

## EXPLORATION OF NUTRIENT CONTENT OF TRADITIONAL RECIPES OF TAMIL NADU WITH THERAPUETIC PROPERTIES

K. KARTHIKA DEVI<sup>1</sup> & V. PREMALA PRIYADHARSHINI<sup>2</sup>

<sup>1</sup>Research Scholar, Department of Food Service Management and Dietetics Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore, Tamilnadu, India

<sup>2</sup>Associate Professor, Department of Food Service Management and Dietetics Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore, Tamilnadu, India

### ABSTRACT

India culture and heritage is filled with multiples of uniqueness, naturality, goodness and identity that are specific to each region. Be its values, customs or its own food habit- Tamil Nadu a known state for its mixture of flavours in food, has many traditional foods of high therapeutic values. Lack of systemic procedures and the advent of frequent eating out culture have made these traditional foods to take a back seat. So original Traditional therapeutic recipes (150) were surveyed and classified for **nine** therapeutic conditions namely Cold (15), Cough (16), Constipation (33), Diabetes (12), Febrile condition (4), Indigestion (4), Ulcer (15), Multi Therapeutic condition (47) and during Convalescent period (4) and were standardized. The standardized recipes were further tested for its acceptability by a panel of 20 members using a "Score card". Since all the 150 recipes were accepted by scoring method of traditional therapeutic recipes was calculated for both micro and macro nutrients using the nutritive of Indian food developed by (NIN).

**KEYWORDS:** Traditional Recipes of Tamil, Therapeutic Recipes, Nutrient Content

### INTRODUCTION

India is a cradle of wonderful promising traditional systems of medicine. The forefather's of Indian medicine believed nature as a cure for any disease condition System of medicine like siddha, Ayurveda and Unnani are being repeatedly explored even today. The World Health Organization (WHO)<sup>1</sup> defined health in its broader sense in 1946 as "a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity.

Traditional medicine may include formalized aspects of folk medicine, i.e. longstanding remedies passed on and practiced by lame people. Practices known as traditional medicines include Ayurveda, Siddha , Unani, ancient Iranian medicine, Irani, Islamic medicine, traditional Vietnamese medicine, traditional Chinese medicine, acupuncture, Muti, Ifá, traditional African medicine, and many other forms of healing method.<sup>2</sup>

Siddha Medicine - one of the oldest medical systems known to mankind is claimed to revitalize and rejuvenate dysfunctional organs that cause the disease and it is believed that this system of medicine maintains the ratio of vata, pitta and kapha. Leaves, flowers, fruit and various roots mixed with different proportion forms the basis for medical therapy.<sup>3</sup>

The treatments of Siddha medicines could be further categorized into following categories such as purgative therapy, emetic therapy, fasting therapy, steam therapy, oleation therapy, physical therapy, solar therapy, blood-letting therapy, yoga therapy, etc. Eighty percent of people in India use some form of traditional medicines, within the category of

Ayurveda, Siddha, Unnani, Naturopathy, Homeopathy.

Ayurveda meaning "life-knowledge" is a system of traditional medicine native to the Indian subcontinent and a form of alternative medicine, this early phase of traditional Indian medicine identified "fever (takman), cough, consumption, diarrhea, dropsy, abscesses, seizures, tumours, and skin diseases (including leprosy)" Treatment of complex ailments, including angina pectoris, diabetes, hypertension, and stones, also ensued during this period.<sup>4</sup>

Mounting health care costs and increased desire to maintain good health and quality of life have focused the researchers 'and public health scientists' attention on the diet, phytonutrients, disease prevention and health promotion.<sup>5</sup>

Biomolecules in the plants play a crucial role in health maintenance and promotion. In Asian countries; particularly, India, China, Japan and Korea; there is a long standing tradition and culture practices attributing healing properties to foods and plant materials. The foods have an extra-ordinary place in the realm of traditional cures as medicines.<sup>6</sup>

There is a treasure house of knowledge, which needs to be explored to establish the scientific basis of its benefits. As rightly pointed out by,<sup>7</sup> common spices like turmeric, fenugreek, mustard, ginger, onions and garlic, and have a distinct place in folk medicine in several of Asian countries. Thus ingredients form an essential component of any traditional recipes.

Traditional foods (also known as indigenous recipes or folk recipes) comprise knowledge systems that are developed over generations within various societies before the era of modernization.

Traditional recipes purely relies on health practices and approaches of putting together plants, herbs, spices and fleshly foods in singular or in combination with a belief to treat and prevent illness or to maintain health and well being.<sup>8</sup>

As per the quotes of Hippocrates "*Let food be thy medicine and medicine be thy food*". Indian home with special reference to mother's of yester years of Tamilnadu have to their credits of using a variety of traditional recipes like Thuthuvalai rasam, Karpuravalli rasam, Ponnakanni keerai poriyal, Nattu kozhi soup, vazhathandu soup, Tulsi tea, Ingi thuvaiyal, Sukku malli coffee, Milagu paal (pepper milk), Chola dosai so on to cure or relive symptoms of diseases condition or to rejuvenate and to maintain good health.

Lack of systematic procedures, tedious methods of preparation, long working hours and frequent dinning out has given the current generation a little reluctance in adopting these recipes in their homes. It is also true that the current working women and homemakers are computer savy and greatly explore the information technology for multiple purposes ranging from education, entertainment and health information. Withthe objective to Collect traditional therapeutic recipes of Tamilnadu, Standardize the recipes, categorize the recipes according to the therapeutic properties and to the Calculate the nutrient content of the selected traditional therapeutic recipes the study was designed as follows

## METHODOLOGY

### Collection of Traditional Therapeutic Recipes

To collect the original traditional therapeutic dishes, the investigator developed a structured Performa . Using the structured Performa, **100** women between the ages of **50 to 65** years from the rural parts of Coimbatore were interviewed and a total of **120**, traditional therapeutic recipes with known potential therapeutic benefits were collected.

