

## **A STUDY OF FOOD HABITS AND DIETARY INTAKE OF THE HILL KORWA TRIBE OF SARGUJA DISTRICT, CHHATTISGARH**

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### **ABSTRACT**

Hill Korwa tribe is one of the Particularly Vulnerable Tribal Groups (PVTGs) of Chhattisgarh. The objective of the present study is to assess the food habits, alcohol consumption, tobacco use, food consumption pattern and dietary intake of Hill Korwas. A total of 307 families from Lundra, Batauli, and Sitapur blocks of Sarguja district were selected randomly for the sampling purpose and their head of households were interviewed for the data collection. Dietary intake assessment was done with the help of 24 hours recall methods. The collected data were further compared with balanced diets recommend by ICMR. Typically this Hill Korwa community has two distinct activities, agricultural activities and non-agriculture activities such as hunting, fishing, gathering, and handicrafts. Both these activities are the main hub of the Hill Korwa economy. In this paper it has been observed that majority (99.3%) of studied Hill Korwas are non-vegetarian. 94.14% households of Hill Korwas were not able to get more than two meals in a day. 99.3% of them consume alcohol on daily basis. Hill Korwas main vegetarian diet includes rice, Kutki, Kodo, Maize, Tangun, Manjhary, Ragi, Bede, pulses etc. Likewise, they also eat different types of tubers namely Pithoura Kand, Got Kand, Kunkuni Kand etc. collected from the forest. Food intake and nutrient intake deficiency is high among studied population. The study suggests that regional need based planning with proper effective intervention programmes should be implemented to improve the nutritional status of these people.

**KEY WORDS:** Hill Korwa Tribe, Food Habits, Dietary Intake, Alcohol Consumption, Nutrients Deficiency

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**INTRODUCTION:**

Food is pre-requisite not only for attaining good health but also for maintaining adequate growth and body equilibrium (ICMR, 1997). The choice of food is deeply related to affordability and access to food of an individual and majorly dependent upon the cultural practices of his living environment (Palta, 2001).

Food habits are part of the migrant's adjustment to a new environment. When we speak of food behavior, we deal with an area loaded with symbolic meaning, one which equally applies to indigenous population. It reflects not only religious beliefs (a commonly cited example), but also many other facets of life, from the division of labour in the family through work and play, to the aspirations which the migrants entertain in the new homeland (Kalka, 1990).

Food contains various substances that are required for normal growth and development. These substances ("nutrients") comprise of proteins, carbohydrates, fats, vitamins and minerals. The amount of each nutrient required by an individual depends upon his/her age and physiological status. Adult individuals need nutrients for maintaining constant body weight and ensuring proper body functions. Infants and growing children require more nutrients not only for the maintenance of body function but also for their growth and development. A balanced diet and proper nutrition are two very important issues in the promotion and maintenance of good health throughout life (Mondal, 2012).

Hunger and malnutrition remain two of the most important issues facing the majority of world's poor and under-privileged populations. Nearly 30.0% of the populations are currently suffering from malnutrition. Over 2000 million people worldwide are currently suffering from iron deficiency. Nearly 250 million children under 5 years of age suffer from iron deficiency, which remains the single-most cause of childhood under-nutrition (Singh, 2005).

Nutrition is the single most important component of preventive health care in a country and individual nutritional levels are closely related to health and disease. The nature of the diet is associated with diseases such as cancer, heart disease, diabetes, hypertension, arteriosclerosis, and liver cirrhosis (Lenka et al., 2018). An optimum and sufficient nutrition level is the level of

intake that promotes the highest level of health. However, an excess caloric intake leads to obesity whereas a deficit results in depletion of essential nutrients. These alterations can lead to biochemical changes and eventually to clinical signs and symptoms. Nutritional requirements are influenced by many factors such as gender, age, physical activity, physiological status, drugs and alcohol intake (Padmavati, 2015). The ability of the human individual to respond to stresses like high altitude, heat, trauma, surgery, and infection are also strongly associated with nutritional status. However, as individuals grapple with ever-increasing sedentary life styles and less physically demanding jobs, the caloric requirements are reduced (Pardhan et al., 2011).

