

# Nutritional Awareness among Lactating Indian Women

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## Abstract

The present study was conducted to determine the consciousness of lactating women (0-6 months) towards betterment of their health. Fifty lactating women participated in this study. A structured interview method was used to collect data on demographic profile, clinical profile and dietary pattern. The data on dietary intake was taken by 24 hour recall method. The demographic profile indicated predominance of lactating women to be in the age group of 22-32 years, belonging to nuclear family and house owned by her husband. The 24 hour recall showed a better consumption pattern of pulses and milk or milk products in the diet. Physical activity was also adopted by lactating women for the betterment of their health. Consciousness among lactating women for the betterment of their health was assessed through a questionnaire. On analysis, it was concluded that they were little conscious about their health. They were consuming diet rich in fat but low in carbohydrates and proteins.

**Keywords:** Body mass index; Women health; Nutrition

## Aims and Objectives

To assess the nutritional status, factors contributing for it and determine common practices followed by the lactating women (0-6 months) for the betterment of their health and nutritional status.

## Introduction

Breast milk is produced by mammary glands located in the breast tissue. These glands are present from birth, but become fully functional for milk production only during pregnancy. Several hormones regulate the development of the mammary glands as well as the initiation and maintenance of lactation. The most important of these hormones are prolactin and oxytocin, both of which are produced in the pituitary gland in the brain. Prolactin, together with other hormones (e. g., estrogens and progesterone), regulates the final development of the mammary glands during pregnancy. After birth, the woman hormonal environment changes, and in this setting prolactin can initiate milk secretion from the mammary glands. During

pregnancy, hormonal action prepares the female mammary glands to produce milk, which will continue to be produced in the postpartum period in response to the infant suckling at the breast [1].

Interventions aimed at increasing breastfeeding rates do not have to be expensive and complicated to be successful, and a successful program can have a substantial impact on the health of mother and their children [2]. Breastfeeding enhances mother and baby emotional attachment and contributes to optimal short and long term health outcomes for both. Statistically a baby who is not breastfeeding has more health care needs than its breastfed counterparts [3]. Energy or calorie needs during lactation are based upon the women's basal metabolic rate, age, activity, how much breast milk is being produced, and other factor. While calorie is needed for milk production, the mother does not need to eat substantially more than she did in her pre-pregnancy state to sustain milk production [4]. Nutrient is mobilized from maternal stores to produce breast milk and the lactating women are vulnerable to depletion of her nutrient stores. She should

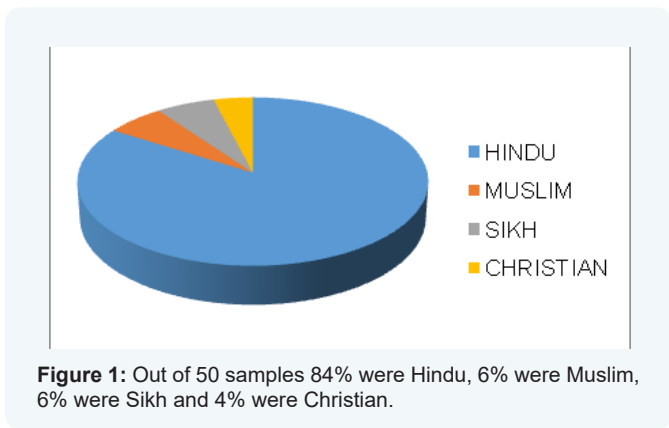
be encouraged to consume foods high in calcium, Vitamin A, B1 (thiamine), B2 (riboflavin), Vitamin B6, B12, folate and iodine to minimize losses and to maintain her health and wellbeing [5]. Obese mothers are more likely to have delayed lactogenesis and reduced lactation. Therefore, weight control and breastfeeding promotion should be reinforced before and during pregnancy. In overweight and obese mothers, breastfeeding should be closely monitored after birth [6].

