



## Nutritional status of pregnant and lactating women of Rayagada district

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### Abstract

Nutritional status is the outcome of balanced food intake which supplies adequate nutrients for our body to maintain normal metabolic functions. The study was aimed to find out the nutritional status of tribal pregnant and lactating women residing in Rayagada district and relationship of different parameters (Type of family, literacy and income) with BMI. A cross sectional study was conducted in 4 tribal villages (Kultiguda, Pedaguda, M. Petesu and Sana Chandili) of Rayagada district. The study was undertaken involving 20 pregnant and 60 lactating women between the age of 20-35 years. A structured questionnaire was used for collecting data from the respondents. Out of 20 pregnant women, 70% were found having normal BMI (18.5-24.9) and 30% were found underweight (BMI <18.5), out of 60 lactating women, 57% were found normal having BMI (18.5-24.9), 32% were found underweight having BMI (<18.5), 8% were found overweight having BMI (25-29.9) and 3% were found Grade-I obese.

**Keywords:** pregnant, lactating, BMI, underweight, overweight, grade-I obese

### 1. Introduction

Nutritional status is the condition of an individual resulting from the nutrient content of the food that leads active, disease free and healthy life style. A good nutritional status of both pregnancy and lactation is very much essential because in both of these periods, a woman not only needs required nutrients for herself but also for the growing baby. Nutrition plays prime role in both pregnancy and lactation. A balanced diet with sufficient nutrients is very much essential during pregnancy and lactation to avoid the negative impact of various nutrient deficiencies on the health of the mother as well as on the fetus. In this context the study has been undertaken with the following objectives

### Objective

- To assess the nutritional status of pregnant and lactating women of tribal villages of Rayagada

### Materials and Methods

A cross sectional study was conducted in 4 tribal villages (Kultiguda, Pedaguda, M. Petesu and Sana chandili) of Rayagada district. Out of 4 villages, 3 villages (Kultiguda, Pedaguda and M. Petesu) come under Gadiseskhal panchayat, Kolnara block and 1 village (Sana chandili) comes under Chandili panchayat, Rayagada block of Rayagada district. Total 80 respondents (20 pregnant and 60 lactating women) were undertaken for conducting this study. The data was collected regarding the socio demographic profiles of the respondents by using a pre tested structured questionnaire. Anthropometric measurements i.e Weight and Height were taken by the help of Bathroom scale and Stature meter

Respectively. Mean, Standard deviation and Chi square test were used for analysis of the data.

### Results and Discussion

Out of 80 respondents, 36.25% were aged between 20-25 years, 40% were aged between 26-30 years, and 23.75% were aged between 31-35 years. Most of them were illiterate (53.75%) and 46.25% were literate. Most of the respondents (83.75%) were working as agricultural workers and 16.25% were working as nonagricultural workers. Out of 80 households, 46.25% were earning less than 5000 per month, 47.5% earning monthly income between 6000 to 10000 and only 6.25% having monthly income more than 10000. Out of 80 families, 55% were nuclear and 45% were joint families. (Table 1). Out of 20 pregnant women, 70% were found having normal BMI (18.5-24.9) and 30% were found underweight having BMI (<18.5). (Figure 1). Out of 60 lactating women, 57% were found normal having BMI (18.5-24.9), 32% were found underweight having BMI (<18.5), 8% were found overweight having BMI (25-29.9) and 3% were found Grade-I Obese having BMI (30-34.9). (Figure 2). Out of total 80 respondents, 60% were found having normal BMI, 31.25% were found underweight, 8% were found overweight having BMI (25-29.9) and 3% were found Grade-I Obese having BMI (30-34.9). Average height (in cm), weight (in kg) and BMI of pregnant women were 149.6±4.07, 49±5.11 and 21.88±1.94 respectively. Average height (in cm), weight (in kg) and BMI of lactating women were 147.46±4.84, 44.75±7.99 and 20.57±3.51 respectively. (Table 2).