Several studies conducted on various tribal populations living in different parts of India have reported that they are socially and economically disadvantaged groups and their diets to be nutritionally deficient. It is necessary to understand each tribe because their living style is different from each other & hence required a distinctive nutritional intake in order to meet their balanced nutritional requirements. It is obvious that the food problems and habits of different tribes are bound to be different from those living in urban and rural area. It even differ from one individual tribe differs to the other tribes. This study has been carried out to view the food habits, alcohol consumption, tobacco intake, food consumption pattern and dietary habits of Hill Korwa tribe which will ultimately paved a way to better understanding of their nutritional status.

#### **METHODOLOGY:**

**Area and People:** Hill Korwa a sub group of Korwa tribe was identified as particular vulnerable tribal group (PVTGs) during the fifth five year plan (Ota, et al., 2015). The history of this tribe reveals that they moved westward into the Khudia Jamindari (Present Sanna and Bagicha revenue circles) of Jashpur district from Chhotanagpur region. They are distributed in Sarguja, Jashpur, Balraampur, Shankargarh and Korba district and their total population is 34,122 (Tribal Research Training Institute, Raipur, Chhattisgarh, 2006). According to anthropological description of family, they belong to Austro-Asiatic family (Shrivastav, 2007). Generally most of the Hill Korwas were having nuclear families. Hill Korwa are divided into Five totemistic endogamous clan, viz; Hansadwar, Samar, Edigwar, Ginnur & Renla (Daltan, 1969). The religion of the Hill-Korwa is confined to ancestral worship and to the worship of few Gods and deities. Their important Gods are Sigri Dev, Gauria Dev, Mahadev, and Parvati; and main deity

is Khudia Rani (Vashnav, 2008). The present study was conducted among the randomly selected Hill Korwa tribe of Sarguja district of Chhattisgarh.

The present study carried out mainly in three blocks namely Lundra, Batauli and Sitapur of Sarguja district of Chhattisgarh. In this study, 16 gram panchayat comprising 26 villages were covered where Hill Korwas are predominately residing.

### **Sampling:**

A cross sectional survey was conducted in 2015- 2016 on Hill Korwa tribe. A total of 307 households of three development block of Sarguja district were selected purposively and interviewed through the help of a pre-tested structured scheduled for the collection of deity intake data.

### **Data Collection:**

During the time of collecting information, basic data pertaining to ethnography and general aspects of the people and area was gathered. Schedules were prepared for collecting the data from the research participants, which contains food habits, drink and tobacco habits, food consumptions pattern and dietary intake. The dietary intake for qualitative data in-depth interviews and observation were carried out in the field.

### **Dietary Intake**

In present study, diet survey was conducted by using repeated twenty-four hour recall method. The subject were asked about the quantity of raw food stuffs utilized by them in the last 24 hour for cooking, respondent were also asked to tell the cooked amount of food in term of measuring cups. Number of person taking the meal also recorded. Amount of raw foodstuffs consumed by a Hill Korwa tribe was calculated by using the following formula.

Raw amount of particular food stuffs consumed by the individual from a given preparation

$$= \frac{\text{Total raw quantity of food stuffs used in that preparation} \times \text{Individual intake on cooked amount of that preparation}}{\text{Total Cooked Quantity of That Food Preparation}}$$

### **Nutrient Intake**

On the basis of diet survey data daily food intake was calculated and from raw amount of food stuffs consumed different nutrient like energy, protein, fat, iron, calcium calculated by using

food consumption table prepared by NIN (ICMR) (Gopalan et al. 1990). Average daily intake was thereafter computed and compared with ICMR (1981) recommendation dietary allowances.

