

# Health status of women in Hemgir block of Sundargarh, Odisha

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Date of receipt: 12.12.2022 Date of acceptance: 29.12.2022

#### **ABSTRACT**

Pregnancy is a crucial period that affects the health of both the mother and child. Nutritional inadequacy particularly vitamin A, calcium and iron restricts the optimal growth and development of fetus in addition to development of complications and sometimes mortality of mother and child. The survey was carried out in Chuabahal, Laikera, Maisana, Nangelkata, Kathapali and Dudka villages in Hemgir block of Sundargarh district through recording of deficiency symptoms. It was observed that the vitamin A deficiency was moderate in all the villages with values ranging from 19.68 to 32.80 per cent. However, the calcium deficiency symptoms were observed in the range of 35.24 to 72.33 percentage of pregnant women. The iron deficiency was more than 50% in almost all the surveyed villages with highest incidence in Laikera village (62.45%) and the lowest incidence in Kathapali village (45.65%). The incidences were related to the socio-economic conditions of the households and the decisions related to regarding the diet, hygiene, resting period, breast feeding and immunization were mostly done by the post-partum mothers. It indicates that there is high prevalence of iron and calcium deficiency among the pregnant women, which need to be addressed in addition to the vitamin A inadequacy and post-natal care and management of the mother and child.

Key words: Anemia, deficiency, hypocalcaemia, micronutrient, neonatal care, pregnancy

# INTRODUCTION

Women play a significant role in maintenance of family health for their involvement in day-to-day food and nutritional intake along with household hygiene. Their role in everyday affairs in family influence the health and hygienic status of the family members. When their health is affected, the whole family is affected in every way particularly the health of children. In addition to household work, the upbringing of children, demand of mensuration and associated hormonal changes make women vulnerable to health issues (Pathak et al., 2004). Therefore, women's health has attracted increasing attention in public health circles, as well as in clinical medicine. In India, there is prevalence of

a wide variation in cultures, religions, and levels of development particularly education and economic status. It results in a wide variation in women's health status even within families of a village or locality. The economics and education level plays a significant role in determining their nutritional intake and health status (Rao et al., 2010). In the tribal areas and rural population of Hemgir block in Sundargarh district of Odisha, the communities depend mostly upon the daily wages or migrant family member for their source of income. Their traditional beliefs and culture may also influence their health in addition to their economic status.

Vitamin A plays a major role in maintenance of epithelial integrity and vision. Calcium is a major

requirement for fetal development, bone formation and muscle function (Kumar and Kaur, 2017). Iron is a major requirement for hematopoiesis and overall homeostasis in the body. Pregnancy poses a critical challenge to these nutrients as they have to be suppled from the diet (Merialdi et al., 2005; Kumar and Kaur, 2017; Kocyłowski et al., 2018). In most parts of India pregnant women are mostly deficient in these nutrients which pose challenges for both the mother and child as reported by different studies (Saxena et al., 2000; Vinutha et al., 2000; Pathak et al., 2004; Toteja et al., 2006; Bharati et al., 2008). Therefore, the present study was undertaken to study the health status of women in the Hemgir block of Sundargarh district of Odisha.

# MATERIALS AND METHODS

The study was conducted in the Hemgir block of Sundargarh district, Odisha, India during the period 2008 to 2011. For the study, six villages (Chuabahal, Laikera, Maisana, Nangelkata, Kathapali and Dudka) were selected in random out of 153 villages of the Hemgir block, covering 437 householdsout of the total 20,953 households in Hemgir. Data were collected through observations, individual and informal interview, group interview, case study and genealogy both from the health seekers and the health providers. The status on living condition of the people were assessed through possession of dwelling, khapar roof, mud/ brick/ mixed wall, mud floor, separate kitchen, separate cattle/ animal shed, kerosene as major lighting, wood as fuel, tube well as main source of water, toilet facility, drainage facilities, etc.

