



Food Consumption Pattern Of Tribal Preschool Children

Vidya. T. A¹, Dr. Seeja Thomachan P² and Dr. S. Krishnan³

^{1,2}Department of Home Science, CoH, Vellanikkara

³ Department of Agriculture Statistics, CoH, Vellanikkara

Abstract

Food consumption pattern of people is essential not only for assessing the nutritional status of the community but also for elucidating the food needs of the population. The study reveals the different aspects of food consumption pattern of tribes and non tribes. The food and nutrient intake did not meet the RDA. The intake of foods such as fruits, green leafy vegetables and milk was low in both communities and it did not meet even 50 per cent of RDA. The intake of cereals, pulses and roots and tubers met more than 60 per cent of the RDA. Since the intake of fruits, green leafy vegetables and milk were low; the nutrients such as calcium, vitamin A, vitamin C and iron were also low. Unscientific cooking methods were also observed which leads to leaching of nutrients.

Keywords: Food, preschool, Kerala, tribes, non tribes.

I. INTRODUCTION

Human life is nourished and sustained by consumption and the plenitude of consumption is the life blood of human development. A country's consumption pattern also reveals a clear picture of standard of living, level of poverty, material well being and economic development. Food consumption pattern of family can reveal the quantity and quality of the nutrient intake of the family and thus can determine the nutritional status of the family^[1].

The kind of food consumed by the individuals and the physiological pleasure derived through consumption are very much influenced by the practices and usages of their ancestors and habits of their nears and dears^[2].

Food is a pre- imperative for accomplishing good health as well as for maintaining adequate growth and body equilibrium. The choice of food is profoundly identified with the way of life style of an individual or more, in which he is living. However, the food habits are significantly impacted by thoughts, beliefs, notions, traditions and taboos of the society. Apart from these socio-cultural hindrances, the religion, education and economic factor do modify the food habits. These factors are the determinants of the food pattern of the individuals in a given society but bound to vary from a society to other, one area to other and so on^[3].

Tribal population constitutes about 8 per cent of the total population of India. They live in unique physical, socio-economic and cultural environment, isolated from the general population. Their food intake is influenced by vagaries of nature with large seasonal variations^[4]. In this context, the objective of the study was to find the food consumption pattern of the tribal families in Thrissur district of Kerala.

II. MATERIALS AND METHODS

The study was conducted in Thrissur district of Kerala state. From the 24 panchayats having tribal population in the district, five panchayats was selected randomly for the study.

The families are distributed in an extremely uneven manner in 24 panchayats. Seventy five tribal families and twenty five non tribal families having preschool children (4-6 years) were selected purposively to constitute a sample size of 100. Fifteen children (three children from each panchayat) from tribal and twenty five from non tribal were selected as the sub sample.

A dietary survey questionnaire was also framed to elicit the details regarding the food consumption pattern of the families like frequency of use of foods, cooking practices, special foods collected from forests. One day food weighing survey was conducted in the sub sample to know the actual food and nutrient intake of the families.

III. RESULT AND DISCUSSION

Seventy five tribal and twenty five non tribal families surveyed were non vegetarians. Various authors also found that the tribal and non tribal families were habitual non vegetarians^{[1][2][3]}. The meal pattern of tribal and non tribal families varied. Pre planning of meal was found in 68 per cent of tribal families but this was not observed in 76 per cent of non tribal families. In contrast to this, Paliyar tribal groups of Tamil Nadu didn't pre- plan their meals^[10].

Two meals per day observed in 38.7 per cent of tribal families and 61.33 per cent of non tribal families had 3 meals a day. Studies on the non tribal families on various communities has found that they have three meals a day^{[5][7]} but certain other studies found that majority of the tribal families had only one meal a day^[6]. Majority of the non tribal families (54.67 per cent) had their meal at regular timing while all the non tribal families had meals partially at regular timings. Meals were taken by children and then by other family members in 25.33 per cent of tribal and 44 per cent of non tribal families while 26.66 per cent of tribal and 36 per cent of non tribal families had meals together. Hari^[6] opined that majority of tribals and non tribals serve to the head of the family first and then to the rest of the family members.

