

Socio-Biology and Nutritional Status of Korwas: A Primitive Tribe of Bihar

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KEY WORDS Primitive Tribes. Korwas. Gumla District.

ABSTRACT A door-to-door survey by recall method was carried out among Korwas of Gumla district to know their socio-ecology and nutritional status. The Korwas are financially crippled, half fed, illiterate and socially deprived people. Due to poor nutritional status and drinking water quality they are victim of a large number of nutritional and waterborne diseases. The study shows that a number of variables like housing pattern, environment sanitation, nutritional status and education are the major factors responsible for poor health and infant mortality.

INTRODUCTION

The ethnic people, confined to a particular geographic area are called Tribes. Tribal groups in India form a significant proportion of the population (8.01% in 1991) and they are believed to be the earliest settlers of the country. There are a total of 427 tribal communities in India. In rural India various small groups of populations are found which chiefly depended on environmental resources for their livelihood. The shelter environment with its resource-base and constraints life influence their socio-economic and cultural life. Their optimal survival owes much to their prudent use of the natural resources to which they have free access. In Bihar, about 30 tribal groups are found in which 8 are included into primitive tribal groups. By and large, inclusion of a population into primitive group indicates its minority in demographic number as well as its primitive socio-economic activities. Out of 30 tribes found in Bihar in which 8 have been identified as the most primitive by applying various indicators of backwardness and their present precarious social existence. They are Asur, Birhor, Birjia, Korwa, Mal Paharia, Paharia, Sauria Paharia and Savar. The Korwas are Kolarian tribe. They are described by Col. Dalton (1872) as short statured, dark brown in complexion, strongly built and active

with good muscular development. Their total population in Bihar is 21,940 (Census, 1981).

The growth of the tribal communities is very uneven and in a few communities, there is a definite decline threatening the very existence. This decline may not be due to low level of fertility but to a rather high level of mortality and existing bad health practices.

STUDY AREA

Gumla is one of the 55 districts of Bihar, inhabiting 5 primitive tribal groups in which Korwa is one of them concentrated in 7 blocks out of 18 blocks. Dumri block has higher number of Korwa while Bolba block has least Korwa population. In Gumla Sadar block, 88.19% of Korwa are found in two Panchayats of Anjan and Ghatgaon out of total primitive tribals of the block. In Korwa, the percentage of male population is 53.13% while the female percentage is 46.87%.

MATERIALS AND METHOD

All the demographic data are available in the census office. For different aspects of life such as food habits, dresses, socio-economic variables, health status, drinking water and household schedules were prepared. The field work for the study was conducted between May'1998 to January'1999. The data were collected through observation and interviews with the help of schedules in villages. Data on food, food habits and food consumption pattern were collected with the help of questionnaires by personal interview with the subjects by using recall method. The mean daily food intake was analysed with respect to different food groups viz., cereals, pulses, green leafy vegetables and other vegetables, fruits, milk and milk products, fats and oils and sweeteners.

The respondents were asked to estimate the amount of different food consumed in possible unit. The mean nutrient intake was computed using food tables as suggested by Gopalan et al. (1981) with respect to carbohydrates, proteins and fats. The calculated values of food and nutrient intake were compared with the recommended dietary allowances in order to observe the extent of deviation from optimum nutrient intake as well as imbalance in groups of food consumption.

SETTLEMENT OF CLUSTER

The Korwa cluster is composed 10 to 12 houses found segregated from the clusters of other castes in a Tola of the village. The clusters are generally settled near or on the hill tops in the vicinity of forests. The road to reach these clusters are very undulating and non-metalled provided generally by forest department to access to the forest for protecting them or for collecting the products of the forests. Each cluster has some agricultural fields surrounding it.