The deficiency among the pregnant women was assessed through observing the deficiency symptoms of vitamins A, calcium and iron. The visible deficiency symptoms of vitamin A like lack of proper vision and phrynoderma on body surface of arm, leg, lower abdomen, rump and buttock region, elbow in form of hard pimple like projections and dry skin were recorded (Maronn et al., 2005). For observing calcium deficiency history and reports of muscle cramps, pain in thigh and arms when walking or moving, numbness, confusion and tingling in the hands, arms, feet, legs, lips and fingers were noted down. Iron

deficiency was observed through the symptoms of extreme fatigue and weakness, pale skin and mucous membranes, chest pain, increased heartbeat, shortness of breath, headache and dizziness etc. The data collected in the experiment were processed and analyzed as per the standard procedure (Snedecor and Cochran, 1980).

# RESULTS AND DISCUSSION

Hemgir block of Sundargarh district has a population of 80,247 distributed in 18,382 households with 38,420 males and 37,274 females which marginally improved to 84,559 out of which 42,670 are males while 41,889 are females belonging to 20,953 families (Census, 2001, 2011). The sex ratio stands at 932in the block compared to 957of the Sundargarh district in 2001, which improved to 982 and 973 during the sampling time in the block and district, respectively. The entire block is rural in its socio-economic characteristics and activities. Hemgir block has higher proportion of scheduled tribal population (46.08%), while Sundargarh district represents at 50.19% of scheduled tribal population in 2001. The ST population has increased to 45.3% according to 2011 census (Census, 2011). The literacy rate has been identified to be at 54.26% while it is 64.86% at the district level. It has improved to 73.34% for the district and 74.5% for Hemgir block according to the 2011 census data. Majority of the inhabitants are marginal workers. The most alarming fact is that it has 8649 BPL families amounting to 49% of its population in 2001.

The living condition of the people of Hemgir block has been presented in Table 1. The total sample household data representing Hemgir Block has indicated that 98.16% of people of this block had their own dwellings, 92.15% of houses have khapar roof and 78% houses are made up of brick mixed walls. However, around 80% of the houses have mud floor. Almost one third of the households have separate kitchen and 48.83% have separate cattle shed. As regards the fuel consumption, almost 87% depend on wood as fuel and about 76% use kerosene for lighting the house. This implies that the large mass is yet to avail the facility of electric power or cooking gas. Pertaining to the

drainage system hardly it matters to the villagers and as regards the toilet facilities at home 4.13% households have opined that even if they have latrine facilities they prefer to go outside village forest area for defecation. The challenges of socio-

economic status and availability of nutrients is also a factor in ensuring proper nutritional security for rural population and particularly for the pregnant women (Joodet al., 2002; Toteja et al., 2006; Mahanta et al., 2012; Tsegaye et al., 2020).

Table 1. Living condition of sample households in villages of Hemgir Block

			Villages of H	emgir Block			
	Chuabahal	Laikera	Maisana	Nangelkata	Kathapali	Dudka	Total
No. of households	97	64	92	72	54	58	437
HH owning dwelling (%)	96%	94%	98%	97%	100%	92%	96.16%
House with Khaparroof (%)	98%	86%	79%	98%	96%	96%	92.16%
House with mud/Brick mixed wall (%)	74%	78%	84%	82%	80%	73%	78.5%
Houses with mud floor (%)	86%	78%	96%	68%	88%	76%	82%
Houses with separate kitchen (%)	26%	32%	38%	34%	36%	28%	32.33%
Houses with separate cattle shed (%)	32%	36%	58%	45%	56%	66%	48.83%
HH using kerosene as major lighting (%)	66%	64%	72%	86%	78%	88%	75.66%
HH using wood as fuel (%)	88%	96%	92%	88%	80%	78%	87%
HH with tube well as main source of water (%)	80%	78%	99%	66%	48%	88%	63.16%
HH with toilet facility (%)	4.2%	8.6%	2.8%	00%	00%	12%	4.13%
HH with drainage facilities(%)	16%	18%	20.%	00%	2.8%	12.%	11.46%

It was observed that the post-natal advices to the women with regards to diet, hygiene, rest period, breast feeding and immunization were provided by traditional birth attendant, village worker and post-partum mothers. This seems even after recovery the traditional healer becomes a media for reintegration into the normal life into the community. On observation the expectant mothers have shown deficiency of iron, calcium and vitamin-A (Jayasekera et al., 1991; Haas et al., 2005; Sahoo and Panda, 2006; Bharati et al., 2008; Dong and Yin, 2018).

