

Food Choice in Rural Families of Andhra Pradesh

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Abstract: *People choose and prepare foods in the context of culture and availability. The present study focuses on the socio-cultural and socio economic factors responsible for food choice, affecting nutritional status. 1800 families (300 SC and 300 Non SC groups from each of the three regions of Andhra Pradesh in 1992) were randomly selected. Descriptive statuses such as percentages were calculated. In a sub sample of 50 SC and 50 Non SC families in 1992 and in 2018 another group of 50 SC and 50 Non SC is done to see the effect of urbanization and industrialization and change in the ecological factors on food choices. Three meal pattern is followed with eating left over rice of previous day for breakfast, in summer ragi porridge or kali or conjee is consumed by 82% of non-SC and 96% of SC's in 1992 while 2018 this practice is dropped. A small percent take idly, roti with chutney. For lunch and dinner millet preparations or rice with chutney or pulse preparation is taken, curds or buttermilk is seldom taken. Non vegetarian foods are taken once a week or whenever they have money or when guests come, this practice did not change in spite of increased salaries in the 2018 study. Rice is consumed twice a day among non SCs and once a day in SCs during November to March, in the other months only millets (Jowar, maize, bajra) were consumed. Millet consumption in rural areas disappeared, in urban areas they have become rich man's food. Vegetables and fruits are consumed in greater frequency only during October to February when such foods are in abundance and when they get free or as part of their wages. Jowar and maize are consumed extensively during the lean period (April to October) in Telangana while in Andhra it is rice and in Rayalaseema ragi and bajra are taken apart from rice. 2018 survey showed that all of them shifted to rice as it is being given for Re. 1/- kg.. There is no set place for having meals, they eat either within or outside the house, they squat on the floor and eat. In 2018 every one sit in front of TV or play on cell phones to eat, resulting in several unhealthy changes in eating habits. Sitting together as a family while eating is diminishing. Among SCs majority take food in aluminum bowls and only a minority use stainless steel plates, in 2018 all have shifted to stainless plates. Energy foods like roots and tubers, sugar and jaggery, fats and oils are included by majority of non-SC's and SC's daily. Sugar is mostly used as is given in fair price shops than jiggery. Jaggery has low prestige, is considered heat producing. Oil is used sparingly, as a seasoning base. Few mothers use the 100gm salad oil for a month. Red gram is the common pulse used, the percentage used is 66 % in non-SC and 50% in SCs. Green gram, Bengal gram, horse gram and cowpea are used on occasions such as festivals and special ceremonies. Oilseeds in general are consumed once a week. They are added with vegetable or meat dishes or as a main ingredient in chutneys. Ghee or butter was never used. Only families owning milch cattle use milk in coffee or tea, diluted milk is given to children if they demand. Eggs are consumed once a week by all members of the family. This is possible since families' rear poultry in small numbers. The weekly use of flesh foods is prevalent among 78%. Preference is for mutton, than fish, beef and pork (in descending order) the first three foods have high prestige attached, while beef and pork are low prestige foods. One vegetable or another occur as regular items of the diet in season. Fruit consumption is also frequent during these months. Tomatoes are used extensively for curries or for gravies. The common practice of cooking rice is to cook in excess water and discard water which did not change over the years, even for vegetables. Deep fat frying is rarely used. Irrespective of financial status, people choose foods for consumption depending upon a range of social and cultural factors. Food beliefs are inherent in non-SC's and SC's. Widely prevalent food beliefs in non-SC's and SCs are of hot and cold and vatham and meham foods. Food belief and taboos can prevent the consumption of several nourishing foods in different seasons, but the scheduled caste communities overcome these restrictions by treating some hot foods to give cold form and vice versa, through special methods facilitating consumption of the taboo foods.*

1. Introduction

India has several deprived communities, of them Scheduled castes (SC's) are among the deprived communities of India. This population is spread overall states, each state having varying concentrations, Andhra Pradesh, southern state of India has 79. 62 lakh SC population accounting to 14.9 % of the total population of the state ^(1, 2)

Research studies thus far conducted have focused on the educational achievement occupational mobility, social adjustments, welfare programs and their impact on the socioeconomic development ^(3, 4, 5, 6, 7, 8..) These studies have highlighted the slow progress of the socioeconomic development of scheduled castes; however, studies comparing SC's and non SCs are scanty.