HOUSING PATTERN

The houses of the cluster are least separated from each other. Korwa people toil to erect their own houses. Each house comprises of a single room with a small or no courtyard attached to it. The houses are 10 ft. long, 7 ft. in width and 7 to 8 ft. in height. Courtyard if present is of about 12x10 sq.ft. in area. Houses are ill ventilated and are devoid of windows and ventilators. The doors are of 5 ft. high and are made up of wood. The walls of house are made from clay mixed with straw and ashes. Roofs are generally thatched and made up of Khar (wild grass). They have also been provided houses through 'Indira Awas Yojana' by the Government. The walls of these houses are made up of mud and stone pieces with khapra roof and contains at least one ventilator but no window. Their courtyard is used as cattle shed, storage for firewood, cow dung and agricultural tools. They clean houses, courtyards and surrounding fields only during worship, festivals or ceremonies.

DRINKING WATER

The chief source of drinking water is per-

ennial well situated at the bottom of the hill. During the period of torrential rain the water flowing from hill top get mixed with the water of well. It also causes mixing of their community excreta, cow dung and other humans. Sometimes, this sort of mixing causes eutrophication of the well water leading to the increased BOD, therefore, susceptible for the growth of phytoplanktons and zooplanktons. They have to cover a height of at least 500 meters to fetch water. They bath and clean cloths irregularly and at a long gap. Therefore, only moderate amount of water is required for cooking and drinking purposes. At a few places Government has also provided them hand pumps. These hand pumps do not function properly, once they become crooked.

WATER BORNE DISEASES

The physico-chemical analysis of drinking water has been shown in table 3. Among water borne diseases Diarrhoea, Amoebic dysentery, Jaundice and Typhoid were found common. These bear relationship with the hygienic conditions prevailing in a settlement. The principal source of drinking water in the area is the wells. During monsoon the water flows down through various settlements. During this flow the possibility of pollution of drinking water from human waste is high. During rainy season these wells become contaminated with night soil, garbage and other human and animal wastes. The water source turns into a veritable source of carrier of a good number of diseases, parasitic and bacterial, infecting the digestive system.

MARRIAGE AND REPRODUCTIVE FITNESS

Marriage among Korwa is exogenous at clan or Gotra level. The average age of marriage of Korwa boy is 21.5 years while that of Korwa girl is 16.5 years. The average gap between two children is 3.2 years. The mean active fertile period among women is about 25-26 years. The mean age at the first motherhood is 20.5 years. The mean number of children born per mother is between 4-5. Because of the high mortality rate, the child survival per mother is 3. The present study reports the association between

age and fertility levels in terms of number of children. The Mysore study (UN, 1961) showed that rural females who married between 14 and 17 years of age had 5.9 children, while those who married between 18 and 21 had only 4.7 children. Balakrishna's (1971) study on Madras and Agarwal's (1967) survey of villages near Delhi and Lucknow reveal that females marrying after age of 19 years have their fertility reduced by 0.5 to 1 child. In the present study the maximum number of children were observed in the age group of 20-24 years.

PERSONAL HYGIENE

Environmental factors as well as personal hygiene affect the community health. An attempt was made to describe the body cleanliness and other practices regarding personal hygiene of the present studied population. Most of the Korwa populations do not take bath regularly. 6-7 days gap in bathing is common in them. Use of soap to wash the body is rare in them. As result these populations suffer from scabies. Various problems like exploitation, superstition, poverty, lack of opportunities for economic, social and educational growth and lack of infrastructural facilities in the area result in high infant mortality rate, high level of morbidity, high incidence of malnutrition and nutrition related diseases and low rate of literacy etc.

Men and women are addicted to smoking. Some are also addicted of 'Khaini'. 'Handia' is the most accepted beverage among the Korwas population. They cannot think of success of any occasion or function without ample supply of 'Handia', whether it is the occasion of child-birth, marriages, worshipping and of course devils causing diseases, in welcoming guests and as a gift to the God. 'Handia' is frequently consumed freely by all members of the family in their daily life. It has also social and religious value as it is taken especially during marriage ceremonies folk dances, village meeting and other ceremonial festivals.

'Handia' is prepared from fermented rice. It has low content of alcohol than Mahua liquor. Besides, 'Handia', distilled liquor is also consumed by these populations.