Apart from this a total of **30** recipes were collected from magazines and books of reputed standards, thus making a grand total of **150** traditional therapeutic recipes.

### **Categorization of Recipe**

Initially based on the healing properties all the 150 the therapeutic recipes were classified for **nine** therapeutic conditions namely Cold (15), Cough (16), Constipation (33), Diabetes (12), Febrile condition (4), Indigestion (4), Ulcer (15) and during convalescent period (4). Therapeutic recipes were also categorized as vegetarian (**132**) and non- vegetarian recipes (**18**) and were further classified into meal wise as Breakfast/ dinner (**30**), mid-morning (**13**), lunch (**33**), side dish (**30**), tea time (**26**). Similarly the recipes were also categorized for non-vegetarian as mid-morning (**5**), lunch (**5**), and side dish (**8**).

### **Standardization of Traditional Therapeutic Recipes**

All **150** traditional therapeutic recipes were standardized for one portion. The United States Department of Agriculture (USDA) defines a standardized recipe as one that “has been tried, adapted, and retried several times for use by a given foodservice operation and has been found to produce the same good results and yield every time when the exact procedures are used with the same type of equipment and the same quantity and quality of ingredients”

The standardized recipes were further tested for its acceptability by a panel of **20** members using a “numeric rating card”. The recipes which obtained a maximum score between 20 to 25 were rated as highly acceptable, 15 to 20 as acceptable and the score below 15 were rated as not acceptability. Recipe which obtained a score between 15 to 25 were selected for the study. Since, all the recipes standardized obtained a score in the range of 15 to 25 all the **150** recipes were considered.

### **Calculation of Nutrient Content**

Using the nutritive value of Indian food developed by (“**NIN**”) the nutrient content of all the **150** traditional therapeutic recipes was calculated for both micro and macro nutrients namely Energy, Protein, Fat, Carbohydrate, fiber, calcium, Phosphorus, Iron, Carotene, Thiamine, Riboflavin, Niacin and Vitamin C. Based on the nutrient contents, the traditional recipes were categorized as energy rich, low energy, high protein, Low protein, iron rich, and calcium rich recipes.

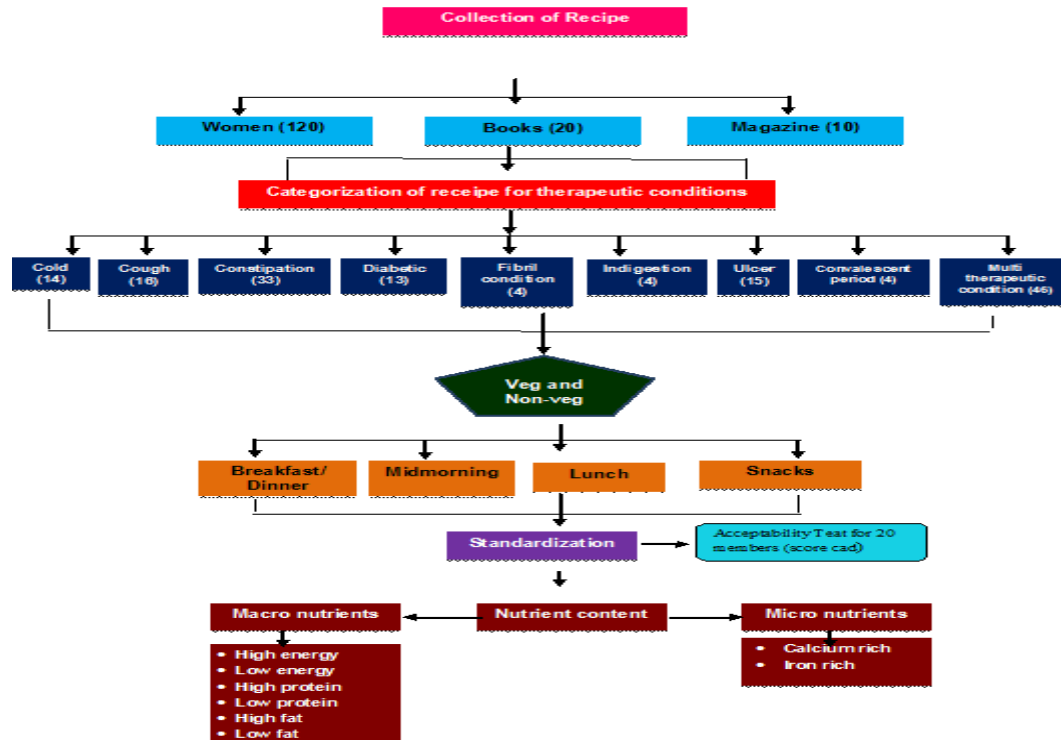


Figure 1: Methodology at a Glance

## RESULTS AND DISCUSSIONS

### Categorization of Recipes

Using a structured Performa 100 of women from rural parts of Coimbatore were interviewed on tradition therapeutic recipes. Recipes that they were familiar and believe to treat various therapeutic conditions were collected. Apart from this, recipes from books which feature special issues on tradition therapeutic foods were also collected.