Of the many dimensions of development, nutrition is a crucial health factor, nutritional aspects, especially that of food choice, have not received due attention of researchers with special reference to scheduled castes and other low income families in rural areas of AP. The multi causal nature of malnutrition depicted in several theoretical frame works and models ⁽⁹⁻¹²⁾ suggests that several ecological factors are

of concern in overall view of the food choice of populations. Very few studies have focused attention on the social, economic, cultural and political issues of food choice in a comprehensive manner.

The present study focused attention on a scientific analysis of the process of food choice among scheduled castes and other communities in rural areas in a span of more than two decades. With the following two objectives To study the food choice among the scheduled castes, and non-scheduled castes belonging to low income rural families of AP

The expectation was that this would yield valuable information about the pattern of food choice among the low income families belonging to SC and non-SC groups on a comparative basis. This would help in turn to facilitate constructive planning of developmental programs.

2. Methodology

Primary objective of the study was to assess and compare the food choice process among SC and Non SC's belonging to the low income families of Andhra Pradesh in 1992 and subsequent changes that development in 2018's.

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The survey was conducted in rural areas of the three selected districts of Andhra Pradesh: Ranga Reddy district in Telangana, Chittoor district in Rayalaseema, East Godavari district in Coastal Andhra. A total of 1800 families (300 families from each region and from SC and Non SC categories) were randomly selected from the three districts of AP, schedules were formulated, taking into consideration the socio-economic and socio-cultural parameters influencing food choice. The data was computerized. Descriptive statistics such as percentages were calculated. In a sub sample of 50 families of SC's and 50 families of Non SCs in 1992 and another group of 50 families in 2018 is done to see the change.

3. Results and Discussion

People choose foods, prepare them in the context of culture and availability of foods. It is a well-established fact that food availability is dependent upon various ecological factors like climate, soil water, flora and fauna. Food production and distribution also determine the food availability. Religious, injunctions, superstitions, ignorance and other social practices which are part of culture determine food choice and preparation (13. Devadas 1986) although the diets of various ethnic groups have been explored, little is known about the diet and dietary practices of scheduled Castes. The present survey among a representative sub sample of 1800 SC and Non SC families is an attempt to describe food habits and practices. The observations are discussed under the following classifications:

- 1) Meal Pattern, preparation and distribution:
- 2) Choice and frequency of intake of foods
- 3) Cooking methods
4. Food Taboos

Meal Pattern, Preparation and Distribution

Three meal patterns are followed in these communities. At breakfast, leftover food of the previous day, like rice and curry are eaten. During summer, ragi porridge or kali or conjee is consumed additionally such practices are prevalent in about 82% of non-SC and 96% for SCs. The others resort to consumption of items like roti (leavened bread) or idly (a fermented and steamed cereal pulse preparation) during summer. The above practice is done away with in the present generation as it is cumbersome (2018). The practice of doing with kali and ragi porridge is unhealthy practices.

For lunch and dinner, rice and or millet preparations are major items. The accompanying dish is either chutney (ground red chilies, ginger, garlic and salt, with or without tamarind) or a pulse preparation with vegetable or a meat dish. Curds or buttermilk are seldom taken. Non-Vegetarian foods are generally prepared weekly once or whenever they have money, or when guests come Dinner is a larger meal than lunch.

Cooking is done twice a day for lunch and dinner, as per the convenience of the house wife who is generally engaged as agricultural labor or in other petty jobs. As the mother is away for work the children consume the left-over food from the lunch when they feel hungry, between lunch and dinner.