The socio-economic condition of Korwas is

most unenviable, and demands sincere efforts to make them lead a natural life and save their identity. A point of caution, however, is needed here that Korwas must be given aid. Efforts should be made to start forest based cottage industry at their doorsteps, and be based on their indigenous products like leaf plates, bamboo basket, grass-ropes, kendu leaf collection for 'bidi', collection of medicinal herbs, forestation, poultry farming, apiculture, lac-culture and sericulture. An improvement in their socio-economic condition would keep them bound to their own forest and afforestation too. No effort should be made to bring them down the hills, as it will dislodge them from their natural habitat and they will have to face problems in adjusting their selves in the civilized and materialistic world. Above all they need proper attention in education to improve their lifestyle and socio-economic condition.

SOURCES OF LIVELIHOOD

Any activity that generate income leading to management of daily consumable goods including food are included as sources of livelihood. The following practices are used by Korwa people as sources of livelihood.

(i) Agriculture

About 80% of the Korwa practise agriculture as source of livelihood. Due to their compulsion to settle around hill tops, they get least fertile and irrigated land resulting into least grain production. They raise paddy, coarse grains which do not go more than 3 months. Therefore, they have to substitute their work to compensate the grain production. There are some land revenue problems too. As their clusters fall in forest land and existing forest laws forbid them to change the forest land into agricultural land. Revenue blocks do not take their responsibility. These types of legal problems should be taken into consideration, keeping of view in mind their hundreds of years of existing in that lands.

(ii) Labour

Most of the Korwa male and female work as agricultural labourers in the field of the plain inhabiting tribes like Oraon and Munda. The

agricultural labourers are included into marginal workers because farming does not provide work for the whole year. A few works as mining labourers in the mines as well as building and road constructions under private contractors. Besides, they also work as daily labourers in suburban area.

(iii) Forest Produce

It is one of the important sources of livelihood due to their closeness to the forests. They collect Sal leaves and prepare plates from them. They also prepare ropes from creepers like 'Lo' and bark of 'Kumbhi' tree obtained in jungle. They also cut branches of trees, small trees and sell into the market after drying it as fire wood. They also cut young shoots and make 'datoon' from the trees. Besides, they collect Mahua, Sarifa, pipal-pakua and other fruits. All these forest produce are sold into market or are bartered for food grains.

(iv) Government Job

The number of Korwa engaged in government job is extremely low. In Tetardipa, only one person was employed as peon in class iv government job.

LITERACY

The literacy among Korwa of Gumla is very low. Only one Korwa boy was found studying in B.A. in whole Gumla Block. Literacy among Korwa of this block is 16.07% where as the literacy rate among them at the district level is

Table 1: Mean daily consumption of food (in grams) by the Korwa in three seasons

Foods	Winter	Summer	Rainy
Rice	295	196	225
Wheat	-	-	-
Maize	-	80	55
Coarse Grain	95	125	110
Pulses	20	35	-
Leafy Vegetables	120	110	90
Other Vegetables	25	17	12
Roots & Tubers	120	135	115
Fruits	30	35	20
Milk & its Products	-	-	-
Meat, Fish & Eggs	55	39	67
Fats & Oils	15	10	15
Beverages	138	160	120

