

## Study of Sociodemographic & Nutritional Status of Tribal & Non Tribal Marginal Farm Women at Raigarh District of Chhattisgarh

<sup>a</sup> Manisha Choudhary, <sup>b</sup> Aruna Palta

<sup>a</sup> Research Scholar and Subject Matter Specialist, Krishi Vigyan Kendra, Raigarh, (C.G.), IGKV Raipur (C.G.)India

<sup>b</sup> Principal, Dr, Radha Bai Govt Naveen Girls College, Raipur, (C.G.), India.

**Corresponding Author :** Manisha Choudhary

### Abstract

The present study was carried out over 300 marginal farm women of Raigarh district of Chhattisgarh State in India. The district comprises of 9 blocks, out of which two tribal and two non tribal blocks were selected for the study. The marginal farm women aged 18-45 years were selected by purposive and random sampling methods. The data were collected with the help of close ended and open ended questionnaire. The study revealed that all Sociodemographic aspect and nutritional factors like weight, height & Body Mass Index (BMI). In this study 45.3% tribal and 28% non-tribal marginal farm women were illiterate while 36% tribal and 48% non-tribal marginal farm women had only primary level education. The farm women are at risk of under nutrition due to poverty, illiteracy and avidness behaviors. In the study, mean height of tribal & non tribal farmwomen were 150.80 cm & 150.04 cm respectively. There was no significant difference between heights in both groups. It was found that the weight and BMI of non-tribal farm women is significantly higher 46.33 kg, 20.64 respectively than tribal farm women 44.70 kg, 19.61 respectively. Thus it can be inferred that the both group had comparatively low weight recommended by Indian Council of Medical Research. (55 kg as average body weight and height 151cm.)The anthropometric parameters of tribal farm women were lower than non tribal farm women except mean height of group. The result revealed that the significant difference in BMI and weight in both groups. Non tribal farm women had better BMI & weight than tribal farm women.

**KEYWORDS:** Nutritional Status, Farm women, Tribal women, Non tribal women

### Introduction

The rural women constitute an overwhelming majority of women in developing countries. In Raigarh district half of the female population lives in rural areas (Census, 2011). The farm Women play multiple roles in a family, primarily as mothers & housekeepers. They also play equally important roles as agricultural producers, wage earners, nutrition providers etc. The Farm women are the backbone of agricultural work force, however worldwide their hard work has mostly been unpaid. They do the most tedious and back-breaking tasks in agriculture, animal husbandry and domestic chores. Agriculture is the largest industry in India and the women participate in almost all agricultural operations such as transplanting weeding, threshing, winnowing, harvesting, etc. The involvement of women in agriculture sector is not a new phenomenon and they have been recognized as the backbone of Indian agriculture since its beginning. Agriculture is always been India's most important economic sector. Overall 60% of

Indian population engages in agriculture as their main source of income. Agriculture in country like India needs lot of man power. If the total manpower is splits per gender, it gives amazing fact that, the women contribution is greater or equal to men. Nearly 63 percent of all economically active men are engaged in agriculture, as compared to 78 per cent of women. About 70 percent of farm work is performed by women. (E. Krishna Rao,2006). Raigarh is one of the most important potential district of Chhattisgarh in terms of area, production and productivity of different crops. The Tribal population is 35.38% of the total population. Tribal women are weak section of the society, especially women who have lagged behind in all agriculture field. They are an essential part of our civilization, yet they mark clear difference from the main stream population in terms of resisting change. Several research studies on tribal population of India revealed that prevalence of chronic energy deficiency was high among tribal population. The Women being in vulnerable section, the impact on their health are much higher. The health & nutritional status of tribal & non tribal farm women population clearly indicates that the goal of health for farm women cannot be fully achieved unless due attention is paid to the vulnerable section of the society i.e., women. Based on this background this study was conducted in the tribal & non tribal marginal farm women of Raigarh District of Chhattisgarh to assess the nutritional status of farm women.

### **Materials and Method**

This study was descriptive cross sectional study with a survey performed on nutritional profile of tribal and non tribal marginal farm women at Raigarh District of Chhattisgarh. The study was carried out to assess the nutritional status of tribal & non tribal marginal farm women of Raigarh district, 150 each from tribal & non tribal farm women. The district comprises of 9 blocks out of which two tribal and two non tribal blocks was selected for the study. Total 300 marginal farm women age group (18-45 years) available at home at the time of study and who were willing to participate were selected in the study. Pregnant & lactating farm women and women with chronic infectious diseases were excluded from study. All samples were divided into two group tribal and non tribal farm women working in farm or involved in agricultural activities. Data was collected with the help of close ended and open ended questionnaire. The data was analyzed statistically by applying different suitable tests to compare between the two groups and to find out the significant difference between groups. Sociodemographic aspect and Anthropometric measurements such as height & weight were measured and body mass index were calculated. According to the WHO classification of BMI, study population were categorized as underweight (<18.50), Normal (18.50-25), overweight (>25). Chi-square test was used to test the significance of results.

