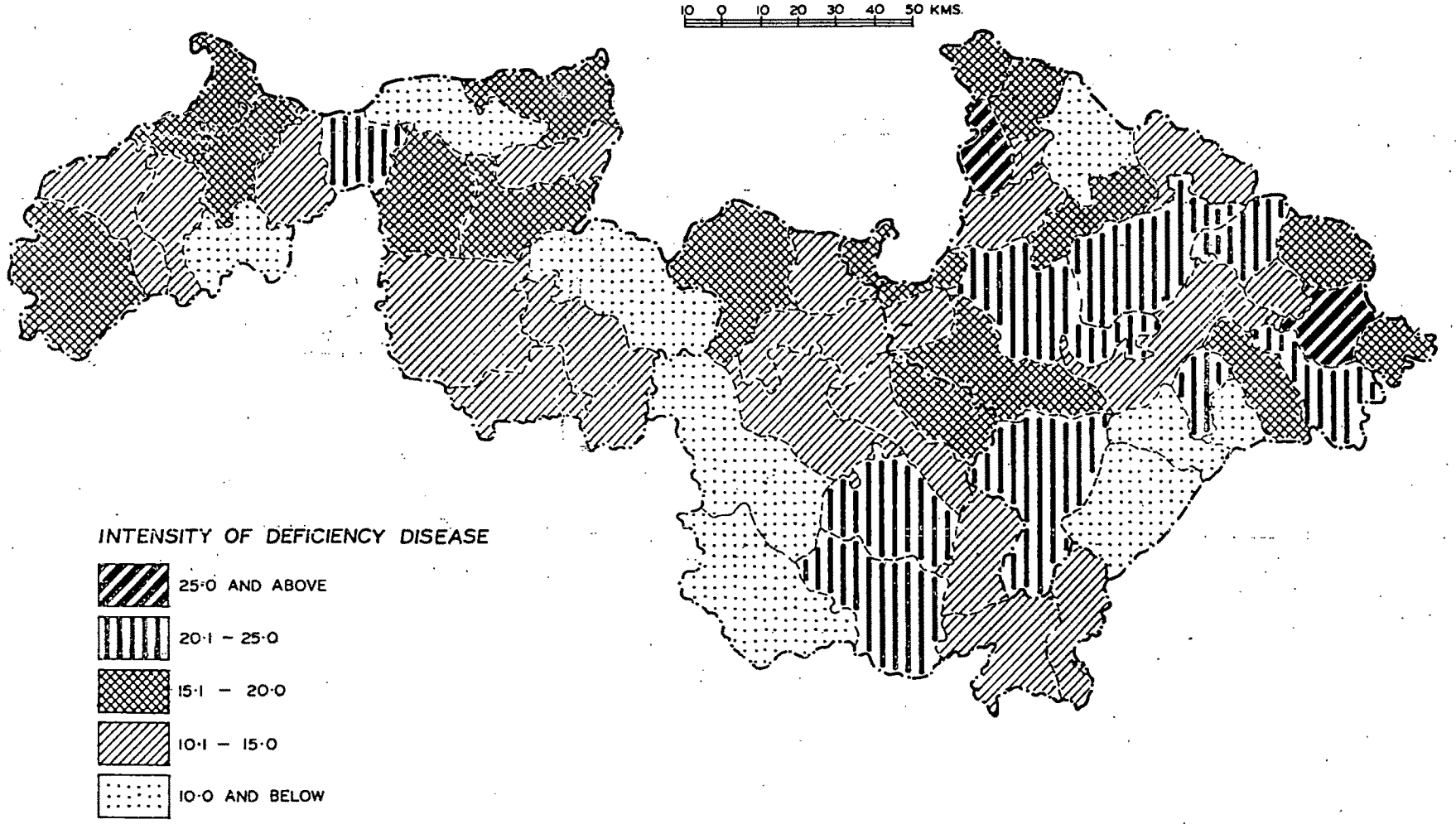
i)	Telkoi	9.61
ii)	Banspal	9.39
iii)	Kuanarmunda	9.01
iv)	Udala	8.20
v)	Sundargarh	7.78
vi)	Koira	7.72
vii)	Bijatola	7.08
viii)	Kaptipada	6.06
ix)	Gopabandhunagar	4.65

Source : Computed on the basis of data supplied by Directorate of Health, Orissa.