All the members of the family meet and share the food at dinner time

Seasonal variations in the availability of foods and food preferences on occasions determine food choice and preparation. Vegetables and fruits are consumed in larger measure and greater frequency during October to February when such foods are in abundance and when they get free or as part of their wages. At other times of the year, their consumption declines. Jowar and maize are consumed extensively during the lean period (April to October) in Telangana while in Andhra it is rice only and in Rayalaseema they take ragi and bajra apart from rice. The follow up survey in 2018 showed that all of them shifted to rice as it is being given for Re. 1/- kg., Distribution of rice through fair shops in these regions resulted in a shift from millet consumption to rice it may be a dangerous trend with respect to nutritional adequacies. During festive occasions, nutrient dense items like sweets, snacks, pulse and vegetable items predominate which is a short period. The female head of the family distributes food among the family members. Staple food preparations with cereal and millet are distributed without any restriction as they are cooked in large quantities. The more nourishing foods such as vegetables, meat, sea food and fruits, are dispensed in smaller quantities to reduce consumption costs. The male head of the family is given liberal helpings of all food items. Among the other members of the family such a sex distinction in distribution of food is not prevalent.

There is no set place for having meals. The members of both communities eat either within or outside the house and food is served onto individual plates with spoons. The family members squat on the floor while eating meals. Both communities use hand for eating, which is a tradition in India. Among majority of non-SC's, food is served in stainless steel plates, which is a status symbol, the others in this community use aluminum bowls, in the present days they have shifted to stainless plates and bowls. With the possession of TVS and Cell Phones every one sits in front of TV or play on cell phones to eat, resulting in several unhealthy changes in eating habits. Sitting together as a family while eating is diminishing. Among SCs however, the majority take food in aluminum bowls and only a minority use stainless steel plates. Food however is done in aluminum bowls in both communities even today.

Choice and Frequency of Intake of Foods

The diets of non-SCs and SC's are essentially cereal and millet based. The data indicate daily consumption of cereal and millet by the non-SC and SC families in 1992 in 2018 only rice has become the staple food for everyone; very few are using jowar, maize and or ragi. The millet consumption drastically decreased in the rural areas while in urban it increased. The cost of millets have gone up ranging anyway between Rs.50- to 300/kg in urban areas.

Rice consumption is twice a day among non-SC's and once a day among SC's in 1992. This is during the months of November to March. In the other months, jowar and maize are extensively used. In summer ragi is consumed at least at one meal, in addition to substitution for maize or jowar. Bajra and wheat preparations predominate at festivals and

ceremonies, in 2018 survey indicated that all of them switched over to rice as it is being given at Re 1/ kg. Through fair price shops. The other energy foods, like roots and tubers, sugar and jaggery, fats and oils, are included by majority of non SCs and SCs daily, with non-SC's at an advantage of the SC's.

Sugar is sold in fair price shops, less expensive than jaggery, which is sold in retail shops Sugar is therefore consumed more often than jaggery. These items are used mainly in tea and coffee. Apart from cost considerations, jaggery is believed to be heat producing. It also has low prestige.

Oil an expensive item, is used sparingly, though daily by majority of non SCs and SC's. The oil goes in as a seasoning base for a few curries. A few mothers reported using salad oil given in the supplementary feeding programs. A small quantity (100 g of oil/month) was used in a month for the entire family. None of the families reported using ghee or butter.

Pulses are rarely consumed as a regular item of the diet. Red gram is the common pulse used once a week. The percentage used is as high as 66 % in non-SC and 50% in SCs. The others consume red gram either fortnightly, monthly or occasionally. Green gram, Bengal gram, horse gram and cowpea are used on occasions such as festivals and special ceremonies. Oilseeds in general are consumed once a week. They are added with vegetable or meat dishes or as a main ingredient in chutneys. These preparations are done once a week.

Only families owning milch cattle use milk. Milk is used in coffee or tea. However, diluted milk is given to the children if they demand, immediately after milking the animal. None of the families set milk for curds. They do not consume curds and buttermilk. Rather, they sell the milk available, majority of the families use milk either weekly or once in 10 days. Eggs are consumed once a week, all members of the family irrespective of caste. This is possible since the families' rear poultry in small numbers.

