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## Nutritional status assessment of Ghosi Gujjar women of Ajmer district with special reference to anemia

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### Abstract

In the present scenario women are considered as the most vulnerable and marginalized, section of the society. Though the condition of women in the urban scenario is much empowered but still the rural women is not yet uplifted the causes can be multifarious. Nutrition is one of the most important aspect of life. It not only helps individual to live a sound and healthy life but also guide us to cater different nutritional problems. Women are always on marginal lines when talked about nutrition. A study was conducted with the objective to assist the nutritional status of ghosi gujjar non pregnant and non-lactating women (18-45 years). The study was conducted in two villages namely Somalpur and Rasoolpura of Ajmer district Rajasthan. Sixty-Sixty women were selected for nutritional assessment from both the villages. Nutritional status was assessed by the help of self-structured interview schedule. Dietary intake of the respondents was collected using 24 hour recall method. Hemoglobin was also assessed to check the prevalence of anemia. The mean hemoglobin level of the respondents was  $10.84 \pm 1.94$  gm/dl. Distribution of respondents based on the categories of anemia clearly depicts that 4.16% had normal hemoglobin level, 82.5% were having mild anemia 9.16% were having moderate anemia while 4.16% were having severe anemia the condition was not worse because of the food consumption pattern of the respondents who mainly consumes non vegetarian foods. Findings revealed that 26.66 per cent respondents were in normal range but 48.33 per cent respondents were overweight and 20 per cent were underweight followed by 5 per cent obese. Majority of the respondents were non vegetarians i.e. 100 per cent as they were practicing Islam. Further 'Z' values were calculated between the nutrient intake and RDA which revealed that the value of iron and beta carotene ( $p < 0.05$ ) was comparatively lower than RDA, whereas no significance difference was found in protein, fat, calcium, zinc, and ascorbic acid.

**Keywords:** Nutrient status Recommended Dietary Allowances, anemia

### 1. Introduction

About half of the world's total population of indigenous people often referred as tribal are living in India. (Rao 2006) [6] Indian tribal people play a key part in constructing the cultural heritage of India. They occupy a major part in the history of India as they are considered as the true habitants of India. The tribal people are scattered in different parts of India and they constitutes about 8% of the population of India (Rao *et al* 2007) [7]. More than half of the Indian tribal population is concentrated in the states of Madhya Pradesh, Chhattisgarh, Maharashtra, Orissa, Jharkhand and Gujarat, whereas in Haryana, Punjab, Delhi, North India also encompasses many tribes. Tribes of Jammu and Kashmir have strictly descended from the Indo-Aryan group of people, among them is one such community: The "Gujjar" community which is included in the OBC category in Rajasthan but is counted as a tribal community in Jammu Kashmir and Himalayan region. "Gujjar" or Gurjar is a pastoral agriculture ethnic group population in India and Pakistan. Muslim Gujjars are also known as "Ghosi" The meaning of Ghosi (Sanskrit *ghosa* root *ghush*) is "to shout" as he herds his cattle. They are associated with the occupation of cattle rearing and the selling of milk. British historian William Crooke also remarked that the Ghosi of Rajasthan claim to have originally been Gujjars. They keep large herds of cows and buffaloes and sell the milk. Nutritional status of the population largely depends on the consumption of food in relation to their needs, which in turn is influenced by the availability of food and purchasing power. The socio economic conditions like agriculture pattern and occupation profiles are different among different tribes and are determined by the ecosystem they live in (Rao *et al*.1996) [5] Condition of Gujjar

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Women is considered as the marginalized section in their society. Gujjar women have to do all the chores of household i.e. from cooking to selling milk and rearing children as well as helping their husbands in farming (Javaid 2011) [2]. Besides collecting fuel, fodder and water and cooking food, they work in the fields alongside their men and also help in taking care of the animals. There literacy level is also low. Shabnum, (2005) [9] found that 97% of the gujjar women of Jammu and Kashmir were illiterate and there was no significant improvement in their daughter's knowledge. Thus the above studies so far conducted on Gujjar community indicates that the problems faced by Gujjar women are multifarious, the most crucial one includes overburden of the work, gender discrimination, loopholes in education and high risk of malnutrition and diseases. The present study was an attempt to improve the condition of ghosi gujjar women. The specific objectives of the study was to assess nutritional status of ghosi gujjar women with respect to anemia.