### **Result and discussion**

#### **SOCIODEMOGRAPHIC PROFILE:**

Social and economic aspect of nutrition is essential for successful functioning of food and nutrition policies and associated programs. This study was conducted on marginal farm women of tribal and non-tribal origin. The equal number of tribal and non-tribal marginal farm women was selected and the age range was in between 18 to 45 years. The distribution of subjects on the basis of age is shown in table 1. The distribution of

subjects according to age group shows that 56 out of 300 subjects were in the age group of 18-25 years with 20% tribal and 17.3% non-tribal marginal farm women respectively. The 96 subjects out of 300 were in the 25-35 years age group with 28% tribal and 36% non-tribal marginal farm women. The 148 subjects out of 300 were in the 35-45 years age group with 52% tribal and 46.7% non-tribal marginal farm women making this age group category. (Table 1)

**Table No. 1: Distribution According to Age Group**

Age Group	Marginal Farm Women		Total
	Tribal (N=150) Number (%)	Non-Tribal (N=150) Number (%)	
18-25 years	30 (20.0)	26(17.3)	56 (18.7)
25-35 years	42(28.0)	54 (36.0)	96 (32.0)
35-45 years	78(52.0)	70(46.7)	148 (49.3)
<b>Total</b>	<b>150 (100.0)</b>	<b>150 (100.0)</b>	<b>300(100.0)</b>

The demographic profile of tribal and non-tribal marginal farm women is presented in table 2. Family details: The 84% of tribal marginal farm women belonged to nuclear families as compared to 70.7% non-tribal farm women. The 16% tribal marginal farm women and 29.3% non-tribal marginal farm women belonged to joint families. The  $\chi^2$  (df=1) = 7.60 denotes that nuclear family pattern is of higher magnitude in tribal marginal farm women as compared to non-tribal marginal farm women. As far as family size is concerned 47%, 51% and 2.7% tribal farm women had 1-4, 5-8 and >8 members in their family while in a group of non-tribal marginal farm women 41.3%, 57.3% and 1.3% non-tribal marginal farm women had 1-4, 5-8 and >8 family members respectively.

Education: The educational status of tribal and non-tribal marginal farm women was found to be extremely poor. 45.3% tribal and 28% non-tribal marginal farm women were illiterate while 36% tribal and 48% non-tribal marginal farm women had only primary level education. 16% tribal and 21.3% non-tribal marginal farm women had education up to middle school while only 2.7% tribal as well as non-tribal marginal farm women had education up to high school.

**Table No. 2: Socio-economic profile of Farm Women**

Socio economic Variables	Tribal Farm Women (N=150) Number (%)	Non-Tribal Farm Women (N=150) Number (%)	
<b>Family</b>			
1. Nuclear	126 (84.0)	106(70.7)	$\chi^2$ (df=1) = 7.60, p<.01
2. Joint	24 (16.0)	44 (29.3)	

**Number of Family Members**

1. 1-4	70 (47.0)	62 (41.3)	$\chi^2$ (df=2) = 1.76, p>.05
2. 5-8	76 (51.0)	86 (57.3)	
3. >8	04 (2.7)	02 (1.4)	

**Educational Status**

1. Illiterate	68 (45.3)	42 (28.0)	$\chi^2$ (df=3) = 9.86, p<.01
2. Primary	54 (36.0)	72 (48.0)	
3. Middle	24 (16.0)	32 (21.3)	
4. High School	04 (2.7)	04 (2.7)	

**Housing Condition**

1. Kachha	138 (92.0)	118 (78.7)	$\chi^2$ (df=1) = 10.65, p<.01
2. Pukka	12 (8.0)	32 (21.3)	

**Land hold**

1. 0-1 acre	48 (32.0)	28 (18.7)	$\chi^2$ (df=2) = 7.55, p<.01
2. 1-2 acre	52 (34.7)	68 (45.3)	
3. 2-3 acre	50 (33.3)	54 (36.0)	