Table 8.1 reveals that the Jamda block had occupied first position in incidence of defiency diseases having 33.89 per cent of total registered cases of the block. Morada

NORTHERN ORISSA

INTENSITY OF DEFICIENCY DISEASES



Map - 27

followed Jamda having 31.56 per cent. In Moderately High Category there were nine blocks having 20.1 per cent to 25 per cent of total registered cases. Sixteen blocks had been categorised under Moderate Category having 15.10 to 20 per cent incidences of deficiency diseases. Under Moderately Low category, there had been twenty blocks having incidences of deficiency diseases from 10.1 to 15 per cent. Only nine blocks had been categorised under low category which includes blocks having below 10.1 per cent incidences of deficiency diseases. Gopabandhunagar had occupied the lowest positioin in deficiency diseases consisting only 4.65 per cent of the total registered cases in the block.

The major deficiency diseases prevalent in the study region were :

i) **Goitre**
ii) **Diabetis mellitus**
iii) **Osteomalacia**
iv) **Gout**
v) **Avitaminosis**
vi) **Anaemia**

Goitre :-

Goitre is a deficiency disease which is associated with swelling of the neck due to enlargement of the thyroid gland. Goitre may occurs due to (a) excessive richness in some chemical ingredients e.g. hardness of drinking water (b)

presence of some organic impurities; notably some pathogenic agents or their products, and (c) poverty of iodine. The iodine deficiency and the infection theory have received the largest number of supporters[2].

In the study region, the goitre had been prevalent in some blocks. The highest number of goitre had been registered in Champua having 69 cases. Next to champua, the Nuagaon and Kuararmunda block had registered 53 and 52 cases respectively. The goitre is more prevalent in Sundargarh district in comparision to other two districts in the study region.

Diabetes Mellitus :

Diabetes mellitus is a disorder of carbohydrate metabolism in which sugar in the body are not oxidized to produce energy due to lack of pancreatic hormone insulin. The accumulation of sugar leads to its appearence in blood, then in urine . Symptoms include thirst, loss of weight, and the excessive production of urine.

In study region diabetes mellitus had been noticed in all the block. The highest number of diabetis mellitus had been registered in Baripada having 1158 registerd cases. In Sundargarh block 280 cases of diabetis mellitus had been registered followed by Champua having 270 and Keonjhar block

having 246 cases. In Joda and Rruan blocks no diabetis mellitus case had been registered.

Osteomalacia :-

Osteomalacia , a Vitamin D deficiency disease had been registered in some blocks of the study region. Osteomalacia is associated with softening of the bones caused by the deficiency of Vitamin D. It is the adult counterpart of the ricket[3].

Osteomalacia had been found in two blocks i.e. Nuagaon and Bisra of Sundargarh district and four blocks of Mayurbhanj district viz. Baripada, Betnati, Sulipada and Rasgovindpur. But it is rampant in Keonjhar district where it has been reported in ten blocks out of the thirteen blocks of the district. Highest number of Osteomalacia had been reported in Saharpada block having 755 registered cases. Next to Saharpada, Telkoi and Ghatgaon had reported 200 and 126 cases respectively. In Baripada block 62 registered cases of Osteomalacia had been reported.

During the diet survey, it had been noticed that the Osteomalacia was more common among the women in these blocks. Natural sun light is the best source of Vitamin D. But due to the ill-built housing condition people are very often do not receive the natural sunlight. Other sources of

vitamin D are butter, ghee etc. which the poor people of the study region do not get in adequate proportion.

Gout :-

Gout is a disease in which a defect in uric acid metabolism causes an exsess of the acid and its salts to accumulate in the blood-stream and the joints.

Gout had been reported in 17 blocks of the study region. In 16 blocks the reported cases had varied from 3 to 57. But in Bisra Block of the sundargarh district, the gout had been reported in large number, i.e. 4611. Detail study in Saharpada block should be made to find out the reasons of this high frequency of avitaminosis.