## ANALYSIS AND RESULTS:

**Table-1: Details of food habits of the Hill Korwas**

S.No.	Food Type	Frequency	Percent
1	Vegetarian	2	0.7
2	Non-vegetarian	305	99.3
	Total	307	100.0

From the table-1 it can be observed that majority (99.3%) of studied Hill Korwas are non-vegetarian except two (0.7%) subjects. But among the non-vegetarian, maximum (92.5%) of them occasionally eat meat while merely 7.5% of them eat it daily (Table 6.3.2).

**Table-2: Details on the basis of non-vegetarian food eating time**

S.No.	Time	Frequency	Percent
1	Daily	23	7.5
2	Occasionally	282	92.5
	Total	305	100.0

**Table-3: Details of Daily intake of food**

S.No.	Time	Frequency	Percent
1	One time	5	1.6
2	Two time	284	92.5
3	More than two time	18	5.9
	Total	307	100.0
<b>Hunger Ratio = <math>(289/307)*100 = 94.14\%</math></b>			

Table 2-3 highlights the daily intake of food among Hill Korwas. Maximum (92.5%) of the studied subject take their food twice a day, while 5.9% of them take it more than two times a day. Only 5 (1.6%) of them take food once a day. Also it was observed that 94.14% Hill Korwas households were not able to get more than two meals in a day. The Hill Korwas go to bed hungry every night. They require the support civil societies, governmental and other non-governmental

organizations to fulfil their basic requirement. In order to make them self sufficient in all aspects they need to be empowered urgently.

**Table-4: Alcohol Consumption Status of among the Hill Korwas**

S.No.	Habit	Daily		Occasionally	
		Frequency	Percent	Frequency	Percent
1	Alcohol Consumption	305	99.3	2	0.7

Table- 4 highlights the details of habits of alcohol consumption among the Hill Korwas. Most of them (99.3%) consume alcohol daily, while rest 0.7% drink it occasionally.

### Food Pattern

Food consumed by the Hill Korwa tribe is neither sufficient nor have the minimum amount of essential nutrients in it, that is, they only fulfil their minimum requirements to survive. Due to 'Antyodaya Anna Yojana' and 'Khadya Vitran Yojana' run by the Chhattisgarh government, there is little bit of improvement in their nutritional status. Items used as food in the Hill Korwas change according to the season. That is, the food pattern among Hill Korwas is entirely dependent on the nature of food usage, its seasonal availability and their purchasing power.

Mainly rice, Kutki, Kodo, Maize, Tangun, Manjhary, Ragi, Bede, pulses etc. are included in their vegetarian diet. Likewise, they also eat different types of tubers namely Pithoura kand, Got kand, Kunkuni kand etc. collected from the forest. Flowers and leaves of different wild trees including Mahua were also consumed by them. Hill Korwas eat non-vegetarian food with keen interest.

In addition to the domestic animals and birds they also consumed wild animals such as rabbits, pigs, rat, hen, and goats, heron, pigeon etc. They are so passionate about meat that they also eat freshly killed cow and bulls. Hill Korwas eat less oily and spicy non-vegetarian food. Either they roast or boiled the meat with salt and pepper and then consumed it. But now few Hill Korwa families change food consumption pattern by eating oily and spicy food following their other caste neighbor.

**Table-5: Food ingredients consumed by Hill Korwas in different months**

S.No.	Months	Product for Food Consumption
1	January	Kanda, Rice, Green leafy, Forest Kandmul, Arhar pulse, Urad pulse, Hadia, Tobacco, Hunted animal etc.
2	February	Kanda, Rice, Wheat, Green leafy, Forest Kandmul, Arhar pulse, Urad

