

## **Nutritional Status of Baiga women of Chhattisgarh, India: an Anthropological Insight**

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### **Abstract**

The prevalence of undernutrition was assessed in Baiga women of Bilaspur, Kabirdham and Mungeli district of Chhattisgarh. The present study was conducted in three pre dominantly Baiga inhabited villages and the study revealed that the highest mean BMI was found to be 18.6 kg/m<sup>2</sup>. Only 26.36 % women were reported to be normal. 73.64% of women were categorized under underweight category and the health workers (ANMs) are playing a crucial role in providing antenatal checkups to pregnant women in the area under study with complete immunization. Institutional delivery was high but the consumption of calcium and folic tablets was observed to be low.

**Key Word:** Nutritional Status, BMI, Women, Maternal health, Baiga tribe, Anthropological.

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### **I. Introduction**

According to Article 342 of the Indian Constitution, the Scheduled Tribes are the tribes or tribal communities or part of or groups within these tribes and tribal communities which have been declared as such by the President through a public notification. Understanding the variation/distribution of nutritional status in terms of malnutrition/undernutrition (a deficiency of calories or of one or more essential nutrients) among vulnerable populations is very essential in developing countries like India. India accounts highest occurrence of childhood malnutrition in the world. Moreover, this is expected to be higher among lower socioeconomic sections of the country, specifically the tribal community. Three of the eight Millennium development goals (MDGs) emphasize on health focuses on reduction of child mortality, improved maternal health and combating some diseases. Development of a nation depends largely upon maternal health and ill health of the mother indirectly affects the health of the child. Several factors such as social, cultural, economic, availability of health facility, utilization and accessibility of health facility influence the health of the mother and child. Utilization of maternal health care services depends on the socio-economic characteristics of a population have been highlighted by several authors (Kavita & Audinarayana, 1997; Bloom, Wypij and Gupta, 2001; Navaneetham and Dharmalingam, 2002; Gymiah, Tykui and Addai, 2006 and Dey, 2009). Some of them have focused on the importance of availability and accessibility of services (Develay, Saverborn & Diesfeld, 1996; Becker, Peters, Gray and Gultiano, 1993).

The government of India has implemented several programmes and event in order to strengthen and enhance the quality of health and the earlier studies have shown that Infant and prenatal mortality rates were lower and birth weight was higher among women who received ANC services. Social scientists and researchers have been able to identify some factors which are responsible for the poor utilization of the health services viz. poor accessibility, lack of infrastructures, poor quality of health care and lack of faith in the delivery services are few of them. Nutrition status on the other hand has major effect on health which enables one to lead a socially and economically sound life. Individual's nutritional level depends on nutritional knowledge, literacy, availability, awareness and utilization of governmental schemes. Poor maternal nutrition status and high rate of anemia have resulted in low birth weight, stunting of growth, wasting and underweight of children. Child malnutrition reflected some of the processes such as access to food, access to health service and child caring practices and the underweight is likely to be associated with morbidity or other physiological and functional impairment (James et al 1988; Shetty and James, 1999).

Body mass index is also considered as an important nutritional index for detecting the underweight, over weight and obesity (WHO 1995). Poor health has repercussions not only for women but also for their families. Women in poor health are more likely to give birth to low infant.

Chhattisgarh is a tribal dominated state and Baiga tribe is one of the particular vulnerable tribe of Chhattisgarh. Baiga is one of the major tribal groups of Bilaspur, Kabirdham and Mungeli district and their economy is based on agriculture, labour, basketry and collection of minor forest produces. The aim of the present study is to understand their nutritional measurements and also to evaluate the nutritional status in relation to their socio demographic determinants.

### Health Status of tribes of Chhattisgarh

Lack of personal hygiene, poor sanitation, poor utilization of mother-child health services, absence of health education and lack of national preventive programmes, are responsible for the poor health of the tribals of Chhattisgarh. Problems like water contamination, and poor food in-take reflect on the health status of tribals of this state.. The tropical disease like malaria is still widespread in the tribal areas. Hence, better nutrition and good environmental health are the important aspects of village health services.