Table 1: The Meal Wise Categorization of Recipes

| S. No | Vegetarian                       |                     | Non - Vegetarian               |                    |
|-------|----------------------------------|---------------------|--------------------------------|--------------------|
|       | Interview schedule               | Books/ Magazines    | Interview schedule             | Books/ Magazines   |
| 1.    | Interview schedule               | Books/ Magazines    | Interview schedule             | Books/ Magazines   |
| 2.    | Breakfast (26)                   | Breakfast (4)       | Breakfast (NIL)                | Breakfast (NIL)    |
| 3.    | Mid-morning (5)                  | Mid-morning (8)     | Mid-morning (3)                | Mid-morning (2)    |
| 4.    | Lunch (28)                       | Lunch (5)           | Lunch (5)                      | Lunch (NIL)        |
| 5.    | Side Dish (26)                   | Side Dish (4)       | Side Dish (6)                  | Side Dish (2)      |
| 6.    | Tea time (21)                    | Tea time (5)        | Tea time (NIL)                 | Tea time (NIL)     |
|       | <b>Total ( 106 )</b>             | <b>Total ( 26 )</b> | <b>Total ( 14 )</b>            | <b>Total ( 4 )</b> |
|       | <b>Grand Total 106 +26 = 132</b> |                     | <b>Grand Total 14 + 4 = 18</b> |                    |

A total of 150 recipes were collected by the investigator, out of which 120 original recipes were collected from women representing the rural part of Tamilnadu and another 30 recipes were collected from the book / magazines (Table 1). On the whole 132 vegetarian and 18 non - vegetarian recipes with potential therapeutic value were identified.

### Nutrient Content of Traditional Therapeutic Recipes

Using the nutritive Value of Indian Food (NIN) the recipes were calculated

For all the macro and micro nutrients namely Energy, Protein, Carbohydrate, Fat, Fiber, Calcium, Phosphorus,

Iron, Carotene, Thiamine, Riboflavin, Niacin and Vitamin C. The nutrient content of traditional therapeutic recipes standardized for cold.

**Table 2: Nutrient Content of Traditional Therapeutic Recipes for Cold**

| S. No | Recipes               | Energy (kcal) | Pr (g) | CHO (g) | Fat (g) | Fib (g) | Calcium (mg) | Phosphorus (mg) | Iron (mg) | Carotene (mg) | Thiamine (mg) | Riboflavin (mg) | Niacin (mg) | Vit C (mg) |
|-------|-----------------------|---------------|--------|---------|---------|---------|--------------|-----------------|-----------|---------------|---------------|-----------------|-------------|------------|
| 1     | Thuthuvai * Rasam     | 98            | 2      | 8       | 2       | 8       | 89           | 57              | 8.9805    | 107.54        | 2.206         | 0.161           | 0.303       | 3.91       |
| 2     | Jerra Rasam           | 85            | 3      | 11      | 2       | 3       | 38.68        | 26.765          | 9.876     | 91.56         | 0.081         | 0.172           | 0.533       | 6.91       |
| 3     | Thipili Rasam*        | 100           | 3      | 9       | 6       | 3       | 83           | 57              | 70.185    | 111.44        | 0.106         | 0.2143          | 0.403       | 6.76       |
| 4     | Kollu asam            | 115           | 3      | 11      | 7       | 3       | 96           | 72055           | 9.557     | 95.99         | 0.162         | 0.224           | 0.478       | 6.46       |
| 5     | Mudakathan Rasam      | 100           | 3      | 9       | 6       | 3       | 83           | 57              | 70.185    | 111.44        | 0.106         | 0.2143          | 0.403       | 6.76       |
| 6     | Mutton soup           | 97            | 10     | 22      | 7       | 2       | 75           | 75              | 1.25      | 4.5           | 0.09          | 0.07            | 304         | 1          |
| 7     | Aatukal soup          | 97            | 10     | 22      | 7       | 2       | 75           | 75              | 1.25      | 4.5           | 0.09          | 0.07            | 304         | 1          |
| 8     | Nandu soup            | 226           | 8      | 27      | 17      | 2       | 892.6        | 196.9           | 1.453     | 150.3         | 0.309         | 0.13            | 0.25        | 5.55       |
| 9     | Nenjallumbu Soup      | 97            | 10     | 22      | 7       | 2       | 75           | 75              | 1.25      | 4.5           | 0.09          | 0.07            | 304         | 1          |
| 10    | Nattukozhi soup       | 196           | 16     | 22      | 12      | 2       | 102.1        | 192.9           | 1.453     | 150.3         | 0.309         | 0.13            | 0.25        | 5.55       |
| 11    | Kollu soup            | 17            | 2      | 3       | 0.025   | 0.265   | 14.35        | 154.55          | 0.338     | 3.55          | 0.021         | 0.01            | 0.015       | 0.05       |
| 12    | Coconut milk          | 304           | 2      | 55      | 11      | 13      | 44           | 82              | 3         | 0             | 0.147         | 0.042           | 0.28        | 0.25       |
| 13    | Thuthuvai thuvaiyal * | 230           | 6      | 27      | 13      | 4       | 47.65        | 118.35          | 14.803    | 798.3         | 0.428         | 0.6995          | 0.98        | 3.8        |
| 14    | Chicken fry           | 159           | 15     | 5       | 11      | 3       | 32.95        | 149.55          | 0.2545    | 1151.25       | 0.058         | 0.387           | 0.88        | 3.1        |

\* Bioactive components: Thipili - Pipyahine , Thuthuvai - n- butanol

From the table (2) it is clear that Thenga paal (coconut milk) a recipe prepared with by combining Coconut milk extract with powder jaggery which is believed to give relief for the symptoms of cold and chest congestion contributed 304 kcal followed by this Nandu (crab) soup and Thuthuvai thuvaiyal contributed 226 and 230 kcal respectively.