**Material and Methods**

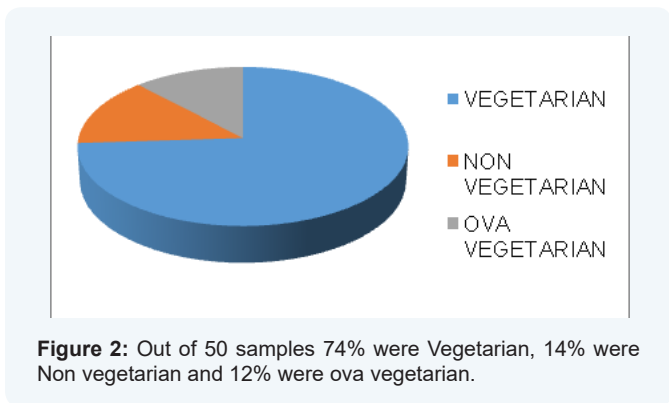
This study was conducted on 50 lactating women (0-6 months) randomly selected for assessing the common practices followed by lactating women for betterment of their health or nutritional status. The standardized pretested questionnaire consisting of closed-ended questions regarding frequency of intake of junk food, skipping meals, consumption of carbonated drinks, balanced diet and general awareness about health concern was developed and the data was recorded from selected subjects. Lactating women were examined for anthropometric measurement, biochemical parameters, clinical analysis and dietary pattern using 24 hours recall scale. The questionnaire covered demographic characteristics of the subjects. These are namely age, occupation and marital status, economic status, medications used, clinical assessment of eyes, hair, nails, teeth, skin were observed and recorded. Further, the number of symptoms experienced by each individual was compiled and percentage was calculated, involvement in drinking, smoking, restrictions in daily activities due to health problems, information regarding social life, habitual exercise etc. Anthropometric parameters included recording of weight and height. The information was further used for determination of body mass index (BMI). The haemoglobin level in the blood was measured by cyanmethemoglobin method. Clinical assessment is the oldest method and is widely used in all nutritional survey. In clinical investigation changes in the superficial tissues, especially the skin, eyes, gums, hair, nail and buccal mucosa were seen. Dietary survey was done by 24 hour recall technique in which respondent was asked to name approximate amounts the foods eaten during the previous day at each meal and between meals.

**Results**

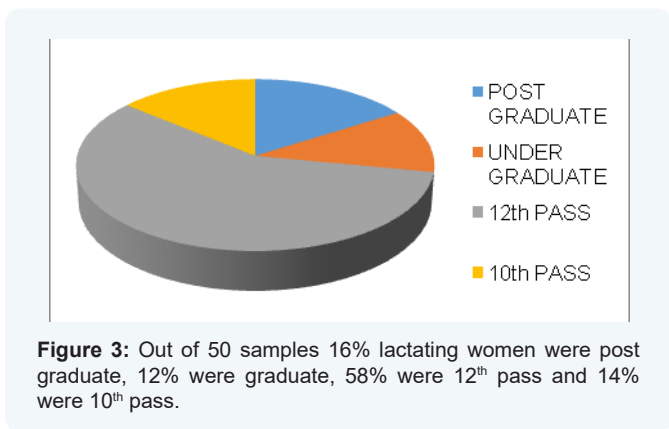
Present study was conducted to find out the consciousness among lactating women (0-6 months) for the betterment of their health (Figure 1-22). The average calorie intake of lactating women was 1986.8 kcal which was below the RDA i.e 2425 kcal because they were not consuming proper food. The intake of carbohydrates among the lactating women was little less the amount required whereas the protein intake of the lactating women was very less. The intake of fats was slightly high due to myth of increased requirement of same for speedy recovery in post-partum period (Table 1-23).



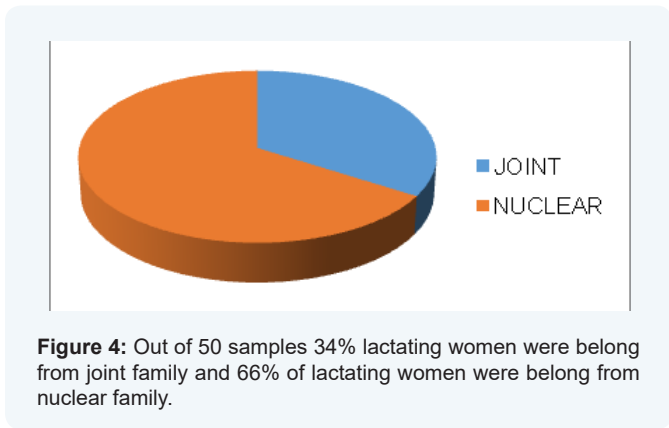
**Figure 1:** Out of 50 samples 84% were Hindu, 6% were Muslim, 6% were Sikh and 4% were Christian.