Table 1: Distribution of families according to the meal pattern

Sl. No.	Parameters	Percentage of families	
		Tribes	Non tribes
1.	Planning meal in advance		
	Planning meal in advance	51(68)	6(24)
	No meal planning	24(32)	19(76)
2.	No. of meal/ day		
	Two	29(38.7)	0(0)
	Three	46(61.3)	25(100)
3.	Time schedule for taking meal		
	Kept regular time schedule	41(54.67)	0(0)
	No regular time schedule	7(9.33)	0(0)
	Partially	27(36)	25(100)
4.	Serving Pattern		
	Meals taken by male members and then by females	17(22.67)	0(0)
	Meals taken by head of the family and then by others	11(14.67)	0(0)
	Meals taken by children and then by others	19(25.33)	11(44)
	Meals taken together	20(26.66)	9(36)
	No criteria	8(10.67)	4(16)

Majority of the tribes (93.33 per cent) and non tribes (56 per cent) acquired all the food items from ration shops, while some of the tribal families collected honey (65.33) from forests and utilised.

Table 2: Details regarding the foods acquired and related aspects

Sl. No.	Parameters	Number of families	
		Tribes	Non tribes
1.	Foods acquired		
	Ration shops	70(93.33)	14(56)
	Other shops	5(6.67)	11(44)
2.	Agricultural practices		

	Rubber	2(8)	-
	Vegetables	15(60)	-
	Coconut	8(32)	-
3.	Foods collected from forest		
	Honey	49(65.33)	-
4.	Use of collected foods		
	Homely use	12(24.5)	-
	Sale	37(75.5)	-

Majority of the tribal families (94 .67 per cent) cut vegetables just before cooking while 80 per cent of the non tribal families cut vegetables previous day. The use of raw foods is found to be rare in between tribal families (12.67 per cent).

Cereals and pulses were washed by all the families before cooking. Majority of tribal families (57.33 per cent) and non tribal (100 per cent) washed just before cooking, but 42.67 per cent of tribal families cleaned winnowed and then washed the dry food articles. In contrast to this, it was found that 71.83 per cent of tribal and 22.38 per cent of non tribal families did not wash cereal before cooking ^[6]. No tribes washed pulses before cooking but all non tribes washed before cooking. Washing of vegetables after cutting was found to prevalent among tribes and non tribes. A similar finding was found by Hari ^[6].

Majority of the tribal families (54.67) per cent cooked once, while 56 per cent of non tribal families cooked food twice. A study on the non tribal agricultural families in Kerala depict that the food was cooked once ^[7].

Table 3 reveals the data on various cooking methods adopted by the families. In case of cereals (tribal – 68 per cent, non tribal – 72 per cent), meat (tribal – 38.67 per cent, non tribal – 48 per cent) and egg (tribal – 72 per cent, non tribal – 60 per cent), boiling and straining method of cooking is adopted by majority of tribal and non tribal families. Absorption method (cook until dry rather than straining the excess water is utilized) in pulses, roots and tubers cooking by 90.67 per cent tribal, 56 per cent tribal and 32 per cent tribal and non tribal respectively. Absorption method is used to cook milk by all the tribal and non tribal families. Other vegetables are cooked with absorption method by 48 per cent of non tribal families while 30.67 of tribal families use boiling and straining method. Fish is fried by 60 per cent of tribal and 40 per cent of non tribal families.

A similar finding was done by Hari^[6] in his study. Boiling and straining was observed to be the most common method used for cooking cereals, whereas pulses were cooked by boiling in excess water, and cooking by absorption method. The non vegetarian items were prepared by boiling or by absorption method whereas vegetables were cooked only by absorption method by all the tribal and nontribal families.

Table 3: Cooking methods adopted by the families

Food items	Number of families											
	Absorption		Boiling and straining		Steaming		Frying		Shallow frying		Any others	
	T	NT	T	NT	T	NT	T	NT	T	NT	T	NT
Cereals	24 (32)	7 (28)	51 (68)	18 (72)	-	-	-	-	-	-	-	-
Pulses	68 (90.67)	14 (56)	7 (9.33)	11 (44)	-	-	-	-	-	-	-	-
Green leafy vegetable	-	-	30 (40)	7 (28)	-	-	-	-	33 (44)	13 (52)	12 (16)	5 (20)

Roots and tubers	24 (32)	8 (32)	17 (22.67)	6 (24)	12 (16)	5 (20)	-	-	-	-	22 (29.33)	6 (24)
Other vegetable	19 (25.33)	12 (48)	23 (30.67)	5 (20)	13 (17.33)	5 (20)	-	-	20 (26.67)	3 (12)	-	-
Meat	-	4 (16)	29 (38.67)	12 (48)	24 (32)	3 (22)	22 (29.33)	6 (24)	-	-	-	-
Fish	-	-	-	-	23(30.67)	7(28)	45(60)	10(40)	7(9.33)	8 (32)	-	-
Egg	-	-	54 (72)	15 (60)	-	-	21 (28)	-	-	-	10 (40)	-
Milk	75 (100)	25 (100)	-	-	-	-	-	-	-	-	-	-

T – tribal; NT – non tribal

Leftover food is utilized by the families. Some of the families (tribal – 12 per cent and non tribal – 44 per cent) store the leftover food in refrigerator after boiling and uses the next day again after thawing and then heating. Use of leftover food was observed in both tribes and non tribes in the study conducted by Hari^[6] also.