The bio active components n- butanol and Pipyahine present in thuthuvai and thipili is believed to reduced chest congestion and relieve symptoms of cold.

**Table 3: Nutrient Content of Traditional Therapeutic Recipes for Cough**

| S. No | Recipes              | Energy (kcal) | Pr (g) | CHO (g) | Fat (g) | Fib (g) | Calcium (mg) | Phosphorus (mg) | Iron (mg) | Carotene (mg) | Thiamine (mg) | Riboflavin (mg) | Niacin (mg) | Vit C (mg) |
|-------|----------------------|---------------|--------|---------|---------|---------|--------------|-----------------|-----------|---------------|---------------|-----------------|-------------|------------|
| 1     | Mosamosathan Adai    | 112           | 10     | 42      | 2       | 3       | 29.12        | 79.59           | 6.6675    | 753.7         | 1.0375        | 0.206           | 1.865       | 4.875      |
| 2     | Katpuravalli Juice*  | 40            | 0.013  | 10      | 0       | -       | 1.2          | 0.1             | 0.015     | -             | -             | -               | -           | -          |
| 3     | Omamrasam*           | 96            | 5      | 14      | 2       | 2       | 112.6        | 65.06           | 9.055     | 112.81        | 0.1102        | 0.2159          | 3.445       | 6.71       |
| 4     | Millagu Rasam        | 272           | 3      | 46      | 13      | 10      | 132.75       | 223.03          | 21.947    | 1011.44       | 0.152         | 0.412           | 0.929       | 10.55      |
| 5     | Katpuravalli Rasam*  | 100           | 16     | 9       | 6       | 3       | 83           | 57              | 70.185    | 111.44        | 0.106         | 0.2143          | 0.403       | 6.76       |
| 6     | Kozhi Rasam          | 196           | 17     | 32      | 12      | 2       | 102.1        | 192.4           | 1.453     | 150.3         | 0.309         | 0.13            | 0.25        | 5.55       |
| 7     | Mutton Kuzhambu      | 253           | 20     | 3       | 30      | 0.34    | 16           | 226.425         | 2.485     | 0.003         | 0.017         | 0.066           | 0.25        | 0.93       |
| 8     | Chicken Kuzhambu     | 246           | 4      | 311     | 4       | 0.34    | 25.75        | 259.425         | 2.485     | 0.003         | 0.017         | 0.006           | 0.25        | 0.93       |
| 9     | Murugai keerai Rasam | 109           | 20     | 3       | 7       | 3       | 87           | 64              | 70.24     | 789           | 0.112         | 0.2193          | 0.483       | 8.96       |
| 10    | Millagu Chicken      | 97            | 6      | 20      | 0.79    | 0.745   | 41075        | 193.65          | 0.62      | 54            | 0.004         | 0.175           | -           | -          |
| 11    | Sukumalli Coffee*    | 145           | 6      | 20      | 6       | 5       | 235.7        | 133.75          | 30.57     | 312.6         | 0.579         | 0.173           | 3.405       | 0.15       |
| 12    | Sukku Coffee*        | 145           | 8      | 22      | 6       | 5       | 235.7        | 133.75          | 30.57     | 312.6         | 0.579         | 0.173           | 3.405       | 0.15       |
| 13    | Panakalkand Milk     | 160           | 7      | 23      | 9       | 0.985   | 273          | 199.9           | 1.34      | 164           | 0.11          | 0.453           | 0.26        | 4.6        |
| 14    | Kuru millagu Milk    | 159           | 2      | 3       | 9       | 8       | 341.2        | 193.5           | 5.095     | 190.5         | 1.515         | 0.299           | 0.38        | 0.31       |
| 15    | Sukumilagu milk*     | 3             | 3      | 4       | 2       | 4       | 6.30         | 3.93            | 0.71      | 9.2           | 0.022         | 0.035           | 0.11        | 0          |
| 16    | Selavvu Rasam        | 100           |        |         | 6       | 4       | 87           | 51              | 9.073     | 351           | 0.117         | 0.231           | 0.203       | 6.76       |

\* Bioactive components: Katpuravalli- Antipyretic and Leishmanial, Omam- Thymoquinone and carvacrol, Sukku- Gingerol and Phenolic

From the table (3) it is evident that Millagu chicken (20g), Kozhi rasam (12g), Chicken kuzhambu (20g) and Mutton kuzhambu (17g) a known recipe for relieving the symptoms for cough were found to be rich in protein content . In 2000, scientists at the University of Nebraska Medical Centre in Omaha studied the effect of chicken soup on the

inflammatory response in Vitro. They found that some components of the chicken soup inhibit neutrophil migration, which may have an anti-inflammatory effect that could hypothetically lead to temporary ease from symptoms of illness, Similarly Mutton Kuzhambu (253 kcal) had the maximum calorie content followed by chicken kuzhambu (246 kcal). Selavu rasam a known traditional food of Tamilnadu is prepared by boiling and seasoning a mixture of ground ingredients of black pepper, coriander seed, jeeragam, garlic and curry leaves. Selavu rasam, is not only given to children and adult with cough, but also to lactating mother after their child birth. Vitamin C was rich in recipes like Murugai keerai rasam (8.96mg), Millagu rasam (10.55mg) and Millagu rasam (6.76 mg). Also it was observed that Sukku millagu milk (2g), Sukku millagu coffee and Sukku Coffee (6g) was found to be low fat.