**Source of Income**

1. Agriculture	108 (72.0)	108 (72.0)	$\chi^2$ (df=2) = 8.84, p<.01
2. Both	42 (28.7)	42 (28.0)	

**Income**

1. More than 5000	40(26.7)	68(45.3)
2. Less than 5000	110(73.3)	82(54.7)

**Earning Members**

1. 1-2	122 (81.3)	98 (65.3)	$\chi^2$ (df=1) = 9.81, p<.01
2. >2	28 (18.7)	52 (34.7)	

Housing Condition: Majority of the surveyed tribal and non-tribal marginal farm women i.e. 92% and 78.7% respectively were living in Kachha house while only 8% tribal and 21.3% non-tribal marginal farm women had Pukka house. The calculated  $\chi^2$  (df=1) = 10.65 also reveal that housing arrangements of non-tribal marginal farm women were significantly better as compared to that of tribal marginal farm women.

Land hold: The 32% tribal and 18.7% non-tribal women possesses 0-1 acre of land, 34.7% and 45.3% tribal and non-tribal women possess 1-2 acre land while 33.3% and 36.0% have 2-3 acres of land. The calculated  $\chi^2$  (df=1) = 7.55 indicate that land holdings of non-tribal women were higher as compared to tribal women.

Source of Income: According to survey agriculture was the main source of income as reported by 72% tribal and similar percentage of non-tribal marginal farm women. 28%

tribal and non-tribal marginal farm women reported their source of income from agriculture as well as other sources.

Income: Table 2 showing that 73.3% tribal and 54.7% non-tribal marginal farm women had earning below INR 5000. It was also found that 26.7% tribal and 45.3% non-tribal marginal farm women had earnings of more than INR 5000.

Earning members: Surveyed results shown in table 2 indicate that 81.3% tribal and 65.3% non-tribal farm women had 1-2 earning members in their families while 18.7% and 34.7% had more than two earning members.

#### ANTROPOMETRIC MESERMENT

Perusal of entries reported in table 3 gives following inferences:

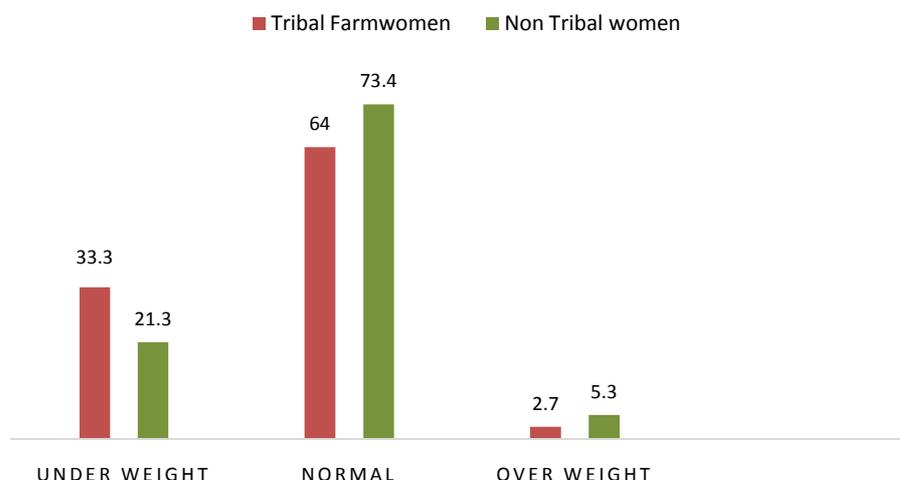
- 33% tribal marginal farm women were underweight while 21.3% non tribal marginal farm women were placed in underweight category.
- Percentage of non-tribal marginal farm women with normal BMI was higher (73.4%) as compared to tribal marginal farm women.
- 2.7% tribal marginal farm women were overweight while 5.3% non tribal marginal farm women were placed in overweight category.

Results indicate that non-tribal marginal farm women shown significantly better nutritional status as compared to tribal marginal farm women. The calculated  $\chi^2$  (df=2) = 6.44,  $p < .05$  also shows that nutritional status of farm women were significantly influenced by their tribal and non-tribal origin

**Table3. Comparison of BMI (Body Mass Index) of Tribal and Non Tribal Marginal Farm Women**

BMI Categories	Tribal Marginal Farm Women		Non-Tribal Marginal Farm Women		Total	
	No.	%	No.	%	No.	%
Underweight <18.5	50	33.3	32	21.3	82	27.3
Normal 18.5-25	96	64.0	110	73.4	206	68.7
Overweight 25-30	04	2.7	08	5.3	12	4.0
Total	150	100	150	100	300	100

$\chi^2$  (df=2) = 6.44,  $p < 0.05$



The frequency distribution of tribal and non-tribal marginal farm women between age of 18 to 30 years according to body mass index is shown in table 4.