The mean food intake of the tribal and non tribal preschool children was calculated and the result revealed that there is an inadequacy in the intake of fruits, milk and green leafy vegetables. The intake of cereals, pulses and roots and tubers met more than 50 per cent of their RDA. Even though the government is providing supplementary feeding programmes in which the children are benefited with egg and milk, 85.33 per cent of the families discard it after taking it to home. The consumption of pulses, green leafy vegetables, roots and tubers, sugar and jaggery, fats and oils, milk and milk products were found to be low in the children of Bhil tribes of Madhya Pradesh ^[9]. Consumption level of all the food stuffs were lower than the RDA among the tribes of Madhya Pradesh .^[13]

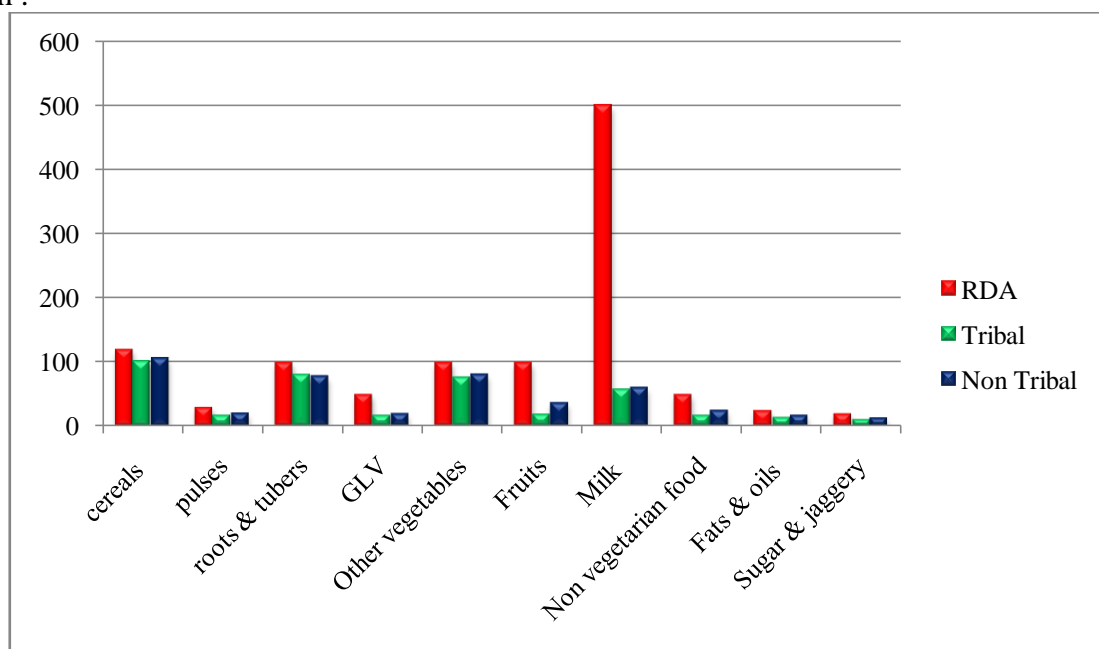


Figure 1: Mean intake of tribal and non tribal preschool children in comparison with RDA

Mean nutrient intake was also calculated for tribal and non tribal preschool children (table 7). There were significant inadequacies in the intake of calcium, Vitamin A, iron and Vitamin C. The nutrients not even met 50 per cent of the RDA. Protein was met about 71.1 per cent in tribes and 78.1 per cent in non tribes because of the frequent use of pulses and weekly use of meat.