Avitaminosis :-

Vitamins are substances which although distributed in foodstuffs in relatively minute quantities, are essential for the normal nutrition of the animal organism. Although the absence of any of the vitamins causes a corresponding specific disease syndrome, the action of vitamin should not be considered in isolation but in relation to the diet as a whole, for the effect of a vitamin is conditioned by other components of the diets[4]. Avitaminosis is nothing but the condition caused by lack of a vitamin or vitamins. The deficiency symptoms of the vitamins are as stated in the following page.

i)	**Vitamin A**	:	Rough, dry skin , poor sight in dim light, sensitivity to bright light, even blindness.
ii)	**Vitamin B_{12}**	:	Anaemia of Women.
iii)	**Vitamin B_1 (Thiamine)**	:	Loss of appetite, constipation, moodiness.
iv)	**Vitamin B_2 (Riboflavin)**	:	Roughness of eyes, soreness of tounge, cracking of mouth corners, dryness of skin.
v)	**Folic acid**	:	Anaemias of the pregnant women and the children.
vi)	**Niacin**	:	Red and itchy skin, loss of appetite, diarrhoea.
vii)	**Vitamin C**	:	Easy bleeding, slow wound healing, loose teeth, spongy gums.
viii)	**Vitamin D**	:	Softness of bones.

The avitaminosis and other deficiency states had been reported in large number in the whole study region. The percentages of the peole suffering from avitaminosis and other deficiency states to the total population of the blocks varied from less than one per cent to more than ten per cent.

TABLE - 8.2

BLOCK-WISE INTENSITY OF AVITAMINOSIS

(In percentage to total population)

Sl. No.	Blocks	Intensity of Avitaminosis
High (Above 8.0)		
1.	Champua	10.99
2.	Anandpur	10.63
3.	Hemgiri	10.61
4.	Hatadihi	10.22
5.	Ghatgaon	9.65
6.	Harichandanpur	9.31
7.	Keonjhar	9.10
8.	Bargaon	9.04
9.	Bisra	8.88
10.	Rajgangpur	8.82
Moderately High (6.1 to 8.0)		
1.	Ghasipura	6.95
2.	Balisankar	6.68
3.	Lephripada	6.65
4.	Patna	6.09

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BLOCK-WISE INTENSITY OF AVITAMINOSIS

Sl.No.	Block	Intensity of Avitaminosis
Moderate (4.1 to 6.0)		
1.	Tangrapalli	5.95
2.	Kuanarmunda	5.63
3.	Sundargarh	5.44
4.	Jhumpura	5.18
5.	Lahunipada	5.08
6.	Telkoi	4.73
7.	Kutra	4.43
Moderately Low (2.1 to 4.0)		
1.	Nuagaon	4.00
2.	Subdega	3.60
3.	Saharpada	3.47
4.	Banspal	3.41
5.	Bonei	3.32
6.	Joda	2.50
7.	Lathikata	2.48
8.	Gurundia	2.20
Low (Below 2.1)		
1.	Koira	1.20
2.	Baripada	0.43
3.	Jamda	0.24
4.	Khunta	0.16
5.	Karanjia	0.10

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BLOCK-WISE INTENSITY OF AVITAMINOSIS

Sl.No.	Block	Intensity of Avitaminosis
6.	Raruan	0.08
7.	Udala	0.07
8.	Kuliana	0.006
9.	Bahalda	0.003
10.	Kaptipada	0.002
11.	Morada	0.002
12.	Bisoi	0.002

[**NOTE :** No Avitaminosis case had been registered in Saraskana, Barasahi, Kusumi, Jashipur, Suliapada Thakurmunda, Gopabandhunagar, Betnati, Rasgovindpur, Tiring, Bangriposi, Sukruli, Samakhunta, Rairangpur and Bijatola blocks]

(Source: Based on collected data from Directorate of Health, Orissa).

Table 8.2 reveals that ten blocks had been placed under High Category where the percentages of avitaminosis to total population were above 8.0. Champha had occupied the first position having 10.99 per cent. Anandpur had occupied the second position having 10.63 per cent while the Hemgiri had recorded 10.61 per cent.