**Table 4: Nutrient Content of Traditional Therapeutic Recipes for Ulcer**

| S. No | Recipes                   | Energy (Kcal) | Pr (g) | CHO (g) | Fat (g) | Fib (g) | Calcium (mg) | Phosphorus (mg) | Iron (mg) | Carotene (mg) | Thiamine (mg) | Riboflavin (mg) | Niacin (mg) | Vit C (mg) |
|-------|---------------------------|---------------|--------|---------|---------|---------|--------------|-----------------|-----------|---------------|---------------|-----------------|-------------|------------|
| 1     | Kovaikeerai Soup          | 94            | 3      | 6       | 8       | 5       | 77.19        | 78.3            | 0.945     | 26.67         | 0.046         | 0.058           | 0.58        | 4.25       |
| 2     | Manthakalli Kuzhambu      | 181           | 0.952  | 5       | 3       | 0.34    | 109.5        | 93.175          | 7.61      | 0.063         | 0.017         | 0.1645          | 0.475       | 1.45       |
| 3     | Kovaiikai Kuzhambu        | 173           | 2      | 4       | 3       | 0.84    | 27           | 90.675          | 2.675     | 78.002        | 0.052         | 0.4295          | 0.6         | 8.7        |
| 4     | Arakeerai poriyal         | 82            | 3      | 7       | 6       | 3       | 272          | 54.5            | 2.035     | 18.75         | 0.051         | 0.023           | 0.63        | 2.7        |
| 5     | Sukittikeerai poriyal     | 132           | 5      | 12      | 7       | 2       | 422          | 94.5            | 2.735     | 18.75         | 0.051         | 0.613           | 1.53        | 13.7       |
| 6     | Murugaikerai poriyal      | 155           | 15     | 16      | 7       | 3       | 52           | 94.5            | 1.085     | 6798          | 0.111         | 0.073           | 1.43        | 222.7      |
| 7     | Liver poriyal             | 71            | 15     | 7       | 7       | 2       | 16.3         | 63.48           | 1.333     | 864           | 0.017         | 0.535           | 0.37        | 0.4        |
| 8     | Spleen poriyal            | 50            | 17     | 7       | 6       | 2       | 12.9         | 7.68            | 1.333     | 864           | 0.017         | 0.535           | 0.37        | 0.4        |
| 9     | Kudal poriyal             | 89            | -      | -       | 27      | -       | 9            | 144.75          | -         | -             | -             | -               | -           | -          |
| 10    | Ponnakanni keerai poriyal | 101           | 11     | 11      | 7       | 2       | 143.41       | 76.11           | 5.665     | 43.995        | 10.003        | 0.741           | 0.745       | 3.35       |
| 11    | Kovaikeerai masiyal       | 76            | 5      | 5       | 6       | 1       | 150.3        | 30              | 4.76      | 578           | 0.057         | 0.0965          | 0.32        | 82.75      |
| 12    | Kovaikeerai kootu         | 83            | 8      | 8       | 7       | 3       | 15.91        | 61.11           | 0.99      | 43.99         | 10.003        | 0.741           | 0.745       | 3.35       |
| 13    | Kovaikeerai poriyal       | 136           | 15     | 15      | 6       | 5       | 522          | 84.5            | 1.865     | 1926          | 0.051         | 0.163           | 1.83        | 19.7       |
| 14    | Ponnakanni keerai masital | 76            | 5      | 5       | 6       | 1       | 150.3        | 30              | 4.7675    | 578           | 0.0575        | 0.0965          | 0.32        | 82.75      |
| 15    | Kupakerai poriyal         | 13            | 3      | 3       | 0.165   | 3       | 100          | 15              | 0.5       | 98            | 0.047         | 0.035           | 0.195       | 57.25      |
| 16    | Kupamemi keerai poriyal   | 68            | 9      | 9       | 2       | 3       | 684.5        | 114             | 8.65      | 98            | 0.047         | 0.0365          | 0.195       | 57.25      |

Out of 16 recipes standardized for Ulcer (table 4) six recipes namely Manathakali Kuzhambu (7.61 mg), Liver poriyal (1.333 mg), Spleen poriyal (1.333 mg), Ponnakanni keerai kootu (5.665mg), Kovai keerai masiyal (4.76 mg) and Kupamemi keerai poriyal (8.65 mg) were rich in iron. A portion of each recipe mentioned above had iron content more than 4.5 mg per serving. Scientific studies reveal that the bioactive components Saponin and Alkaloids present in manathakalli and kupamemi keerai are proved to heal scar and ulcer of mouth and stomach. The manathakalli and kupamemi are also used in Sidha and Ayurvedha preparation. Also it can be noted that all the 16 recipes were low fiber in nature.

**Table 5: Nutrient Content of Traditional Therapeutic Recipes for Convalescent Period**

| S. No | Recipes                   | Energy (Kcal) | Pr (G) | Cho (G) | Fat (G) | Fib (G) | Calcium (Mg) | Phosphorus (Mg) | Iron (Mg) | Carotene (Mg) | Thiamine (Mg) | Riboflavin (Mg) | Niacin (Mg) | Vit C (Mg) |
|-------|---------------------------|---------------|--------|---------|---------|---------|--------------|-----------------|-----------|---------------|---------------|-----------------|-------------|------------|
| 1     | Navarathna Kanjee (sweet) | 133           | 12     | 48      | 7       | 2       | 64.3         | 192.6           | 3.347     | 45.5          | 0.581         | 0.107           | 1.95        | 0          |
| 2     | Navarathna kanjee (salt)  | 79            | 12     | 18      | 18      | 2       | 94.3         | 36              | 3.447     | 45.5          | 0.581         | 0.017           | 1.95        | 0          |
| 3     | Ulutham kanjee            | 70            | 5      | 69      | 0.28    | 11.92   | 82.8         | 1.72            | 0.76      | 0.58          | 0.084         | 0.04            | 0.4         | 0          |
| 4     | Venthaiya kanjee          | 34            | 3      | 5       | 0.58    | 0.72    | 16           | 37              | 0.65      | 9.6           | 0.03          | 0.02            | 0.1         | 0          |

The caloric content of Navarathna Kanjee (sweet and salt) was found to be 133 and 79 respectively (table 5). Navarathana kanjee a preparation that includes nine different ingredients namely rice, cambu, cholam, sesame, wheat, ragi, barley, green gram and Bengal gram is normally suggested to improve stamina and immunity due to its proteon quality.