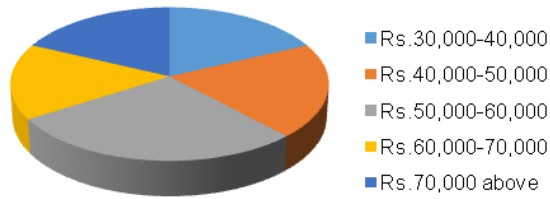
**Figure 2:** Out of 50 samples 74% were Vegetarian, 14% were Non vegetarian and 12% were ova vegetarian.



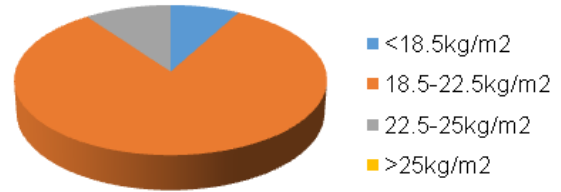
**Figure 3:** Out of 50 samples 16% lactating women were post graduate, 12% were graduate, 58% were 12<sup>th</sup> pass and 14% were 10<sup>th</sup> pass.



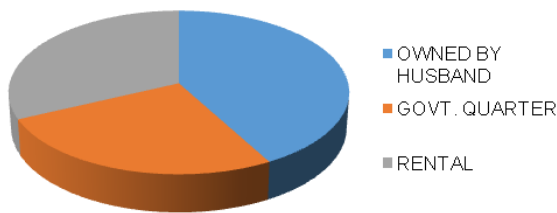
**Figure 4:** Out of 50 samples 34% lactating women were belong from joint family and 66% of lactating women were belong from nuclear family.



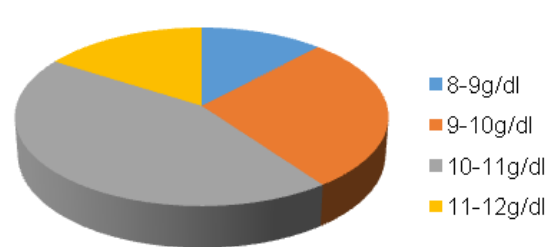
**Figure 5:** Out of 50 samples 18% were have Rs. 30,000-40,000 income per month, 20% were have Rs. 40,000-50,000 income per month, 28% were have Rs. 50,000-60,000 income per month, 16% were have Rs. 60,000-70,000 income per month and 18% were have above Rs. 70,000 income per month.



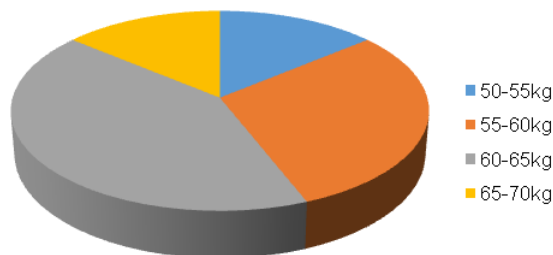
**Figure 9:** Out of 50 samples 12% of lactating women were underweight i.e. BMI <18.5kg/m<sup>2</sup>, 28% were had normal BMI i.e. 18.5kg/m<sup>2</sup>-22.5kg/m<sup>2</sup>, 44% were little overweight i.e. BMI between 22.5kg/m<sup>2</sup>-25kg/m<sup>2</sup> and 16% were obese i.e. BMI>23kg/m<sup>2</sup>.



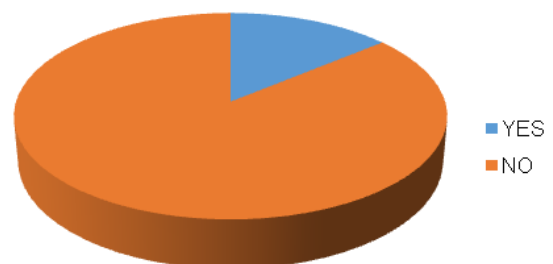
**Figure 6:** Out of 50 samples 42% lactating women were house owned by her husband, 26% were have government quarters and 32% were on rent.



