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*Research Article*

# Household Dietary Pattern of Attappady Tribes of Kerala

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**ABSTRACT**

*Attappady tribal development block of Palakkad district is one of the 43 tribal development blocks in India and is inhabited by three tribal communities viz., Irulas, Mudugas and Kurumbas. The occurrence of diseases like sickle cell anemia and incidences of increased infant mortality were reported to be in vogue among these tribal communities. A diet survey conducted to assess the dietary pattern of Attappady tribes among the selected respondents as 30 each from ooru where there was community kitchen functioning and the other set where there was no community kitchen.*

***Keywords:*** *Attappady, Dietary Pattern, Community kitchen, Balanced diet, Tribal health.*

## INTRODUCTION

Food security is a prerequisite for sustaining life and activity. It provides the essential nutrients for physical growth, development, normal body functions, physical activity and good health. A balanced diet is critical in providing these essential nutrients as they help us to maintain or improve overall health. Prolonged periods of imbalanced diet can lead to serious health problems. Faulty dietary intakes can lead to health problems related to under nutrition (deficiency diseases) and over nutrition (obesity, life style diseases etc.). In fact, the dietary intake of essential nutrients varies from one life stage to another as well as with gender, physical activity and physiological status. Overfed infants and children may develop dietary habits and metabolic characteristics that have lifelong consequences whereas under nutrition during pregnancy and lactation can put the health of both mother and baby at risk.

World Health Organization (1996) has reported the absence of dietary diversity as a predominant problem among the marginal populations including tribes of the developing world. In fact, the tribes who live isolated from the mainstream population have their own unique livelihoods and ethnic dietary habits rich with diverse local foods.

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Thus the prevalent malnutrition among tribal populations can be attributed to many co-related factors emerging from these that have aggravated household poverty, food insecurity, and maternal nutrition during and before pregnancy as reported by UNICEF (2015). Moreover, many food aid programs that were principally aimed to supplement tribal diets have replaced them with diets predominantly of starchy staples with little or no animal products, fresh fruits and vegetables. These changed dietary patterns are reflected in the health parameters like increased occurrence of diseases like sickle cell anemia and incidences of increased infant mortality reported among the Attappady tribal communities (Feroze & Aravindakshan, 2001). It is in this pretext the paper tries to evaluate the dietary pattern of the ethnic tribes of Attappadi region of Kerala.

## MATERIALS AND METHODS

**Study area:** Attappadi tribal development block of Palakkad district formed the study area. It is one of the prominent forest regions of Kerala, which is situated in the north eastern part of Palakkad district (Fig 1). The Attappadi valley is a southward extension of the Gudalur plateau of the Nilgiris hills in the Western Ghats. It is at an average elevation of 800-1000 meters above the mean sea level and the highest point is the *Malleeswaran* peak. The Bhavani and the Siruvani rivers flow south in the region and join outside the limits of Kerala. It is one of the 43 tribal development blocks in India and is inhabited by three tribal communities *viz. Irulas, Mudugas and Kurumbas.*


**Fig. 1: Map of Palakkad showing the panchayats of study**

**Study sample:** The three panchayats of Attappadi Tribal developmental block namely Attappadi I (Agali panchayat) Attappadi II (Pudur panchayat) and Attappadi III (Sholayar panchayat) were purposively selected as the study area.

Comparing associations of dietary nutrient availability in locations with community kitchen and without community kitchen, 24 hour recall data on food intakes was collected from 20 randomly selected tribal families of

each elected panchayath that made a sample of 60.

**Measurement of household dietary pattern of tribes:**

A diet survey conducted to assess the dietary pattern of Attappady tribes among the selected respondents as 30 each from *ooru* where there was community kitchen functioning and the other set where there was no community kitchen. The pre-tested schedule is given below.