Under Moderately High Category four blocks had been categorised. In Moderate Category seven blocks and in Moderately Low category eight blocks had been placed. Under Low category 12 blocks had been categorised where the intensity of avitaminosis had been below 2.1 per cent. In 15 blocks no case of avitaminosis and other deficiency states had been registered. The diet Survey of the region reveals that the poor people of this tribal region do not get vitamins in adequate proportion. In some cases the proportion of vitamins had been too low in comparision to the recommended allowances. During the diet Survey it had also been noticed that most of the children of the study region had been suffering from different avitaminosis and other deficiency states. This is mainly due to their poor economic status and unawarencess of food values and nutrients required in their day to day life.

Anaemia :-

Anaemia is another deficiency disease rampant in the study region. Iron deficiency anaemia is common in the study region along with the metabolistic anaemia. Anaemia is associated with a reduction in the quantity of the oxygen-carrying pigment haemoglobin in the blood. The main symptoms of the anaemia are excessive tiredness and fatigubility, breathlessness and poor resistance to infection.

During the diet survey, it had been noticed that anaemia was common in all blocks like dysentery and diarrhoea. This disease had been common particularly amongs the women and the children.

TABLE - 8.3

BLOCK-WISE INTENSITY OF ANAEMIA

(In percentage to total population)

Sl.No.	Block	Intensity of Anaemia
High (Above 10.0)		
1.	Baripada	20.45
2.	Raruan	15.77
3.	Karanjia	13.36
4.	Jamda	13.20
5.	Rasgovindpur	12.84
6.	Bisoi	12.80
7.	Bisra	11.72
8.	Rairangpur	11.42
9.	Kuliana	10.83
10.	Jashipur	10.79
11.	Sundargarh	10.33
12.	Saraskana	10.23
Moderately High (8.1 to 10.0)		
1.	Rajgangpur	9.44
2.	Anandpur	9.32
3.	Tiring	9.05
4.	Morada	8.40

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BLOCK-WISE INTENSITY OF ANAEMIA

Sl.No.	Block	Intensity of Anaemia
Moderate (6.1 to 8.0)		
1.	Bonei	7.87
2.	Bangriposi	7.59
3.	Suliapada	7.54
4.	Thakurmunda	7.24
5.	Udala	7.05
6.	Bahalda	6.43
7.	Betnati	6.34
8.	Barasahi	6.23
Moderately Low (4.1 to 6.0)		
1.	Sukruli	5.65
2.	Keonjhar	5.57
3.	Lathikata	5.11
4.	Gopabandhunagar	4.93
5.	Kusumi	4.71
6.	Khunta	4.69
7.	Tangrapalli	4.68
8.	Harichandanpur	4.53
9.	Nuagaon	4.29
Low (Below 4.1)		
1.	Hemgiri	3.65
2.	Bargaon	3.63
3.	Kuanarmunda	3.61

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BLOCK-WISE INTENSITY OF ANAEMIA

Sl.No.	Block	Intensity of Anaemia
4.	Balisankar	3.48
5.	Bijatola	3.27
6.	Ghasipura	2.89
7.	Kutra	2.84
8.	Subdega	2.76
9.	Hatadihi	2.68
10.	Telkoi	2.53
11.	Kaptipada	2.35
12.	Samakhunta	2.30
13.	Saharpada	2.26
14.	Joda	1.68
15.	Ghatgaon	1.63
16.	Banspal	1.55
17.	Lephripada	1.50
18.	Patna	1.18
19.	Koira	0.79
20.	Champua	0.74
21.	Jhumpura	0.60
22.	Gurundia	0.39
23.	Lahunipada	0.22

(Source : Based on Collected data from Directorate of Health, Orissa).

Table 8.3 reveals that the anaemia had been frequent in 12 blocks which had occupied the High Category. Baripada block had occupied the first position having 20.45 per cent to the total population of the block. Raruan followed the Baripada having 15.77 per cent and Karanjia having 13.36 per cent. In these 12 blocks more than 10 per cent of the people had suffered from anaemia. The Lahunipada block had occupied the lowest position in the study region having only 0.22 per cent people suffering from anaemia. Only in five blocks out of the total 56, less than one per cent people had suffered from the anaemia in the study region. The Health Department of the State Government should take urgent steps to check the anaemia and avitaminosis in this tribal region of the northern Orissa. Nutrition education must be imparted to the people of the study region along with the other measures, to check the rampant nutritional health disorders in this tribal region.

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