### Maternal and child health care practices

The Child bearing imposes additional health needs and problems on women-physically, psychologically and socially. Maternal health care services were reported to be low among various tribal groups. Maternal mortality were found to be high due to unhygienic and primitive practices for parturition from the inception of pregnancy to its termination, no specific nutritious diet is consumed by women and some pregnant tribal women reduced their food intake because of simple fear of recurrent vomiting and also to ensure that the baby may remain small and the delivery may be easier. Consumption of iron, calcium and vitamins during pregnancy is poor. More than 90 per cent of deliveries are conducted at home attended by elderly ladies of the household. No specific precautions are observed at the time of conducting deliveries which resulted in an increased susceptibility to various infections. Services of paramedical staff are secured only in difficult labour cases.

## II. Material and Methods

For the present study data was collected from 17 villages viz. (Kanhari, Ghanighuta, Karmanda, Raniguda, Motinpur, Parsahi, Umariya, Chunakhodra, Lufa, Kurdar, Behramuda, Chhapparwa, Ranjaki, Birarpani, Chhiratta, Lamani and Tilaidabra) of Kabirdham, Bilaspur and Mungeli district of Chhattisgarh. Only villages with more than twenty Baiga households were selected for the study. 258 families were thus selected randomly in order to collect data. Maternal nutritional status was determined by computing the body mass index. For measurement of height and weight standard techniques of Martin and Saller (1959) .Body mass index (BMI) was calculated for each subject to evaluate the nutritional status of Baiga women. Statistical analysis of data was used to examine their nutritional status.

## III. Result and Discussion

**Table no. 1: Distribution of mean height and weight according to age of women**

Mother Age	Height		Weight	
	X±S.E	σ±S.E	X±S.E	σ±S.E
≤18	150.02±2.14	6.77±1.51	41.20±1.75	5.53±1.24
19-24	150.54±0.60	5.61±0.42	39.59±0.48	4.56±0.34
25-29	148.99±0.51	4.56±0.36	40.51±0.52	4.66±0.37
30-34	151.12±0.92	6.35±0.65	41.65±0.68	4.74±0.48
35-39	153.85±0.95	4.76±0.67	42.88±1.18	5.91±0.84
≥40	151.13±1.64	4.63±1.16	44.72±3.77 1	10.67±2.66
Total	151.08±0.34	5.44±0.24	40.95±0.32	5.13±0.22

The distribution of mean height and weight according to age of women are presented in table no 1. The table shows that height and weight increases with the change of age except in women of 25-29 and ≥40 years of age. However, in case of height at the age of 19-24 years, the mean height of women is found to be 153.85±0.95 cm at the age of 35-39 year and mean weight is observed to be highest i.e.44.72±3.77 kg in ≥40 years as compared to other age groups of women. Whereas the mean height and mean weight among women were observed to be 151.08±0.34 cm and 40.95±0.32 kg respectively. The distribution of mean height and weight are shown in fig 1 and 2 respectively.

**Table no. 2: The distribution of women according to height and weight variation evaluated by BMI**

Age in years	No. of the women	<18.5 under weight		18.5-24.9 Normal weight	
		N	%	N	%
≤18	9	05	55.56	04	44.44
19-24	89	74	83.15	15	16.85
25-29	78	54	69.23	24	30.77
30-34	48	34	70.83	14	29.17
35-39	24	17	70.83	07	29.17
≥40	10	6	60	04	40
Total	258	190	73.64	68	26.36

WHO considered BMI as an important nutritional index for detecting cases of underweight over weight and obesity. Table 2 indicates the distribution of women as per WHO specification among the Baiga women of Mungeli, Bilaspur and Kabirdham district of Chhattisgarh. The proportion of underweight Baiga women is observed to be highest among 19-24 years age group (83.15%) and lowest among ≤18 years age group (55.56%). The proportion of underweight women decreases with increase in their age group. However the ideal weight is more prevalent among women of ≤18 year age group. Over all the proportion of underweight (73.64%) is found to be much more than ideal weight (26.36%) among the women of Chhattisgarh.

#### IV. Conclusion

It is evident from the above discussion that the Baiga tribal population is affected by various social, economic and developmental constraints that potentially expose them to high rates of malnutrition and health problems which are correlated with the lower percentage of higher education of the community. The tribal of India are heterogeneous. Although scheduled tribes are accorded special status under the fifth/sixth schedules of the Indian Constitution, their status on the whole, especially their health still remains unsatisfactory. Hence, the methods to tackle their health problems should not only be multi-fold, but also specific to the individual groups as feasible as possible.

#### Ethical approval

The research was ethically approved by the Pt. Ravishankar Shukla University, Raipur (Chhattisgarh), research ethics committee on 15/2/2019 with study IEC Ref. No.: 266/IEC/PRSU/2019.

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