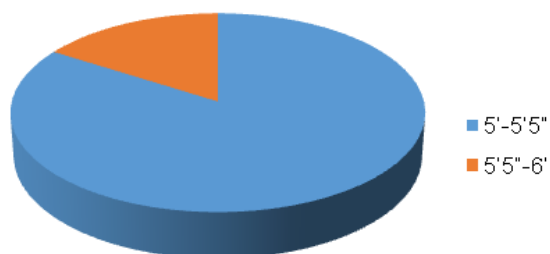
**Figure 10:** Out of 50 samples 12% had haemoglobin level of 8-9g/dl, 28% had 9-10g/dl level, 44% had 10-11g/dl level and 16% had 11-12g/dl level.



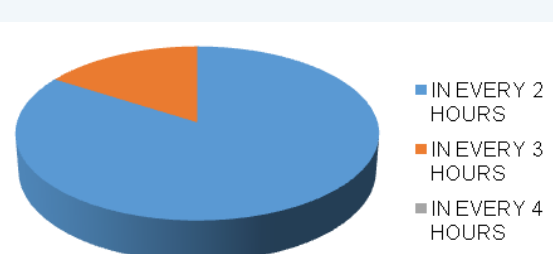
**Figure 7:** Out of 50 samples 14% lactating women were have 50-55kg of weight, 30% were have 55-60kg weight, 42% were have 60-65kg weight and 14% were have 65-70kg weight.



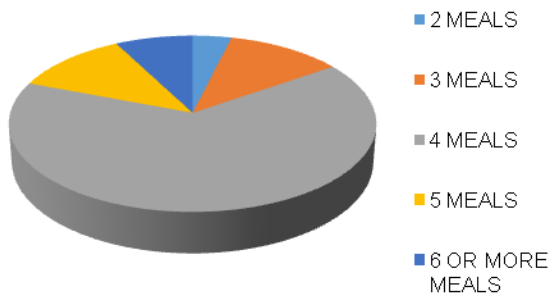
**Figure 11:** Out of 50 samples 14% were following special diet and 86% were not.



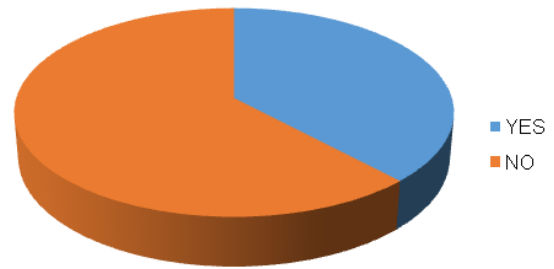
**Figure 8:** Out of 50 samples 84% lactating women were have height between 5'-5'5" and remaining 16% were have height between 5'5"-6'.



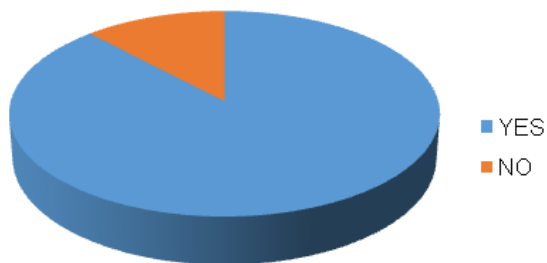
**Figure 12:** Out of 50 samples 84% were breastfeeding in every 2 hours, whereas 16% in every 3 hour.



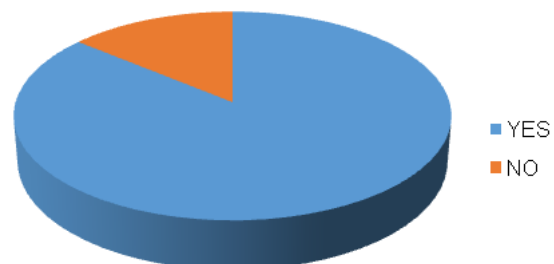
**Figure 13:** Out of 50 samples 4% were taking 2 meals, 12% were taking 3 meals, 68% were taking 4 meals, 12% were taking 5 meals and 8% were taking 6 or more meals in a day.



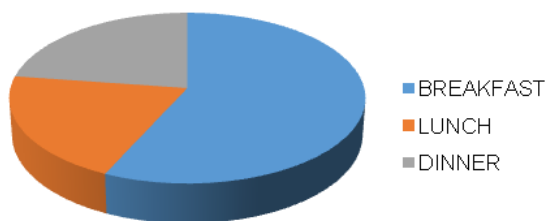
**Figure 17:** Out of 50 samples 38% lactating women consumed green leafy vegetable daily while 62% were not consuming green leafy vegetable daily.