One serving of Navarathana kannjee (Sweet and Salt) gives 12 gram of protein for each recipe. The preparation is mainly given to children and adolescence during convalescent period.

Nutrient content of traditional therapeutic recipes for Diabetic

**Table 6: Nutrient Content of Traditional Therapeutic Recipes for Diabetic**

| S. No | Recipes                    | Energy (kcal)   | Pr (g) | CHO (g) | Fat (g) | Fib (g) | Calcium (mg) | Phosphorus (mg) | Iron (mg) | Carotene (mg) | Thiamine (mg) | Riboflavin (mg) | Niacin (mg) | Vit C (mg) |
|-------|----------------------------|-----------------|--------|---------|---------|---------|--------------|-----------------|-----------|---------------|---------------|-----------------|-------------|------------|
| 1     | Venthaiya Dosai (3 no's)*  | 256             | 10     | 70      | 2       | 2       | 45           | 172.5           | 1.975     | 24            | 0.115         | 1.332           | 1.225       | 0          |
| 2     | Venthaiya Idli (3 no's)*   | 256             | 10     | 70      | 2       | 2       | 45           | 172.5           | 1.975     | 24            | 0.115         | 1.332           | 1.225       | 0          |
| 3     | Vazhathandu soup           | 152             | 3      | 25      | 11      | 2       | 92           | 72.9            | 1.728     | 150.3         | 0.53          | 0.1345          | 0.3         | 0          |
| 4     | Arugampul juice*           | 6               | 0.1    | 2       | 0.09    | 0.17    | 7            | 1               | 0.06      | 0             | 0.002         | 0.001           | 0.01        | 3.9        |
| 5     | Vazhathandu Poriyal        | 155             | 0.35   | 11      | 16      | 2       | 19.5         | 89.5            | 1.21      | 18.75         | 0.0765        | 0.07            | 0.825       | 6.225      |
| 6     | Paavakaai Poriyal          | 76              | 2      | 5       | 6       | 2       | 22           | 59.5            | 0.54      | 81.75         | 0.089         | 0.068           | 0.78        | 46.7       |
| 7     | Venthaiya Kuzhambu*        | 213             | 11     | 18      | 13      | 5       | 106.3        | 172.5           | 5.35      | 814.35        | 0.192         | 0.885           | 7.335       | 4.15       |
| 8     | Venthaiya Keerai Porriyal* | 112             | 6      | 9       | 7       | 2       | 407          | 75.5            | 2.165     | 2340.235      | 0.091         | 0.333           | 1.43        | 54.7       |
| 9     | Vazhathandu Juice          | 21              | 0.25   | 5       | 0.05    | 0.4     | 5            | 5               | 0.55      | 0             | 0.01          | 0.05            | 0.1         | 3.5        |
| 10    | Poondu Kuzhambu            | 213             | 5      | 13      | 11      | 3       | 65.8         | 142.2           | 3.968     | 814.05        | 0.189         | 0.1426          | 1.335       | 3.5        |
| 11    | Paavakaai Kuzhambu         | 196             | 5      | 8       | 11      | 3       | 71.3         | 97.5            | 3.8778    | 821.85        | 0.1105        | 0.8385          | 1.185       | 6.15       |
| 12    | Veapam poo Rasam *         | 100             | 3      | 9       | 6       | 3       | 83           | 57              | 70.185    | 111.44        | 0.106         | 0.2143          | 0.403       | 6.76       |
| 13    | Alovera juice *            | Alovera juice * |        |         |         |         |              |                 |           |               |               |                 |             |            |

\* Bioactive components: arugampul - digoxine, veapampoo - nimbudin, alovera – Mucliginous polysaccharides, fenugreek – fenereekine, diosegenin.

All the thirteen recipes standardized for Diabetes, offered a fiber content of two to three grams. Beside the fibre present in the Arugampul juice, Venthaiya dosai, Venthaiya idli, Venthaiya keerai, Veapampoo rasam and Alovera juice, the bioactive component of Arugampul (digoxine), venthiyam (Fenugreek - fenereekine, diosegenin), veapampoo (Neem flower–Nimbudin), alovera (Mucliginous polysaccharides) were proved to have hypoglycemic effect. It was surprising to note from the recipe survey that our rural folk of Tamilnadu have been preparing and consuming these traditional recipes for ages together before the scientific exploration. \*Since the nutrient content of alovera is yet to be explored the investigator was not able to calculate the nutritive value of the alovera juice