**Table 1:** Socio-demographic profile of the respondent N=80

Particulars	Category	Frequency
Physiological status	Lactating women	60(75.0)
	Pregnant women	20(25.0)
	Total	80(100.0)
Age	20-25 yr	29(36.25)

	26-30 yr	32(40.0)
	30-35 yr	19(23.75)
	Total	80(100.0)
Education	Primary(1 <sup>st</sup> -5 <sup>th</sup> )	27(33.75)
	Higher Secondary(6 <sup>th</sup> -10 <sup>th</sup> )	10(12.5)
	Total literate	37(46.25)
	Illiterate	43(53.75)
Occupation	Total	80(100.0)
	Agricultural worker	67(83.75)
	Nonagricultural worker	13(16.25)
Economic status(Monthly income)	Total	80(100.0)
	1000-5000	37(46.25)
	6000-10,000	38(47.5)
	>10,000	5(6.25)
Type Of Family	Total	80(100.0)
	Nuclear	44(55.0)
	Joint	36(45.0)

Figures in the parenthesis indicates percentage value

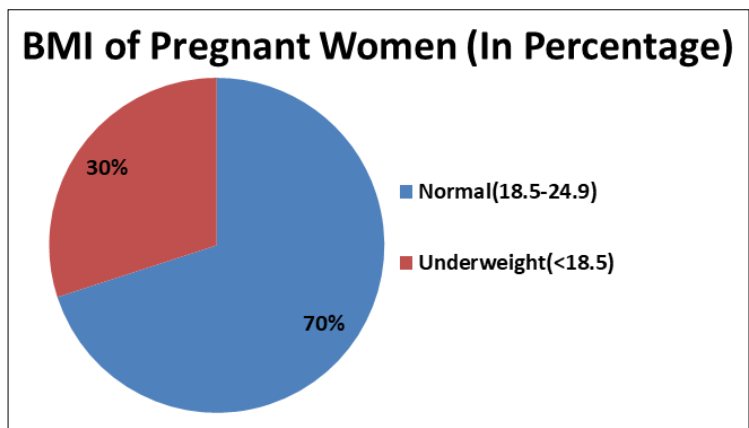


Fig 1: Nutritional Status of Pregnant Women (N=20)

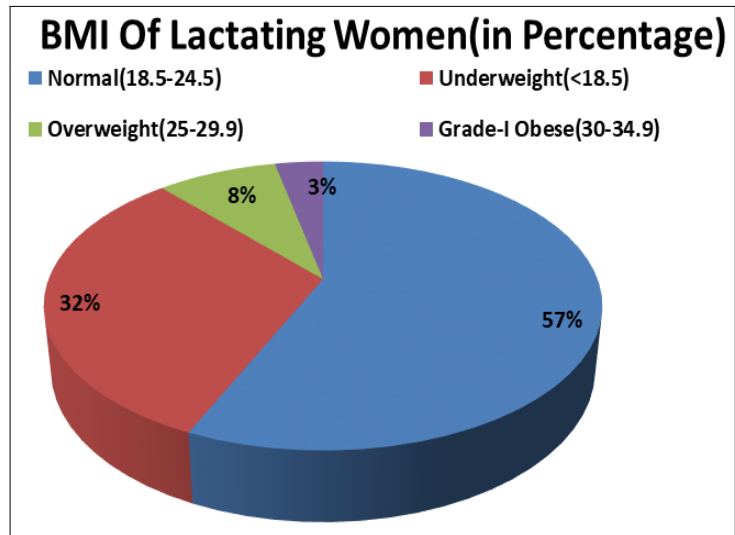


Fig 2: Nutritional Status of Lactating women (N=60)

Table 2: Average Nutritional Status of both pregnant and lactating women (N=80)

Variables	Pregnancy(N=20)	Lactation(N=60)
Height(in cm)	149.6±4.07	147.46±4.84
Weight(in kg)	49±5.11	44.75±7.99
BMI	21.88±1.94	20.57±3.51

Values: Mean±SD

Table.2 revealed the information about the average nutritional status of both pregnant and lactating women. Average height (in cm), weight (in kg) and BMI of pregnant women were 149.6±4.07, 49±5.11 and 21.88±1.94 respectively. Average height (in cm), weight (in kg) and BMI of lactating women were 147.46±4.84, 44.75±7.99 and 20.57±3.51 respectively.