Table 2: Nutrients intake and Calorific value of the studied population

Foods	Winter				Summer				Rainy				Average			
	C	P	F	E	C	P	F	E	C	P	F	E	C	P	F	E
Rice	233.05	18.88	1.18	1020.7	154.84	12.54	0.78	678.16	177.75	14.40	0.90	778.50	188.55	15.27	0.25	805.79
Wheat	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Maize	-	-	-	-	52.96	8.88	2.88	273.60	36.41	6.11	1.98	188.10	44.69	7.50	2.43	230.85
Coarse Grains	68.40	6.94	1.24	311.60	88.79	11.44	2.98	423.75	78.67	9.05	2.02	366.85	78.62	9.14	2.08	367.40
Pulses	11.69	4.95	0.18	68.16	20.46	8.07	0.31	119.28	-	-	-	-	16.08	6.81	0.25	93.72
Leafy Vegetables	8.32	4.30	0.94	58.80	7.62	3.94	0.86	53.90	6.24	3.22	0.70	44.10	7.39	3.82	0.83	52.27
Other Vegetables	3.07	0.83	0.09	16.38	2.09	0.56	0.06	11.14	1.47	0.40	0.04	7.86	2.21	0.60	0.06	11.79
Roots & Tubers	31.52	3.54	0.14	140.88	35.35	3.98	0.16	172.89	30.11	3.39	0.13	147.28	32.29	3.64	0.14	153.68
Fruits	5.18	0.34	0.12	23.17	6.05	0.39	0.14	27.03	3.46	0.22	0.08	15.44	4.90	0.32	0.11	21.88
Milk & its Products	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Meat, Fish & Eggs	2.41	8.87	2.54	67.74	2.50	4.64	2.11	47.39	3.90	9.67	3.03	81.44	2.94	7.73	2.56	65.52
Fats & Oil	-	-	15.00	135.00	-	-	10.00	90.00	-	-	15.00	135.00	-	-	13.33	120.00
Beverages	8.00	4.14	2.48	70.38	9.27	4.80	2.87	81.60	6.96	3.60	2.16	61.20	8.07	4.18	2.50	71.06
Total													385.74	59.01	24.54	1993.96

7.55. The literacy rate among female Korwa is in dismal (negligible).

NUTRITIONAL PROBLEM

There is a close association between nutrition and availability of food in a community. The Korwa people are compelled to depend upon forest produce and daily wages for livelihood as they possess least fertile land and poor irrigation facility. They cultivate chiefly maize and coarse grain on hill slopes and a little paddy. The production of vegetable and Rabi crop is almost absent instead they consume some bizarre food items such as Pipal-pakua, Drumstick leaves and creepers. They obtain wild fruits from the forest. The unavailability of food as well as poor economy are responsible for the malnutrition of the people. The daily food and calorific intake of the population has been shown in table 1 and 2. Their diets lack in average recommended calories, fat and vitamin requirements. Therefore, the population as a whole, there is deficiency of calories (Average consumption of calories per head/per day is 1993.96). Among nutritional disorders, Anaemia, Night blindness, Bitot's spot were found prevalent. The overall nutritional qualities of the Korwas were not up to the recommended level of balanced diet. Due to malnutrition these tribal population suffer from a large number of nutritional disorders.

FOETAL WASTAGE

Although the infant mortality rate varies in different areas of the state and is influenced among others by physical, geographical, economic and social factors and the level of social

Table 3: Analytical investigation of potable water quality of Tetardipa, Gumla Sadar and percentage of water borne diseases

<i>Tetardipa</i>		<i>Water Borne Diseases among Korwa</i>	
Colour	- Clear	No.	- 103
Turbidity	- 7	Diarrhoea	- 21.36%
pH	- 7.25	Jaundice	- 9.71%
Total Hardness	- 120	Amoebic	- 28.16%
Total Alkalinity	- 120	Dysentery	- 7.77%
Fluoride	- 0.7	Typhoid	- 7.77%
Chloride	- 120		
Nitrate	- —		
Sulphate	- 3		
TDS	- 240.6		
Iron	- 0.25		
MPN/100 ml	- 18		

and economic development. High incidence of malnutrition and vitamin A deficiency among pre-school going children is prevailing in the tribal areas.