**Table 7: Nutrient Content of Traditional Therapeutic Recipes for Febrile Condition**

| S. No | Recipes         | Energy (Kcal) | Pr (G) | Cho (G) | Fat (G) | Fib (G) | Calcium (Mg) | Phosphorus (Mg) | Iron (Mg) | Carotene (Mg) | Thiamine (Mg) | Rioflavin (Mg) | Niacin (Mg) | Vit C (Mg) |
|-------|-----------------|---------------|--------|---------|---------|---------|--------------|-----------------|-----------|---------------|---------------|----------------|-------------|------------|
| 1     | Jeeraga kasayam | 36            | 2      | 4       | 2       | 2       | 108          | 51.1            | 1.17      | 52.2          | 0.05          | 0.03           | 0.26        | 0.3        |
| 2     | Tulsi tea*      | 18            | 0.935  | 2       | 0.75    | 0.6     | 54           | 25.55           | 0.585     | 26.1          | 0.275         | 0.018          | 0.13        | 0          |
| 3     | Ingi kassayam   | 38            | 2      | 16      | 0.45    | 0.6     | 11.2         | 30              | 1.765     | 20            | 0.03          | 0.015          | 0.3         | 3          |
| 4     | Millagu kanjee  | 88            | 3      | 23      | 3       | 2       | 127          | 68.3            | 2         | 108           | 0.009         | 0.028          | 0.25        | 0.1        |

\*Bioactive components: Tulsi- Eugenol and Phenolic

Though the nutrient content (table 7) of recipes standardized for febrile condition was not caloric or protein dense, but the functional properties for these recipes were repeatedly explored scientifically. The Eugenol and Phenolic compound present in Tulsi dilute flum and relive chest congestion. Ingi (ginger) kasayam a concoction prepared by boiling pounded ginger and coriander seeds in 250 ml of water and reducing it to ½ of its quantity is believed to give relief for fever and cold.

**Table 8: Nutrient Content of Traditional Therapeutic Recipes for Indigestion**

| S. No | Recipes            | Energy (Kcal) | Pr (G) | Cho (G) | Fat (G) | Fib (G) | Calcium (Mg) | Phosphorus (Mg) | Iron (Mg) | Carotene (Mg) | Thiamine (Mg) | Rioflavin (Mg) | Niacin (Mg) | Vit C (Mg) |
|-------|--------------------|---------------|--------|---------|---------|---------|--------------|-----------------|-----------|---------------|---------------|----------------|-------------|------------|
| 1     | Fresh Ginger tea   | 67            | 3      | 13      | 0.9     | 2       | 20           | 60              | 3.5       | 40            | 0.06          | 0.03           | 0.6         | 0          |
| 2     | Cardomam Tea       | 70            | 5      | 7       | 5       | 2       | 121.3        | 91.6            | 0.62      | 53            | 0.072         | 0.36           | 0.18        | 2          |
| 3     | Ingi Thuvaiyal     | 198           | 7      | 25      | 4       | 4       | 49.95        | 133.65          | 14        | 52.3          | 0.11          | 0.066          | 0.74        | 4.1        |
| 4     | Maa Ingi Thuvaiyal | 150           | 3      | 23      | 4       | 4       | 51.2         | 141.15          | 14.95     | 47            | 0.0975        | 0.3975         | 0.39        | 3.45       |

Out of four traditional therapeutic recipes for indigestion, ingi thuvaiyal and cardamom tea was found to have seven and five gram of protein, respectively. The volatile compound present in ginger is believed to smoothen the intestine and cushion the mucosal layer of stomach. Hence it is used as a homemade remedy for indigestion and stomach ailments.

**Table 9(A): Nutrient Content of Traditional Therapeutic Recipes for Constipation**

| Recipes              | Energy (Kcal) | Pr (G) | CHO (G) | Fat (G) | Fib (G) | Calcium (Mg) | Phosphorus (Mg) | Iron (Mg) | Carotene (Mg) | Thiamine (Mg) | Riboflavin (Mg) | Niacin (Mg) | Vit C (Mg) |
|----------------------|---------------|--------|---------|---------|---------|--------------|-----------------|-----------|---------------|---------------|-----------------|-------------|------------|
| Pasalai keerai soup  | 113           | 4      | 6       | 9       | 6       | 134.69       | 93.3            | 5.445     | 508.92        | 0.046         | 0.358           | 0.88        | 8.5        |
| Valara keerai soup   | 35            | 2      | 5       | 2       | 2       | 77.5         | 35.68           | 1.259     | 80.38         | 0.029         | 0.0892          | 0.11        | 0.41       |
| Murungai Keerai soup | 44            | 3      | 6       | 2       | 2       | 81.8         | 105.68          | 2.109     | 758.38        | 0.035         | 0.0942          | 0.19        | 22.41      |
| Ponakani keerai soup | 42            | 3      | 6       | 2       | 2       | 82.5         | 41.68           | 1.422     | 92.98         | 0.029         | 0.1032          | 0.23        | 2.11       |
| Pudina juice         | 52            | 0.21   | 12      | 0.15    | 0.5     | 51           | 15.6            | 4         | 405           | 0.0125        | 0.013           | 0.25        | 6.75       |
| Arakeerai soup       | 37            | 2      | 5       | 2       | 2       | 80           | 38.68           | 1.439     | 80.38         | 0.029         | 0.0892          | 0.11        | 0.41       |
| Pudina soup          | 47            | 2      | 6       | 2       | 2       | 127.4        | 51.8            | 5.159     | 485           | 0.0415        | 0.1022          | 0.36        | 7.16       |
| Ragi vadai (sweet)   | 238           | 3      | 38      | 6       | 0.96    | 103          | 97.75           | 1.323     | 10.5          | 0.1           | 0.0895          | 0.69        | 0          |
| Ragi Vadai (karam)   | 180           | 5      | 22      | 7       | 3       | 110          | 130.25          | 1.445     | 56            | 0.635         | 0.1295          | 1.205       | 3.6        |
| Keerai vadai         | 145           | 7      | 10      | 11      | 3       | 100          | 130.25          | 1.445     | 56            | 0.635         | 0.127           | 1.59        | 88.1       |
| Vazhpoo vadai        | 183           | 4      | 4       | 6       | 2       | 21.89        | 70              | 4.97      | 52.25         | 0.5425        | 0.177           | 1.09        | 7.6        |
| Ragi roti            | 196           | 8      | 49      | 2       | 5       | 205.36       | 216.8           | 3.37      | 1521.76       | 0.529         | 0.674           | 2.065       | 8.65       |
| Sirukeerai Masiyal   | 66            | 2      | 4       | 6       | 0.6     | 28.77        | 28.75           | 7.32      | 98            | 0.0475        | 0.0515          | 0.195       | 12.5       |
| Pannakeerai Masiyal  | 58            | 0.55   | 3       | 6       | 0.6     | 22.5         | 15.02           | 0.5       | 98            | 0.047         | 0.0575          | 0.195       | 12.5       |
| Kupakeerai Masiyal   | 67            | 2      | 3       | 6       | 3       | 105          | 28              | 5.775     | 98            | 0.04          | 0.0515          | 0.195       | 57.25      |
| Arakeerai masiyal    | 69            | 2      | 4       | 6       | 1       | 113.8        | 28              | 13.985    | 98            | 0.0475        | 0.0515          | 0.195       | 12.5       |
| Vazhapoo poriyal     | 151           | 3      | 9       | 17      | 3       | 30.5         | 105.5           | 8.66      | 32.25         | 0.0915        | 0.031           | 0.925       | 10.752     |
| Valarakeerai poriyal | 136           | 6      | 15      | 6       | 5       | 522          | 84.5            | 1.865     | 1926          | 0.051         | 0.163           | 1.83        | 19.7       |
| Sirukeerai poriyal   | 96            | 4      | 8       | 6       | 2       | 263          | 79.5            | 27.535    | 18.75         | 0.057         | 0.023           | 0.63        | 2.7        |