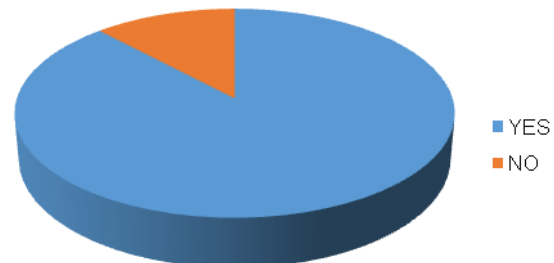
**Figure 14:** Out of 50 samples 88% lactating women were skipping meals and 12% were not.



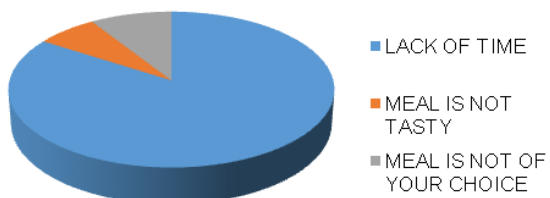
**Figure 18:** Out of 50 samples 86% of lactating women consumed fruits daily while 14% lactating women were not consuming fruit daily.



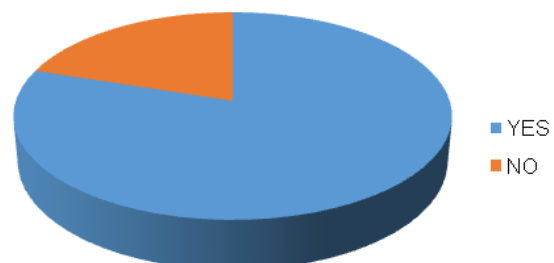
**Figure 15:** Out of 50 samples 50% women skipped breakfast, 18% were skipping lunch and 20% were skipping dinner.



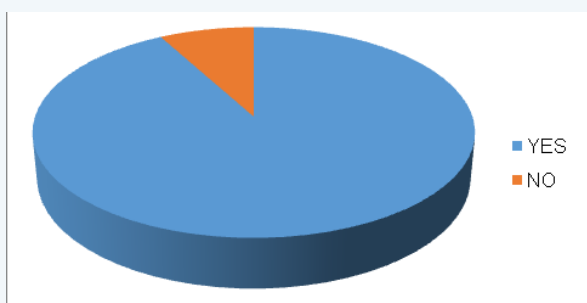
**Figure 19:** Out of 50 samples 88% lactating women consumed milk daily while 12% lactating women were not consuming.



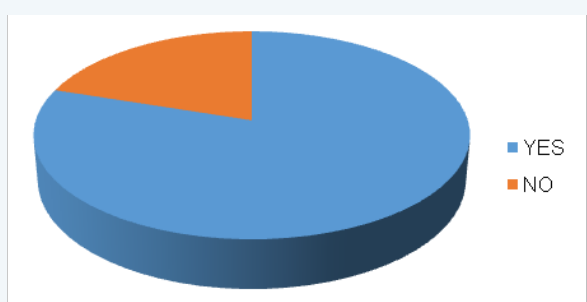
**Figure 16:** Out of 50 samples 74% skipped meals because of lack of time, 18% skipped meals because meal was not tasty and 8% skipped meals because meal was not of their choice.



**Figure 20:** Out of 50 samples 80% lactating women were aware regarding well-balanced diet whereas 20% were not.



**Figure 21:** Out of 50 samples 46 i.e. 92% lactating women were consume salad daily, while 4 i.e. 8% were not consume salad daily.



**Figure 22:** Out of 50 samples 40% of lactating women did extra physical activity for the betterment of their health and 10% didn't.

