



## International Journal of Home Science

ISSN: 2395-7476  
IJHS 2017; 3(3): 203-205  
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www.homesciencejournal.com  
Received: 09-07-2017  
Accepted: 10-08-2017

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### A study on nutritional status of scheduled tribe (Gujjar and Bakerwal) women of Kashmir

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#### Abstract

The present study was undertaken to access the nutritional status of gujjar and bakerwal women of Kashmir. The sample for the study comprised of 410 Scheduled Tribe women (Gujjar and bakerwal) in the reproductive age (18-45 years) from four districts of Kashmir i. e Anantnag, Baramulla, Gandarbal and Srinagar. Nutritional status of respondents was evaluated by taking Anthropometric measurements (i.e height and weight, BMI) and conducting dietary survey (24 hour food recall). The results of the study revealed poor nutritional status among them as majority of respondents were undernourished and had inadequate nutrient intake.

**Keywords:** scheduled tribe, anthropometric measurements, BMI, undernourished, nutrient intake

#### Introduction

Jammu and Kashmir is home to large number of tribal communities, who have settled down in almost every corner of the region. Presently state of Jammu and Kashmir region is inhabited by stupendous tribes and forms 11.9 percent of the total population (Census 2011) [2]. The tribal group's health status is lower compared to that of the general population. Malnutrition is a common health issue in tribal areas and has greatly affected the general physique of the population. Malnutrition lowers the ability to resist infection, leading to chronic illness and in the post weaning period leads to permanent brain impairment. Good nutrition is required throughout life and is particularly vital for women to continue to remain in good health and to do everyday household work. Nutritional anemia is a major problem for women in India and more so in the rural and tribal belt. Maternal malnutrition is predominantly a serious health problem among the tribal women especially for those who have closely spaced multiple pregnancies. Such health condition also reflects the complex socio-economic factors that have serious bearing on their health (Kshatriya, 2014) [5]. The tribal community due to their socio-economic status is prevalent to diseases of underdevelopment (malnutrition, communicable diseases, maternal and child health problems), diseases, particularly common in Scheduled Tribe population (Sickle cell disease, animal bites, accidents) and diseases of modernity (hypertension, high consumption of alcohol and tobacco, stress) (Ministry of Tribal Affairs, 2014) [7]. In general very less data is available on nutritional status of various tribal populations of Kashmir. The present study was undertaken with an objective to investigate nutritional status of scheduled tribe women which remains an important determinant of health.

#### Materials and methods

Giving due weight age to the inhabitation of Tribal population, the present study was carried out in four districts of Kashmir i. e Anantnag, Baramulla, Gandarbal and Srinagar. The total number of 410 Scheduled Tribe women (Gujjar and bakerwal) from above mentioned districts of Kashmir valley were covered, sample size was derived from target population (15, 1019 Scheduled Tribe Women in Kashmir) at 5% error level with confidence level of 95%. Interview schedule was used to collect data regarding demographic profile, anthropometric measurements i.e height and weight and 24 hour food recall for assessment of nutrient intake. Anthropometric particulars of respondents i.e. height and weight were further used to calculate BMI using formula:

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$$\text{BMI} = \frac{\text{Weight (kg)}}{\text{Height (m)}^2}$$

The data thus collected was tabled, analyzed and interpreted as per the needs of the study.

### Socio-Medical Characteristics

All the respondents were in reproductive age range of 18-45 years, 10.2 percent were between 18-25 years, 23.41 percent within 25-30 years and 66.34 percent were 30 and above years of age. About 52.6 percent of the respondents were literate, among which majority i.e. 77.7 percent were observed to study up to the primary level, (20.83%) above primary level, 1.3 percent with of education above higher secondary level and 47.3 percent were illiterate. In terms of family income about 36.3 percent of respondents have income up to rupees 10000 per month, 38.7 percent belonged to income group of 10000-15000 per month, 23.3 percent belonged to income group of 15000-20000 and Only 1.2 percent of respondents were having income level above 20000 per month.