## 2. Methodology

One twenty non pregnant and non-lactating ghosi gujjar women (i.e. sixty-sixty from both the villages) ranging between 18-45 years were selected for the present study. The

study was conducted in Somulpur and Rasoolpura of Ajmer district as these serve as major residence of ghosi gujjar inhabitants. As per the objectives, the data was collected using anthropometric measurement techniques for height and weight and for calculating the body mass index which was expressed as ratio of weight (kg) to height in meter square. Further, the individuals were classified into different classes based on WHO, (2006) [10].

Food intake was also calculated using 24 hour recall method. Type of food consumed were assessed and quantity of raw foods was reported in grams. Per cent adequacy of food intake was assessed by RDI for moderate women recommended by NIN-2010 used for analyzing the per cent adequacy of food intake.

Nutrient intake was calculated using food composition tables (Gopalan *et al.* 1989) [1]. Mean nutrient intake for one day was compared with recommended dietary allowances (ICMR-2010) [3].

Frequency and per cent age were used to analyze general background information Biochemical analysis for hemoglobin estimation was also conducted and hemoglobin was assessed in gm/dl along with findings of clinical signs and symptoms related with anemia.

**Table 1:** Nutrient intake of women respondents (N=120)

S. No.	Nutrient	RDA#	Per day nutrient intake	Z value
1	Energy (kcal/d)	2230	1990.95±470.56 (0.82)	0.50 <sup>NS</sup>
2	Protein (g/d)	55	58.41±20.55(1.87)	0.16 <sup>NS</sup>
3	Carbohydrate (g/d)	334.5	288.67±102.43(9.35)	0.44 <sup>NS</sup>
4	Fat (visible + invisible g/d)	30	38.61±21.88(1.99)	0.62 <sup>NS</sup>
5	Calcium (mg/d)	600	659.11±124.37(11.35)	-0.47 <sup>NS</sup>
6	Iron (mg/d)	21	10.70±9.91(0.90)	1.03*
7	Zinc (mg/d)	12	9.21±24.96(2.27)	0.11 <sup>NS</sup>
8.	Beta carotene µg/d	4800	2626.17±2191.34(200.04)	0.99*
9	Ascorbic acid (mg/d)	40	31.25±15.21(1.38)	0.57 <sup>NS</sup>

Values are in Mean ± SD (SE)

\*\*significant at 0.01% level of significance, NS= Non significant

#RDI Recommended Dietary intake ICMR (2010)

**Table 2:** Prevalence of anemia among respondents (N=120)

Range of anemia	Frequency	Percentage
Normal >12g/dl	5	4.16
Mild anemia 10-11.9g/dl	99	82.5
Moderate anemia 7.0-9.9g/dl	11	9.16
Severe anemia <7.0g/dl	5	4.16

Source: WHO, 2000

**Table 3:** Deficiency signs and symptoms related to anemia (N=120)

Clinical signs	Frequency	Percentage
Pale conjunctiva	20	16.66
Weakness	20	16.66
Dizziness and fatigue	80	66.66