**Frequency of use of different food commodities**

| SL No | Food items | D | 2/w | 3/w | I/w | Fort nightly | M | occasionally | Never |
|---|---|---|---|---|---|---|---|---|---|
| I | Cereals | | | | | | | | |
| II | Pulses | | | | | | | | |
| III | Vegetables | | | | | | | | |
| IV | Meat | | | | | | | | |
| V | Fish | | | | | | | | |
| VI | Egg | | | | | | | | |
| VII | Fruits | | | | | | | | |
| VIII | Milk & Milk products | | | | | | | | |
| IX | Coffee & Tea | | | | | | | | |
| X | Homemade snacks | | | | | | | | |
| XI | Condiments and spices | | | | | | | | |

The frequency of consumption of different food items by the respondents was assessed by recording the use of different foods using a frequency scale *viz.*,daily, thrice a week, twice week, monthly twice, monthly once, occasionally/never. Raeburn et al. (1979) suggested the scale for calculating the percent of food use frequency. The formula is given below.

Percentage of total score = $(R1S1 + R2S2 + \bullet\bullet\bullet + RnSn)/n$

Sn = scale of rating given for frequency of a food item

Rn = Percentage of respondents selecting a rating

n = maximum scale rating.

Scoring procedure was followed to quantify the frequency of use of food items. The daily used food items were given a score 30, those food items used four times in a week were given a score of 16, thrice a week were given a score 12, twice a week as 8, once a week as 4, monthly twice as 2, monthly once as 1 and those that were used occasionally/never were given zero score. Mean scores were calculated for each food group. The mean percent score was calculated by dividing the mean score on the maximum score of 30 and multiplied by 100. The foods that scored above 90 per cent were grouped as daily used foods while those foods that scored below 15 per cent were classified as least frequently used foods. Frequently used foods were those items which scored between 75- 89 per cent and the less frequently used foods were those which got scores ranging between 15 -74 per cent.

## RESULTS AND DISCUSSIONS

From the table 2 it is seen that there, among the major food groups only cereals and pulses came to daily consuming food groups and vegetable recorded as frequently used food group. where as fish, meat, egg where least frequently used and milk, coffee/tea, home made snacks and condiments and spices belonged to less frequently used food groups.

**Table 2: Comparison of dietary pattern of Attappady tribes in terms of food aid through community kitchen (n=60)**

| Sl. No. | Food groups | With Community Kitchen | Dietary pattern | Without Community Kitchen | Dietary pattern |
|---|---|---|---|---|---|
| 1 | Cereals | 100 | Daily | 100 | Daily |
| 2 | Pulses | 100 | Daily | 100 | Daily |
| 3 | Vegetables | 53.33 | Frequently used | 36.88 | Frequently used |
| 4 | Meat | 2.22 | Least frequently used | 8 | Least frequently used |
| 5 | Fish | 0.44 | Least frequently used | 1.48 | Least frequently used |
| 6 | Egg | 13.33 | Least frequently used | 7.55 | Least frequently used |
| 7 | Fruits | 14.66 | Least frequently used | 6.22 | Least frequently used |
| 8 | Milk&milk products | 27.33 | Less frequently used | 14 | Less frequently used |
| 9 | Coffee/tea | 16.66 | Less frequently used | 23.33 | Less frequently used |
| 10 | Home made snacks | 17.77 | Less frequently used | 15.55 | Less frequently used |
| 11 | Condiments &spices | 17.33 | Less frequently used | 12.88 | Less frequently used |

**Table 3: Statistical comparison of dietary pattern of Attappady tribes in terms of food aid through community kitchen (n=60)**

| Food groups | Mean | Std error | Mean | Std error | t value |
|---|---|---|---|---|---|
| Vegetables | 16.0000 | 0.00000 | 11.0667 | .62686 | 7.87** |
| Meat | 0.6667 | 0.27682 | 2.4 | 0.57054 | -2.733** |
| Fish | 0.1333 | 0.06312 | 0.9667 | 0.17606 | -4.456** |
| Egg | 4 | 0 | 2.2667 | 0.62686 | 2.765** |
| Fruits | 4.4 | 0.67398 | 1.931 | 0.42673 | 3.072** |
| Milk&milk products | 8.2 | 2.2881 | 4.2 | 1.69746 | 1.404** |
| Coffee/tea | 5 | 2.07614 | 7 | 2.35621 | -0.637 |
| Home made snacks | 5.333 | 0.79847 | 4.46696 | 0.81556 | 0.584 |
| Condiments &spices | 5.2 | 1.83604 | 3.8667 | 1.32416 | 0.58 |