		pulse, Hadia, Tobacco, Hunted animal etc.
3	March	Kanki, Rice, Kodo, Wheat, Green leafy, Forest Kandmul, Kulthi, Urad pulse, Tobacco, Hunted animal etc.
4	April	Kanki, Rice, Kodo, Jav, Wheat, Green leafy, Forest Kandmul, Kulthi, Urad pulse, Mahua, Tendu, Amla, Jack fruits, Tobacco, Hunted animal etc.
5	May	Kanki, Rice, Kodo, Jav, Green leafy, Forest Kandmul, Kulthi, Urad pulse, Mahua, Tendu, Amla, Blackberry, Jack fruits, Tobacco, Hunted animal etc.
6	June	Kanki, Kodo, Jav, Maize, Nakvakand, Gaethkandh, Kunkuni, Forest Kandmul, Kulthi, Urad pulse, Mahua, Tendu, Amla, Blackberry, Jack fruits, Tobacco, Hunted animal etc.
7	July	Khukdi, Futtu, Kanki, Tangun, Manjhary, Madia, Bede, Green leafy, Forest Kandmul, Kulthi, Urad pulse, Tobacco, Hunted animal etc.
8	August	Kanki, Kodo, Kutki, Rice, Khukhdi, Futtu, Kanki, Tangun, Manjhary, Madia, Bede, Green leafy, Forest Kandmul, Kulthi, Urad pulse, Tobacco, Hunted animal etc.
9	September	Kanki, Kodo, Kutki, Rice, Tangun, Manjhary, Madia, Bede, Green leafy, Forest Kandmul, Rahar, Kulthi, Urad pulse, Tobacco, Hunted animal etc.
10	October	Kanki, Kodo, Kutki, Rice, Tangun, Manjhary, Madia, Bede, Green leafy, Forest Kandmul, Rahar, Kulthi, Urad pulse, Tobacco, Hunted animal etc.
11	November	Kanki, Kodo, Kutki, Rice, Tangun, Manjhary, Madia, Bede, Green leafy, Forest Kandmul, Rahar, Kulthi, Urad pulse, Tobacco, Hunted animal etc.
12	December	Kanki, Kodo, Kutki, Rice, Tangun, Manjhary, Madia, Bede, Green leafy, Forest Kandmul, Rahar, Kulthi, Urad pulse, Tobacco, Hunted animal etc.

### Drink and Tobacco Habits

Hill Korwas are extremely fond of 'Hadia'. Hadia is a drink prepared from rice, Marua, Gondali. This is the favorite's drink of Hill Korwas. The methods of preparation of Hadia are as follows:

At one time, Hadia is prepared of 20 pailas (with small paila) or ten pailas (with big pailas) of rice, or gondali or marua etc. An earthen jar (kharpra) with water in it, is placed over a burning hearth. When the water is sufficiently heated, the required quantity of marua or gondali is put into it. When it is sufficiently boiled and the water has dried up, the 'kharpra' is taken off

from over the hearth and left to cool down to some extent. Then the contents of the vessel are spread over either on the floor, which has been cleaned previously or on a small mat spread over either on the floor. When the contents cooled down, the medical ranu (Hill Korwa-Virca) is mixed with the contents. The Virca or Ranu is made of few vegetable roots, which are powdered and mixed with rice flower and then shaped into small tablets and sold in the market. Five tablets of 'Ranu' are sold for ten paisa. The inside of the Khapra is now thoroughly rinsed and dried over the hearth. Then the contents spread out on the mat are mixed with the medicinal Ranu and put into the Khapra and stored away. In summer, it takes from three to four days and in winter about a week or more for the 'ranu' to process and produce fermentation. Now, when it is desired to use it, water is poured in to the Khapra and mixed well with the contents, by pouring the contents, water and all into a spacious vessel and back into the Khapra, and repeating this process several times. The Hadia thus prepared is now put in to another earthen pot and is ready for use.

Country liquors are made of the corolla of mahua (*Nessia latefolia*) flowers & are sold at liquor shops are very much in demand. In fact, their excessive loves for drinking and characteristic improvidence have spelled the ruins of many Hill Korwa families.