**Table 3:** Association between Type of family, Literacy, income with BMI of Pregnant women N=20

BMI	Type of family		Total n=20	X <sup>2</sup> (p value)
	Nuclea family(n=16)	Joint family(n=4)		
<18.5	3(18.75)	3(75)	6(30.0)	9.33516E-06*
>18.5	13(81.25)	1(25)	14(70.0)	
Total	16(100.0)	4(100.0)	20(100.0)	
BMI	Literacy status		Total	X <sup>2</sup> (p value)
	Literate(n=13)	Illiterate(n=7)		
<18.5	2(15.38)	4(57.14)	6(30.0)	2.78932E-05*
>18.5	11(84.61)	3(42.85)	14(70.0)	
Total	13(100.0)	7(100.0)	20(100.0)	
BMI	Income/month		Total	X <sup>2</sup> (p value)
	<5000/month(n=6)	>5000/month(n=14)		
<18.5	4(83.33)	2(35.71)	6(30.0)	4.65302E-06*
>18.5	2(16.66)	12(64.28)	14(70.0)	
Total	6(100.0)	14(100.0)	20(100.0)	
$\chi^2=3.84, df=1*=$ Significant at $p<0.05$				

Table.3 revealed the information about the association between Type of family, literacy and income with BMI among pregnant women. It was found that p value (<0.05). So there was significant association between the parameters with BMI.

The respondents who were staying in nuclear family, literate and having income more than 5000/- per month were having more BMI as compared to those who were staying in joint families, illiterate and having income less than 5000 per month.

**Table 4:** Association between Type of family, Literacy, Income with BMI of Lactating women N=60

BMI	Type of family		Total n=60	X <sup>2</sup> (p value)
	Nuclear family(n=28)	Joint family(n=32)		
<18.5	4(14.28)	15(46.87)	19(31.66)	1.56449E-11 *
>18.5	24(85.71)	17(53.19)	41(68.33)	
Total	28(100.0)	32(100.0)	60(100.0)	
BMI	Literacy status		Total	X <sup>2</sup> (p value)
	Literate(n=24)	Illiterate(n=36)		
<18.5	4(16.66)	15(41.66)	19(31.66)	6.00947E-10*
>18.5	20(83.33)	21(58.33)	41(68.33)	
Total	24(100.0)	36(100.0)	60(100.0)	
BMI	Income/Month		Total	X <sup>2</sup> (p value)
	<5000/month(n=31)	>5000/month(n=29)		
<18.5	17(54.83)	2(6.89)	19(31.66)	3.47768E-15*
>18.5	14(45.16)	27(93.10)	41(68.33)	
Total	31(100.0)	29(100.0)	60(100.0)	
$\chi^2=3.84, df=1*=$ Significant at $p<0.05$				

It was observed from table-4 that the association between Type of family and literacy with BMI among lactating women. It was found that p value was (<0.05). So there was significant association between the parameters with BMI. The respondents who were staying in nuclear family and literate were having more BMI as compared to those who were staying in joint family and illiterate. The respondents who were staying in nuclear family, literate and having income more than 5000/- per month were having more BMI as compared to those who were staying in joint families, illiterate and having income less than 5000 per month.

**Conclusion**

From the study it was found that most of the respondents (60%) were having normal BMI. It was also found that there was significant association between different parameters (Type of family, Literacy and Income) with BMI. All parameters were found correlated with each other. Nutrition education and dietary counseling should be provided to every woman before, during and after pregnancy so that they will have proper knowledge about different nutrient rich foods, importance of each nutrient to our body and the impact of several nutrient deficiencies on our health.

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