## 3. Results

All respondents selected were none lactating and non-pregnant women lying in the age group of 18-45 years. Majority (73.33%) were married and rest (25.83%) were unmarried and widow (0.83%) respectively. Majority (50%) of the respondents were house maids, 25 percent were daily laborers at construction sites and rest (33.33%) were house wives. The mean of anthropometric indices viz height, weight, BMI, of the subjects was 159 cm and 58.13 kg, 22.97 kg /m<sup>2</sup> respectively. All of the respondents were non vegetarians i.e. 100% as they were practicing Islam. The diet of women in comparison to the balanced diet was substantially inadequate

in green leafy vegetables (29%), root and tubers (30%), pulses (36.6%)and marginally inadequate in cereals (67.57%), fruits(53%) and other vegetable.(56%) and adequate in meat and meat products(96%)milk and milk products(84.6%), fats & oils(88%)and sugar (146%), 'Z' value calculated between the nutrient intake and RDA revealed that the value of iron and beta carotene (p<0.05) was comparatively lower than RDA, whereas no significance difference was found in protein, fat, calcium, zinc, and ascorbic acid. Anemia is a very common nutrition related deficiency disease which can cause severe after effects if not taken care of WHO defines anemia as a condition in which the Hemoglobin (Hb) content of blood is lower than normal. The main causes of anemia are nutrition and infections. Among the nutrition factors contributing to anemia, the most common one is iron deficiency. The mean hemoglobin level of the respondents was 10.84±1.94gm/dl. Distribution of respondents based on the categories of anemia clearly depicts that 4.16% had normal hemoglobin level, 82.5% were having mild anemia 9.16% were having moderate anemia while 4.16% were having severe anemia the condition was not worse because of the food consumption pattern of the respondents who mainly consumes non vegetarian foods. Anemia is a very common nutrition related deficiency disease which can cause severe after effects if not taken care of WHO defines anemia as a condition in which the Hemoglobin (Hb) content of blood is lower than normal. The main causes of anemia are nutrition and infections. Among the nutrition

factors contributing to anemia, the most common one is iron deficiency. Data reveals the findings of clinical signs and symptoms of anemia.

#### Clinical Assessment

1. **Paleness of conjunctiva:** Eye is the most common indicator of anemia the paleness of conjunctiva can be easily judged if there is lack of nutrition in the diet of an individual. Twenty percent respondents were suffering from pale conjunctiva
2. **Weakness:** Weakness create lack of interest in work and daily activities. There are many cause of weakness like lack of adequate diet unhealthy lifestyle etc. Persistent weakness can be dangerous and is the first of anemia. Twenty percent of women respondents reported that they generally feel weak without any hectic schedule
3. **Dizziness and Fatigue:** Fatigue makes a person weak and which ultimately results in lack of interest in work and low work efficiency causes of fatigue are many it can be due to fasting inadequate diet low inclusion of nutritive foods etc. Regular dizziness or fatigue can results in anemia (66.66%) women suffered from dizziness and fatigue regularly

#### 4. Discussion

Anemia is the most prevalent nutritional deficiency disorder in the world. It affects all age groups but the most vulnerable are, pregnant women, and non-pregnant women of childbearing age. National Family Health Survey statistics reveal that every second Indian woman is anemic and one in every five maternal deaths is directly due to anemia. The study clearly reveals the prevalence of anemia among non-pregnant and non-lactating women respondents. Women are the most vulnerable sections of the society, often they are nutritionally neglected and this causes nutritional deficiencies, mortality and death during deliveries and mother child death. These are some problems but the condition is multifarious which decrease the ratio of females. Similarly Raghuram *et al* (2012) [8] on their study on Prevalence of anemia amongst women in the reproductive age group in a rural area in the Dakshina Kannada district of Karnataka showed an overall prevalence of anemia to be 34 percent. Prevalence was found to be more in the age group of 41-45 years, among women with parity index more than four and among women with birth interval less than two years between two births. The results of the present investigation reveal that the nutritional status of the respondents was very low due to lack of awareness about nutrition and good eating habits. There was an imbalance in the diet with more emphases on certain food stuff and negligence of other food stuffs mainly green leafy vegetables, other vegetables, roots and tubers and fruits which was certainly the cause of malnutrition and prevalence of anemia in them.

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