It could be observed from the table results that there existed significant improvement in the nutrient intake of individuals due to the presence of Community Kitchen. The higher nutrient availability recorded in areas where Community Kitchen was present clearly substantiated its importance in these tribal hamlets (*ooru*). However, the results were also indicative that the present level of dietary inputs distributed through Community Kitchens could not fully meet the recommended nutrient requirements and need to be revised accordingly. From the table 3 we could see that there exists a significant difference between the dietary pattern followed by the tribes the who belonged to *ooru* with and without Community Kitchen. Especially in the case of vegetables, fish, egg and meat. The Community Kitchen program was started in the backdrop of the high rate of infant mortality and malnutrition deaths in 2013-2014 among tribal communities of

Kerala by the Social Justice Department. However, later it was handed over to Kudumbashree Mission and is presently run by them. Though Community Kitchen was initiated as the nutritional programme to address malnourishment among children, at present it primarily catered to pregnant women, lactating mothers, adolescent girls, senior citizens and other impoverished members. Menu served included white boiled rice, ragi powder, variety of pulses like green gram (*Vigna radiata*), horse gram (*Macrotyloma uniflorum*) and chick pea (*Cicer arietinum*). This was well accepted because it represented the revival of traditional *Ooraduppu* (Hamlet Hearth) which involved the practice of sharing food and having meals together. Enhanced solidarity and unity in the hamlet were assured by the introduction of Community Kitchen.

Presently it is self-managed by the tribal women's neighborhood groups (NHG) where the NHGs purchase the provisions from the *Maveli* store on a monthly basis, firewood would be either bought or collected by the NHG depending on the local requirements. Maintenance of hygiene in the kitchen is also the responsibility of the NHG for which a hygiene protocol developed for the purpose is in place. Vessels and utensils have been provided for cooking and storing water. The stock registers are maintained by the secretary of the NHG with the support of the animator. Earlier one meal a day was served during the evenings for the community. However, of late the food is being provided in the morning, afternoon and evening mostly to pregnant and lactating mothers. The community kitchen has also started using the vegetables grown by the community and has been extended to provide food to school going children in the mornings and evenings. *Avil* (rice flakes), broken wheat *uppuma*, rice gruel, green gram and *idli* were served as morning breakfast. The *Ooru*samithi executive committee, the animator and the project management unit of Kudumbashree Mission are responsible for monitoring the management of the project.

Moreover, the Community Kitchen has helped directly in the reduction of anemic problem, increase in the weight of infants and children and enhanced the health status of pregnant women. Indirect influence included improvement in women empowerment, traditional agricultural activities and overall self-confidence and social commitment among the tribes.

## CONCLUSION

Community grounded programs endure to play a crucial role until health services, education, income, and communications have improved to the point that maternal and child mortality has fallen substantially and malnutrition is much reduced; at this intermediate development level, the needs are less felt, and health services again take on a more prominent role. The efforts to eliminate or even reduce health inequalities are likely to be failed if they flop to intervene upon their fundamental causes, it is imperative that public health researchers examine these policies and identify the structural interventions that hold the greatest (and the least) promise for reducing health inequalities. There need not be implemented the entirely new projects or programs as we already have been tried with success in vast sections of non-tribal areas, the administrative skills and organizational capabilities need to be tuned up according to the tribal needs. Politically-sustained and administrative commitment is what we currently need to have a long-term and comprehensive impact on the health status of tribal populations.

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