**Table 1:** Distribution of respondents as per socio-medical characteristics

Variables	Number	Percentage
Mean Age	32.01±5.80	
Age in years		
18-25	42	10.2
25-30	96	23.41
30 and above	272	66.34
Educational Status of women		
Literate	216	52.6
Up to primary level	168	77.7
Above primary level	45	20.83
Above higher secondary level	3	1.3
Illiterate	194	47.3
Occupation among women		
Housewife	383	93.4
Working	27	6.5
Total income of family(rupees/month)		
Up to 10000	149	36.3
10000-15000	159	38.7
15000-20000	97	23.6
>20000	5	1.2

### Nutritional Status of Scheduled Tribe Women

#### Anthropometry

Majority of respondents (90.7%) are underweight among which 30.3 percent were having severe thinness, 33.3 percent have moderate thinness, 36.2 percent have mild thinness and only 8.8 percent of respondents were found to be normal. Though overall malnutrition in adult females over the years has come down from 36 percent to 33 percent (NFHS 2 and NFHS 3) yet separate tribal nutritional data shows high prevalence of malnutrition among scheduled tribe women as was reported by Bose and Chakraborty (2005)<sup>[1]</sup> who showed high prevalence of under nutrition among the Bathudis, a tribal population of Keonjhar District, Orissa. High prevalence of undernourishment found among majority of respondents in present study may be due to unsatisfactory nutritional intake as discussed here under.

**Table 2:** Distribution of respondents as per BMI (Body mass Index)

Nutritional status [Body Mass Index (BMI) value]	Number	Percentage
Underweight (<18.50)	372	90.7
Severe thinness (<16.00)	113	30.3
Moderate thinness (16.00-16.99)	125	33.6
Mild thinness (17.00-18.49)	134	36.02
Normal (18.50-24.99)	36	8.7
Overweight (>25)	2	0.48

Body mass index classification (WHO 2004)

### Nutrient Intake

As far as nutrient intake is concerned, 1421±263.56 Kcal was found to be mean calorie intake, 40.18± 7.29gms as mean protein intake, 7.9± 2.30mgs as mean iron intake and 277±152.99 mgs as mean calcium intake among respondents. This shows that there is gross deficit in the nutrient intake among scheduled tribe women of Kashmir varying for macro-nutrient intake from 1/4th (26.94 %) protein deficit to 1/3rd (36.26%) caloric deficit and for micro- nutrient intake deficit from about one half (53.8 %) in calcium to 2/3rd (62.31%) in iron intake. Low nutrient intake among adult Gujjar women of Kashmir (Wani and Jan 2016)<sup>[11]</sup> has been reported. However studies from other states also reported that tribal community is deficient in adequate food intake (Maiti *et al* 2005)<sup>[6]</sup> and have low nutrient intake (Nagamani, 2014)<sup>[8]</sup>. Insufficient nutrient intake may be of multi factorial origin especially due to inadequate qualitative and quantitative food consumption as is evident with poor and low food intake from dietary assessment, low purchasing power which is primarily due to lower levels of income discussed earlier.

**Table 3:** 24 Hour nutrient intake by food recall method with percentage deficiency

Nutrient intake	Mean Intake	(Percentage deficiency)
Mean calories(kcal)	1421±263.56	36.26
Mean proteins(gms)	40.18±7.29	26.94
Mean iron(mg)	7.9±2.30	62.31
Mean calcium (mg)	277±152.99	53.8

RDA Calories-2230 kcal, Proteins-55 gms, Iron-21 mg and Calcium-600 mg (ICMR, 2010). (Percentage deficiency means deficiency as against RDA expressed as percentages)

### Conclusion

The present study revealed poor nutritional status of Scheduled Tribe women as majority of respondents were undernourished and had inadequate nutrient intake showing high percentage deficit in calories, proteins, iron and calcium intake.

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