Despite non-SCs and SCs being non-vegetarians, inclusion of flesh foods in the diet is only once a week or a fortnight. The weekly use of flesh foods is prevalent among 78%. Preference is for mutton, than fish, beef and pork (in descending order) the first three foods have high prestige attached, while beef and pork are low prestige foods. It was observed that non-SC's avoid eating beef, pork and confine themselves to meat, chicken or fish. These later three foods, being expensive, are not frequently used. SCs on the other hand eat beef and pork largely as they are low cost items. Around 50% of SCs consume such meat. The custom of eating the meat of diseased dead animals is also prevalent among SCs. This meat is available free of cost. Although this practice is declining, the hazardous nature of such meat to health has to be indicated to the consumer and practice discouraged.

Out of season (March to September) vegetables, leafy vegetables and fruits are consumed either weekly or once in 10 days. Roots and tubers however are consumed daily

throughout the year. In season, vegetables are consumed daily throughout the year.

One vegetable or another occurs as regular items of the diet during this season. Fruit consumption is also frequent during these months. Generally all these foods are used in small quantities and at frequent intervals. Tomatoes are used extensively compared to other fruits during the season. Onions are used more frequently than potatoes, yam and other tubers.

Table 1: Number of Families Consuming Different Foods in a Day's Survey

Food groups	Items	1992*	1992*	2018	2018
		SC (%)	Non SC (%)	SC(%)	Non SC (%)
No families	Total families (No)	50	50	50	50
	Cereals	50 (100)	50(100)	50(100)	50(100)
	Millets	50(100)	50(100)	10 (20)	12 (24)
	Roots, tubers	26 (52)	33 (66)	15 (30)	18(36)
	Fats, oils	49 (98)	49 (98)	50(100)	50(100)
	Sugar	42 (84)	43 (86)	50(100)	50(100)
	Jaggery	42 (84)	43 (86)	35 (70)	38(76)
	Pulses	18 (36)	16 (32)	23 (46)	32(64)
	Milk	15 (30)	09 (18)	22(44)	32(64)
	Meat fish, eggs	01 (2)	07 (14)	10 (20)	23 (46)
	Fruits	35 (70)	41(82)	20 (40)	15(30)
	Green leafy vegetables	18 (36)	24 (48)	12 (24)	28 (56)
	Other vegetables	09 (18)	12 (24)	34 (68)	43(47)

Of the variety of foods classified under the basic three food groups, the diet of non-SC and SC families consists of a limited number of foods as regular items, such as staple cereal like rice, millet, jowar and maize in 1992 and 2018 only rice is consumed. Vegetables of all kinds and fruits are part of the diet only seasonally. Milk, milk products and oils find their place in small quantities in beverages and in seasoning respectively. Even flesh foods and eggs are consumed once a week or fortnightly in the Andhra region sea food is used extensively. Pulses and oilseeds are used sparingly.

In the one-day diet survey data showed that all the families' consumed cereals while only one non- SC family, seven SC families consumed flesh foods (Table3).With regard to green leafy vegetables, only 18 non-SC families and 24 SC families consumed the food on the day of the survey. There was not a single family either among non-SCs or among SCs, which included a variety of foods of three food groups. The diets of non-SCs and SC s therefore do not have a variety of foods as a regular feature, and are not adequate with regard to growth promoting and protective foods. A greater percentage of SCs consume a variety of flesh foods once a week compared to that of the non-SC families. This is a major difference observed between non SC and SC families.

Cooking Methods

Boiling and frying are the most common cooking methods. Rice and vegetables are boiled either in limited or in excess water and the water is discarded. Frying is done mostly in shallow pans as oil is used in small quantities, deep frying is

done occasionally in preparing special items for festivals and ceremonies. Certain foods are smoked

Rice is cooked by three methods; 1. Boiling in large amounts of kali (fermented rice washing) excess cooking water is discarded, 2. Boiling in limited water 3. Boiling in large amounts of water. Excess cooking water is discarded