- 26.5% tribal marginal farm women were underweight while 36.8% non-tribal marginal farm women were placed in underweight category.
- Percentage of tribal marginal farm women with normal BMI was higher (73.5%) as compared to non-tribal marginal farm women (57.9%).
- 5.3% non-tribal marginal farm women were overweight while none from tribal marginal farm women were placed in overweight category.

Results indicate that tribal marginal farm women shown better nutritional status as compared to non-tribal marginal farm women but this fact could not be verified statistically.

**Table 4-Comparison of BMI of Tribal and Non Tribal Marginal Farm Women according to age group 18 to 30 years**

BMI Categories	Tribal Marginal Farm Women		Non-Tribal Marginal Farm Women		Total	
	No.	%	No.	%	No.	%
Underweight <18.5	18	26.5	14	36.8	32	30.2
Normal 18.5-25	50	73.5	22	57.9	72	67.9
Overweight 25-30	00	00	02	5.3	02	1.9
<b>Total</b>	<b>68</b>	<b>100</b>	<b>38</b>	<b>100</b>	<b>106</b>	<b>100</b>

$\chi^2$  (df=2) = 5.32, p>0.05



Frequency distribution of tribal and non-tribal marginal farm women between age ranges of 30 to 45 years according to body mass index is shown in table 5.

39% tribal marginal farm women were underweight while 16.1% non tribal marginal farm women were placed in underweight category.

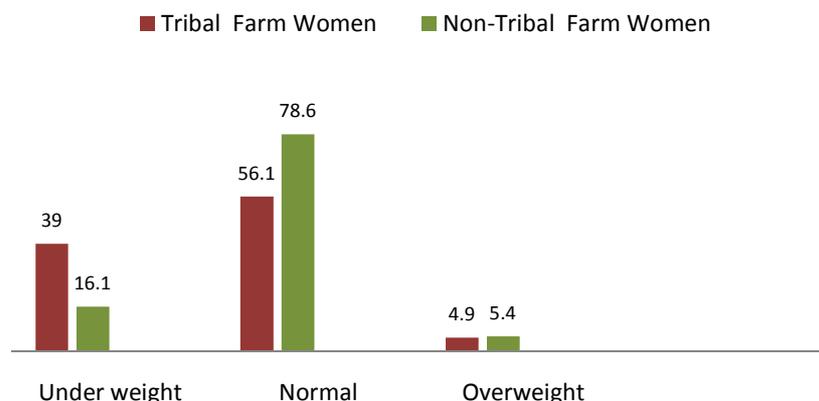
- Percentage of non-tribal marginal farm women with normal BMI was higher (78.6%) as compared to tribal marginal farm women (56.1%).
- 4.9% tribal marginal farm women were overweight while 5.4% non tribal marginal farm women were placed in overweight category.

Results indicate that non-tribal marginal farm women shown significantly better nutritional status as compared to tribal marginal farm women. The calculated  $\chi^2$  (df=2) = 13.16,  $p < .01$  also shows that nutritional status of farm women were significantly influenced by their tribal and non-tribal origin.

**Table 5- Comparison of BMI (Body Mass Index) of Tribal and Non Tribal Marginal Farm Women according to age group 30-45 years.**

BMI Categories	Tribal Marginal Farm Women		Non-Tribal Marginal Farm Women		Total	
	No.	%	No.	%	No.	%
Underweight <18.5	32	39.0	18	16.1	50	25.8
Normal 18.5-25	46	56.1	88	78.6	134	69.1
Overweight 25-30	04	4.9	06	5.4	10	5.2
<b>Total</b>	<b>82</b>	<b>100</b>	<b>112</b>	<b>100</b>	<b>194</b>	<b>100</b>

$\chi^2$  (df=2) = 13.16,  $p < 0.01$



## Summary

The finding in the present study is that the tribal marginal farm women is more belonged to nuclear families as compared to non-tribal farm women. The educational status of both group farm women was found to be extremely poor. 45.3% tribal and 28% non-tribal marginal farm women were illiterate. Non tribal farm women had comparatively better weight than tribal farm women but less than recommendation of ICMR which is 55 kg average body weight for Indian reference women. Non tribal women are comparatively better nutritional status than tribal women. Rao *et al.* (2010) also reported that tribal women were particularly vulnerable to under nutrition as compared to other women living in villages. From the above study it can be attributed that younger tribal farm women in age group of 18-30 years were having low BMI as compared to those in age group of 31-45 years. Similar finding was observed by Srivastava & Singh (2014).

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