Table 5: Mean nutrient intake of tribal and non tribal preschool children in comparison with RDA

Sl. No.	Nutrients	RDA	Mean intake		't' value	% of RDA	
			Tribes	Non tribes		Tribes	Non tribes
1.	Energy (Kcal)	1350	729.1	781.8	3.94**	51.9	56.1
2.	Protein(g)	20.1	15.6	17.5	2.62**	71.1	78.1
3.	Fat (g)	40	16.1	18.4	10.93**	34.3	43.3
4.	Calcium (mg)	600	178.5	207	3.65**	24.3	26.6
5.	Iron (mg)	13	4.1	5.1	1.99**	31.5	39.2
6.	Carotene (µg)	3200	201.7	256.1	2.02**	5.6	6.2
7.	Thiamine (mg)	0.7	0.47	0.52	1.01 ^{NS}	74.3	85.7
8.	Riboflavin (mg)	0.8	0.57	0.67	1.68**	71.3	88.8
9.	Niacin (mg)	11	4.42	4.59	1.08 ^{NS}	40.2	41.7
10.	Vitamin C (mg)	40	9.4	12.6	2.50**	20.0	21.5

** 1 % significance ^{NS} Not Significant

The diet of tribes is purely cereals based which results in higher intake of energy and protein levels, while intake of micronutrient such as iron, calcium, vitamin A , vitamin C and riboflavin was highly deficient ^[8]. Another study on the non tribal agricultural labourers found that the intake of all the nutrients were below RDA ^{[11][12]}.

IV. CONCLUSION

Food consumption pattern of the preschool children belonging to tribal and non tribal communities were studied. The result reveals that all the families were following non vegetarian food pattern. Majority of the tribal families preplanned meals while majority of non tribal families didn't preplan meals. The no of meal per day were 2 in tribes and 3 in non tribes. Majority of the tribes had food at regular timing while non tribes had partial regular timing for food. Both tribals nad non tribals acquired food items from the ration shops while some of the tribals collected honey from forest. Cereals and pulses were washed before cooking by both tribes and non tribes. They also washed vegetables after cutting. Boiling and straining and absorption method was the most frequently used cooking method. Food was first served to the children and then to other members by majority of the tribal and non tribal families. The food and nutrient intake showed a decrease in meeting the RDA. The intake of foods such as fruits, green leafy vegetables and milk was low in both communities and the nutrients such as calcium, vitamin A, vitamin C and iron was also low.

BIBLIOGRAPHY

- [1] Chhotray, G. P. 2003. Health status of primitive tribes of Orissa. Indian Council of Medical Research Bulletin, 33 (10). 112-116.
- [2] Dash-Sharma, P. 2004. Nutrition and Health among the Tribes of India, A.K. Kalla and P.C. Joshi (eds.), Tribal Health and Medicines: New Delhi: Concept Publishing Company. pp. 71-98
- [3] Liaqat, P. Rizvi, M. A. Qayyum. A and Ahmed, H. 2007. Association between complementary feeding practice and mothers education status in Islamabad. *J. Human. Nutr. Dietet.*20. 340-344.
- [4] Rao, K. M., Kumar, K.H., Venkaiah, K. and Brahmam, G. N. V. 2006. Nutritional status of Saharia – A primitive tribe of Rajasthan. *J. Human Ecol.*19(2) : 117-123.
- [5] Aneena, E. R. 2003. Nutritional profile of preschool children of fishermen. MSc (thesis). Kerala Agricultural University. Thrissur, 112p.
- [6] Hari, R. 2006. Morbidity rate and nutritional status of tribal and non-tribal pre-school children in backward districts of northern Kerala. PhD (thesis). St Tresa's College, Ernakulam. 300p.
- [7] Shyna, P. K. 1996. Nutritional profile of preschool children of fishermen. MSc (thesis). Kerala Agricultural University. Thrissur, 112p.
- [8] Meshram, P., Chakma, T ., Kavishwar, A., Rao, P. V. P. And Babu, R. 2014. Nutritional status of Baiga tribes of Bihar, district Balaghat, Madhya Pradesh. *J. Nutr. Food Sci.* 4:275.
- [9] Pradhan, S and Sharma, K. 2011. Nutritional status of Bhil Tribal children in Madhya Pradesh, India : A cross sectional study. *Stud. Tribes Tribals*, 9(1): 37 – 40.

- [10] Murugarasan, T, P and Ananthalakshmi, A. 1991. Dietary Practices of the Paliyar Tribal Group and the Nutrient Content of Unconventional Foods Consumed. *Indian J. Nutr. Dietet.* 28(12). 297 – 301.
- [11] Karuna. M. S. 1993. Nutritional status of women engaged in fish vending in Thrivananthapuram. PhD (thesis). Kerala Agricultural University. Thrissur, 154p.
- [12] Udaya. P. K. 1996. Food consumption pattern and nutritional status of farm women in Thrissur district. MSc (thesis). Kerala Agricultural University. Thrissur, 124p.
- [13] Rao, D. H., Rao, K. M, Radhaiah, G. and Rao, N, P., 1994. Nutritional status of tribal preschool children in three ecological zones of Madhya Pradesh. *Indian. Pediatric.* 31. 635-640