Of these methods, the first two methods can be considered better than the third method. From the point of view of nutrient content, discarding excess cooking water, there can be a loss in water soluble nutrients. Non SC's outnumber SCs in respect of the first two methods of cooking. The percentages practicing are 20% and 53% in Non- SC's and 8.6% and 48% in SC's respectively. In contrast in the third category the percentage of SC's practicing (42.5%) is significantly higher than that of non- SC' (26.5%)

Originally all non-SC's and SC's cooked rice in large amounts of fermented kali. By the process of fermentation, some of the B complex vitamins can increase in the kali which is a good practice. However this practice is declining. To some extent is due to the low prestige of this practice among non SCs. On the other hand, the second and third methods of cooking are highly prestigious, being practiced by the upper castes

The majority of non-SC's and SC's cook vegetables in sufficient water and season them. However with regard to leafy vegetables, in general 32 -37 % of these castes cook in excess water and discard the cooking water. Yet another small group reported cooking only red gogu leaves in this manner. The percentage so practicing is 17.4% in non SCs and 3.9% in SCs. Boiling leafy vegetables in excess water and discarding the water is believed to remove the heat producing properties of the greens. This practiced is to be discouraged as loss of nutrients particularly water-soluble vitamin C and some minerals can occur. Some food items, like sweet potato, custard apple and dry fish or smoked. This method is said to enhance the taste and flavor of the foods. It

is also a safe method in that nutrient losses are minimized. Such a method should be promoted.

Food Taboos

Irrespective of financial status, the ways in which people choose foods for consumption depend upon a range of social and cultural factors. Food beliefs are inherent in the non-SC's and SC's, as is the case in any other society in India (14-18) widely prevalent food beliefs in non-SC's and SCs are of hot and cold and vatham and meham foods.

Hot food are said to produce thirst, excessive sweating, inflammatory reactions, accelerative effects on digestion, and heat in the body. Hot foods are considered to tone up the muscles. They are therefore avoided in summer and recommended in winter, rainy season and during lactation. Cold foods are believed to produce a cooling effect on the body. They are believed to promote cheerfulness and peace of mind, sustain life and impart strength and steadiness in the body. They are avoided in winter and recommended in summer and during lactation. Vatham or Meham foods are believed to cause joint pains and numbness of extremities. In extreme cases, they are said to lead to paralysis of limbs. Although there is no seasonal restriction these foods are strictly prohibited in early lactation and in certain diseased states. Food belief and taboos can prevent the consumption of several nourishing foods in different seasons, as per the preceding discussion. But the scheduled caste communities overcome these restrictions by treating some hot foods to give cold form and vice versa, through special methods. By these procedures, to some extent, the consumption of the taboo foods is facilitated. In these procedures of converting hot food to cold, and cold to hot forms, the foods like rice, vegetables and fruits can lose nutrients of B complex and C groups. On the other hand, foods like milk and mango are treated in a manner that will not destroy the nutrients. It is advisable to improve traditional food practices and discourage the limiting practices so that the families secure the most nutrients from their diets, which are inadequate both in the quality and quantity of food consumed

Table 2: Distribution of Foods According to Food Taboos

Hot foods in 1992	Hot foods 2018	Cold foods 1992	Cold foods 2018	Vatham/ or meham foods 1992	Vathumu Meham foods 2018
Rice boiled in just enough water	no belief	Rice boiled, excess water drained	No belief	---	----
Maize	Maize	Ragi, bajra	Ragi	---	--
Jowar (yellow)	Jowar (yellow)			Jamar-white	
Red, Bengal gram	Red, Bengal gram	Green, horse gram	Green, horse gram	Cowpea, black gram	good
Gingelly, mustard	Gingelly, mustard	Safflower seeds	Not available	Groundnuts	No belief
Palak, amaranth, curry leaves mint	no belief	Gogu, green fenugreek			
Brinjal, carrot, radish, ladies fingers	no belief	Ridge, bottle gourds, beans		Potato, yam, colacasia	cooking cum-umbersome
Apple, mango papaya	no belief	Custard apple			
Cows milk goat mild	no belief	Curd, and buttermilk		Cheese	
Eggs	Eggs				
Meat, fish murrel	no belief	fish(seer)		Pomphret	

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