### **Religious Ceremonies Connected with Drink**

No religious or superstitious ceremonies are now observed in the preparation of this rice beer or Hadia. As for the religious aspect of the drink, hadia is a necessary offering to the ancestors or spirits at almost every religious festivals and ceremonies. None of the ceremonies and festivals is performed without hadia. Even after death, the mourning period is celebrated with hadia.

### **Tobacco Eating**

Next to drink, tobacco (tamakh) is a must to a Hill Korwa. He is in the habit of chewing tobacco throughout the day. Whenever a Hill Korwa happens to cross a stranger, he asks- "Tamakh eting gou" means, give me tobacco. He chews raw tobacco; first a piece of raw tobacco is crushed on a small flat piece of stone, and then rubbed in the palm with lime to make powder to chew. A small tobacco container made of wood or germen silver hangs in the waist with a



string of a Hill Korwa. Readymade tobacco power is kept in that container. When it finishes, fresh tobacco is prepared and filled in the container.

**Figure -6: Sex wise foods intake deficiency percentage among the studied Hill Korwas**

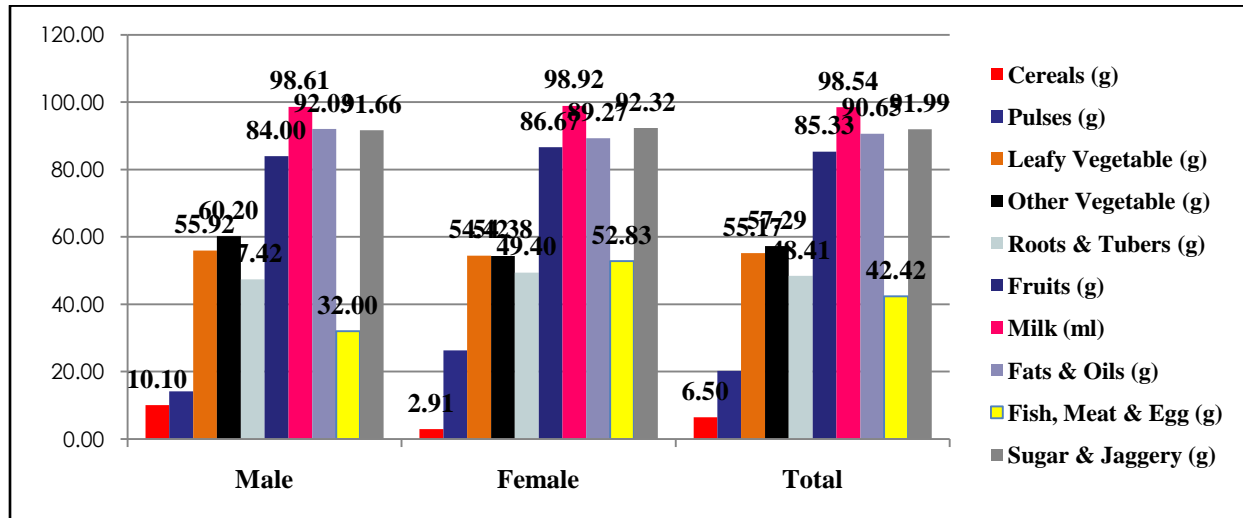


Figure-6 displays the sex wise food intake deficiency among the Hill Korwas. It is found that in cereals, leafy vegetable, other vegetable and fats and oils the deficiency is high among males than females and vice versa in pulses, roots and tubers, fruits, milk, fish, meat and egg and sugar deficiency.