**Table 1:** Religion of lactating women.

Religion	Subject no.	Percentage
Hindu	42	84%
Muslin	3	6%
Sikh	3	6%
Christian	2	4%

**Table 2:** Eating habits of lactating women.

Eating habit	Subjects no.	Percentage
Vegetarian	37	74%
Non vegetarian	7	14%
Ova vegetarian	6	12%

**Table 3:** Educational status of lactating women.

Qualification	Subject	Percentage
Post graduate	8	16%
Graduate	6	12%
12 <sup>th</sup> Pass	29	58%
10 <sup>th</sup> Pass	7	14%

**Table 4:** Type of family of lactating women.

Type of family	Subjects no.	Percentage
Joint	17	34%
Nuclear	33	66%

**Table 5:** Total income per month.

Income	Subject no.	Percentage
Rs.30,000-40,000	9	18%
Rs.40,000-50,000	10	20%
Rs.50,000-60,000	14	28%
Rs.60,000-70,000	8	16%
Rs.70,000 above	9	18%

**Table 6:** Housing Condition of lactating women.

Housing condition	Subject no.	Percentage
Owned by husband	21	42%
Govt. quarter	13	26%
Rental	16	32%

**Table 7:** Weight of lactating women.

Weight	Subject no.	Percentage
50-55kg	7	14%
55-60kg	15	30%
60-65kg	21	42%
65-70kg	7	14%

**Table 8:** Height.

Height	Subject no.	Percentage
5'-5'5"	42	84%
5'5"-6'	8	16%

**Table 9:** Body mass index of lactating women.

BMI	Subject no.	Percentage
<18.5kg/m <sup>2</sup>	6	12%
18.5-22.5kg/m <sup>2</sup>	14	28%
22.5-25kg/m <sup>2</sup>	22	44%
>25kg/m <sup>2</sup>	8	16%

**Table 10:** Haemoglobin level of lactating women.

Hb level	Subject no.	Percentage
8-9g/dl	6	12%
9-10g/dl	14	28%
10-11g/dl	22	44%
11-12g/dl	8	16%

**Table 11:** Follow any special diet.

Category	Subject no.	Percentage
Yes	7	14%
No	43	86%

**Table 12:** Time duration of breastfeeding.

Time duration	Subject no.	Percentage
In every 2 hours	42	84%
In every 3 hours	8	16%
In every 4 hours	0	0

**Table 13:** Meals taken in a day.

No. Of meals	Subject no.	Percentage
2 Meals	2	4%
3 Meals	6	12%
4 Meals	34	68%
5 Meals	6	12%
6 or more Meals	4	8%

**Table 14:** Meals Skip by lactating women.

Meal Skip	Subject no.	Percentage
Yes	44	88%
No	6	12%

**Table 15:** Meal skipped by lactating women often.

Meal	Subject no.	Percentage
Breakfast	25	50%
Lunch	9	18%
Dinner	10	20%

**Table 16:** Reason for skipping meals.

Reason	Subject no.	Percentage
Lack of time	37	74%
Meal is not tasty	9	18%
Meal is not of your choice	4	8%

**Table 17:** Consumption of Green leafy vegetables.

Category	Subject no.	Percentage
Yes	19	38%
No	31	62%

**Table 18:** Consumption of fruits.

Category	Subject no.	Percentage
Yes	43	86%
No	7	14%

**Table 19:** Consumption of milk.

Category	Subject no.	Percentage
Yes	44	88%
No	6	12%

**Table 20:** Awareness of well-balanced diet among lactating women.

Awareness	Subject no.	Percentage
Yes	40	80%
No	10	20%

**Table 21:** Consumption of salad daily by lactating women.

Category	Subject no.	Percentage
Yes	46	92%
No	4	8%

**Table 22:** Extra Physical activity done by lactating women.

Category	Subject no.	Percentage
Yes	40	80%
No	10	20%

**Table 23:** Dietary recall of lactating women(0-6 months).

Nutrient	RDA	Intake
Energy(kcal)	2425 kcal	1986.8 kcal
Protein(g)	75 g	56g
Fat(g)	45 g	46.7g
Carbohydrate(g)	404.16g	347.3g

### Summary and Conclusion

It was concluded that majority of lactating women were married and belonged to Hindu religion. Most lactating women were 12<sup>th</sup> pass, belonged to nuclear family, with mixed income group, and in overweight category. Most of the lactating women were anaemic, were not following any special diet and skipping their meals. Majority were consuming milk, fruit in their daily life which helped in fulfilment of nutrient requirement during lactation. Most of the lactating women were conscious about their health so that they did many kind of physical activity

according to their ease. It was concluded that the nutrient intake of lactating women was not fulfilled according to recommended dietary allowance because they were not taking proper food. The intake of Calorie, protein and carbohydrate was low as per the required daily allowance.

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