The status on nutrient deficiency of pregnant woman has been provided in Table 2. On an average, the vitamin A deficiency was observed in 24.71% of women in Hemgir block with the lowest incidence in Kathapali (19.68%) and the highest in Nangelkata (32.80%). As observed in the present study, vitamin A deficiency is relatively lesser common in pregnant women, but its incidence varies from area to area (Jood et al., 2022)

Table 2. Status of iron, calcium and vitamin A deficiency among the pregnant women of Hemgir Block

	Name of village	No of house holds	Deficiency of vitamin –A (%)	Calcium deficiency (%)	Iron deficiency (%)
1	Chuabahal	97	28.54	62.28	58.80
2	Laikera	64	21.33	54.98	62.45
3	Maisana	92	24.67	53.56	56.65
4	Nangelkata	72	32.80	72.33	52.33
5	Kathapali	54	19.68	39.56	45.65
6	Dudka	58	21.25	35.24	54.25
Total		437	24.71	52.99	55.02

The mean calcium deficiency in pregnant women was found to be 52.99% in Hemgir block with the lowest incidence in Dudka (35.24%) and the highest in Nangelkata (72.33%). The calcium deficiency was varied from village to village, indicating the role of socio-economic status and diet in determining the calcium deficiency. As reported by various workers vitamin D, the primary vitamin responsible for calcium homeostasis is deficient in varying degrees among the pregnant women (Sachan et al., 2005; Sharma et al., 2016). It may be upto 93.5% or more (Sharma et al., 2016).

As regards to iron deficiency in the pregnant women of Hemgir block, the average incidence was 55.02% with highest incidence in Laikera village (62.45%) and the lowest incidence in Kathapali village (45.65%). However, the incidences of iron deficiency were close to 50% as determined by the symptoms of iron deficiency observed externally. In real scenario, the situation might be worse than the reported values. Anemia has been a common observation among the pregnant women with signs of headache and difficulty in breathing (Bharati

et al., 2008). They have lot of taboos during pregnancy and after delivery for a few days as a result the required nutrition is lacking. The swollen leg, weakness and whitish sclera in the eyes are as common as anything for the lactating mother. The malaria fever is also very common in the surveyed area. A few even suffer from sickle cell anemia. Among the Agaria caste this has become alarming in some families. A common belief in the area that consuming brinjal leads to bigger head size of the fetus inside womb that creates problem at the time of delivery. Pathak et al. (2004) reported 73.6 % iron deficiency in pregnant women in Haryana. Milman et al. (2017) also reported nutritional challenges of pregnant women in developed countries of Europe.

In all communities, the child bearing mothers are treated with a deference and the community as well as the family and kin member take care of them. The expectant mother is treated as special persons because almost all believe that ancestral soul has taken shelter and initiate the life of the fetus. Each community has its typical worldview and has different belief pattern. However, by and

large the commonality of belief and dietary pattern are marked across the community living close to each other. On behalf of the village mothers the village ritual head communicate the supernatural entity to derive blessings. Similar to our finding, Mahanta et al. (2012) also observed the role of socioeconomic parameters in influencing the deficiency of micronutrients particularly iron, copper and zinc among pregnant women of Kamrup district of Assam.

Post-natal care is the most important period in the life of a person as it influences the child as it grows into a person. As observed during the study, most of the advice regarding the diet, hygiene, resting period, breast feeding and immunization were mostly done by the post-partum mothers than the health service workers and other related persons (Table 3).

**Table 3.** Post-natal care advised by different personsin Hemgir block of Sundargarh

Advice given	Traditional birth attendant	Village health workers / doctor	Post-partum mothers
Diet	21	21	67
Hygiene	2	3	-
Resting period	11	10	43
Breast feeding	9	5	32
Immunization	11	16	21

### **CONCLUSION**

The study indicates that serious problems of nutrient deficiency particularly vitamin A, iron and calcium co-exists among the pregnant women and need to be taken care of. Additionally, awareness should be conducted about the adequate intake of dietary nutrients and dispel the myths and superstitious beliefs.

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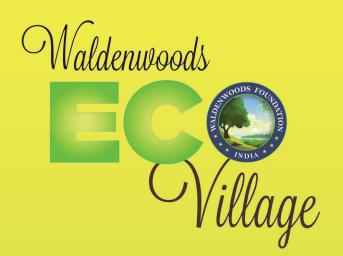
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