**Figure -7: Sex wise nutrients deficiency percentage among the studied Hill Korwas**

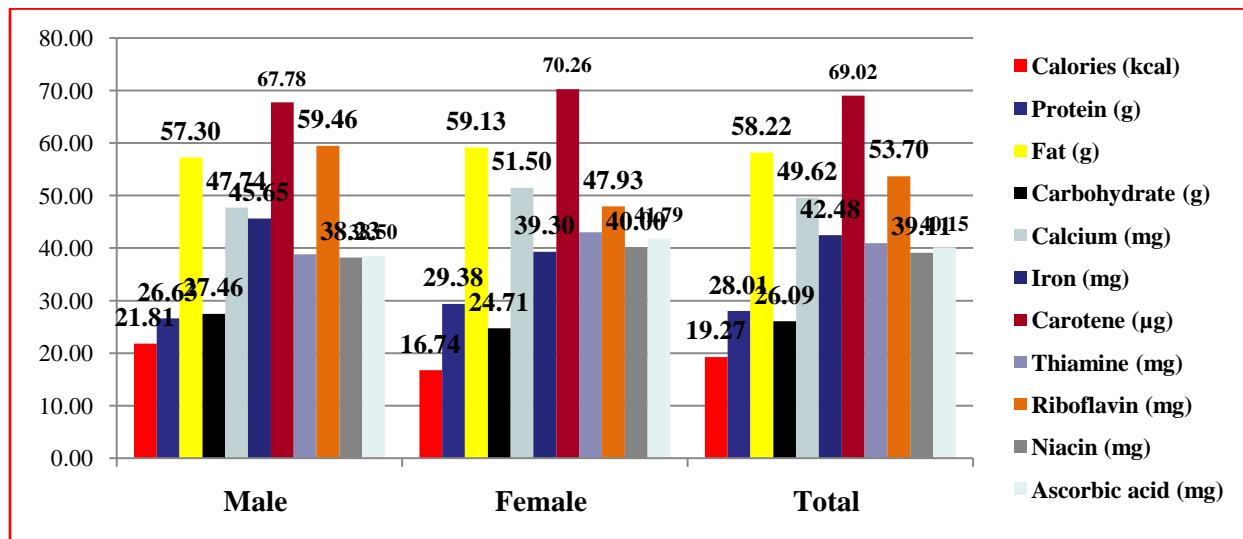


Figure 7 displays the sex wise nutrient intake deficiency among the Hill Korwa. However the deficiency is high among males for calories, carbohydrate, iron and riboflavin and it is high for protein, fat, calcium, carotene, thiamine, niacin and ascorbic acid among females.

### **CONCLUSION:**

In this study, it was observed that 94.14% households of Hill Korwa were not able to get more than two meals in a day. The Hill Korwas go to bed hungry every night. They require the support of civil societies, governmental and other non-governmental organizations, in order to be empowered so that they can self fulfil their own needs. They have a lack of resources, they generally do not have their own land to grow food, and their incomes are so low that they fail to provide their families with adequate diet regularly. They do not have a proper organization to articulate their demands, as a result government is quite disinterested in setting of truly anti-hunger programmes of their health upliftment. Food intake habits shows that cereals, leafy vegetable, other vegetable and fats and oils the deficiency is high among males than females and vice versa in case of pulses, roots and tubers, fruits, milk, fish, meat and egg and sugar deficiency. Nutrient intake deficiency is higher among males for calories, carbohydrate, iron and riboflavin and it is high for protein, fat, calcium, carotene, thiamine, niacin and ascorbic acid among females.

Food aid creates a dependency syndrome that kills the spirit of community effort at solving communal problems. It also destroys the ethos of self-help that has sustained communities for ages. In many cases, a leakage from food-aid leads to many corrupt practices. It even corrupts those innocent people who receive food aid, as they were lured to sell food which they receive as aid. Thus, food aid is not a solution to hunger problem though it can be a measure for temporary relief under conditions of food insecurity. Though, food aid is a temporary solution; in the present situation, more food aid is required for Hill Korwas. However, food aid should not be only rice or wheat, it should include small millets which are fondly eaten by them and some pulses too in order to create a balanced diet. The study suggests the regional need based effective intervention programmes should be implemented to improve the nutritional status of Hill Korwa community.

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