The high rate abortion and infant mortality in Korwa population (Table 4) may be explained due to poor nutritional status of mother, prevalence of parasitic and infectious diseases (Puffer and Serrano, 1975; De Vanzo et al., 1983; Boulanger, 1980; Chojhaka and Adeghola, 1984). According to Wave (1984) mother education may reduce infant mortality by hygienic practices and survival. As far as education is concerned, it is negligible in female Korwas. As the marriage distance in the present population is very short, hence chances of consanguinity/inbreeding are high leading to increase genetic load among them. A gradually rising incidence of prenatal deaths with degree of consanguinity can be directly attributed to the appearance of homozygosity

Table 4: Foetal wastage, infant mortality and live births in different age groups of married Korwa female of Gumla District

<i>Age Group</i>	<i>No. of Married</i>	<i>No. of Pregnancy</i>	<i>Live Birth</i>	<i>Male</i>	<i>Female</i>	<i>Pregnancy Wastage</i>	<i>Abortion</i>	<i>Still Births</i>
< 19	7	40	19	7	12	21	8	13
			67.50%			52.50%	20.00%	32.50%
20 - 29	32	140	111	60	51	29	5	24
			82.86%			20.71%	3.57%	17.14%
30 - 39	28	155	109	62	47	46	17	29
			81.29%			29.68%	10.97%	18.71%
> 40	36	193	129	68	61	64	26	38
			80.31%			33.16%	13.47%	19.69%
[Total]	103	528	368	197	171	160	53	107
			69.70%			30.30%	10.04%	20.27%

at different gene loci and lethal effects of such abnormalities, resulting in abortions and still births (Mian and Mushtaq, 1994; Pandey et al., 1997).

ACKNOWLEDGEMENTS

The financial help for this work was provided by Ministry of Environment and Forests, Govt. of India, under the project entitled "Pattern of Human Settlement in and around the North Gangetic Belt of Bihar with particular reference to Certain Scheduled Tribes", under MAB Programme Ref. No. 14/5/94 RE-MAB, under the guidance of Dr. B.N. Pandey, Principal Investigator, Post Graduate Department of Zoology, Purnea College, Purnea, Bihar (India), PIN - 854 301, is gratefully acknowledged.

REFERENCES

- Agarwal, S.N.: *Population*. National Book Trust, New Delhi. (1967).
- Balakrishna, S.: *Family Planning: Knowledge, Attitude and Practice*. National Institute of Community Development, Hyderabad (1971).
- Boulanger, P.M.: More trends in the fight against infant mortality. In: *La Moralté des enfants dans le monde et dans l'histoire*. P.M. Boulanger and D. Tabulin (Eds.). Ordina Edition. (1980).
- Chojhicka, H. and Adeghola, O.: The determinants of infant and child morbidity/mortality in Lagos, Nigeria, *Social Science Medicine*, 19: 799-807 (1984).
- Dalton, E.T.: *Descriptive Ethnology of Bengal*, Calcutta. (1872).
- De Vanzo, J., Butz, W.P. and Habicht, J.P.: Hoe biological influences on mortality in Malaysia vary during the first year of life. *Popul. Stud.*, 44: 489 (1983).
- Gopalan, C., Ramsastri, B.V. and Subramanian, S.C.: *Nutritive Value of Indian Foods*. National Institute of Nutrition, ICMR, Hyderabad (1981).
- Mian, A. and Mushtaq, R.: Consanguinity in population of Quetta (Pakistan). *J. Hum. Ecol.*, 5: 49-53 (1994).
- Pandey, B.N., Jha, A.K. and Sinha, M.K.: Study of blood groups in relation to reproductive performance among Muslims of Purnia Division, Bihar. *J. Hum. Ecol.*, 8(4): 233-236 (1997).
- Puffer, R.R. and Serrano, C.V.: *Birth Weight, Maternal Age and Birth Order: Three Important Determinants of Infant Mortality*. Scientific Pub. No. 294. Pan American Health Organisation, Washington, D.C. (1975).
- United Nations. *The Mysore Population Study*. Population No. 34. United Nations, New York (1961).
- Wave, H. "Effects of maternal education, women's roles and child care on child mortality". In Mosley, W.H. and Chen, L.C. (Eds.), *Child Survival: Strategies for Research*. Supplement to Population and Development Review, 10: 25-45 (1984).