**Table 9(B): Nutrient Content of Traditional Therapeutic Recipes for Constipation**

| Recipes                   | Energy (kcal) | Pr (g) | CHO (g) | Fat (g) | Fib (g) | Calcium (mg) | Phosphorus (mg) | Iron (mg) | Carotene (mg) | Thiamine (mg) | Riboflavin (mg) | Niacin (mg) | Vit C (mg) |
|---------------------------|---------------|--------|---------|---------|---------|--------------|-----------------|-----------|---------------|---------------|-----------------|-------------|------------|
| Ponnakanni keerai poriyal | 136           | 6      | 15      | 6       | 5       | 522          | 84.5            | 1.865     | 1944.5        | 0.051         | 0.163           | 1.33        | 19.7       |
| Agathikeerai poriyal      | 156           | 10     | 15      | 7       | 4       | 1142         | 104.5           | 4.735     | 5418.75       | 0.261         | 0.113           | 1.53        | 171.7      |



Table 9(B): Contd.,

|                         |     |      |    |    |      |        |        |        |          |        |        |       |        |
|-------------------------|-----|------|----|----|------|--------|--------|--------|----------|--------|--------|-------|--------|
| Thuthuvilai thuvaiyal   | 137 | 3    | 22 | 4  | 3    | 44.95  | 118.65 | 14.37  | 42.3     | 0.095  | 0.0585 | 0.59  | 3.2    |
| Vazhakai Poriyal        | 146 | 0.35 | 9  | 16 | 3    | 19.5   | 99.5   | 0.88   | 33.75    | 0.0915 | 0.037  | 0.876 | 14.752 |
| Beetroot Thuvaiyal      | 148 | 4    | 24 | 5  | 4    | 49.525 | 132.4  | 14.667 | 42.3     | 0.105  | 0.081  | 0.69  | 5.7    |
| Karuvpillai thuvaiyal   | 95  | 8    | 34 | 13 | 6    | 454.35 | 527.65 | 15.175 | 3822.8   | 0.46   | 0.1835 | 1.9   | 5.4    |
| Kothumalli thuvaiyal    | 159 | 5    | 26 | 5  | 0.78 | 136.95 | 49.25  | 15.08  | 3501.3   | 0.952  | 0.1242 | 0.79  | 70.7   |
| Pudina thuvaiyal        | 158 | 6    | 25 | 5  | 5    | 144.95 | 149.65 | 22.17  | 852.3    | 0.12   | 0.1903 | 0.89  | 16.7   |
| Agathikeerai koottu     | 106 | 5    | 11 | 7  | 3    | 298.41 | 81.11  | 1.965  | 1393.995 | 10.055 | 0.713  | 1.045 | 45.6   |
| Lotchakeerai Koottu     | 124 | 5    | 11 | 7  | 3    | 95.91  | 8.11   | 1.64   | 43.995   | 10.003 | 0.741  | 0.745 | 3.35   |
| Sirukeerai Koottu       | 91  | 4    | 10 | 7  | 3    | 22.18  | 74.86  | 7.815  | 43.995   | 10.003 | 0.741  | 0.745 | 3.35   |
| Arakeerai Koottu        | 94  | 5    | 10 | 7  | 3    | 106.91 | 74.11  | 10.615 | 43.995   | 10.003 | 0.741  | 0.745 | 3.35   |
| Ponnakami Keerai koottu | 101 | 5    | 11 | 7  | 2    | 143.41 | 76.15  | 1.397  | 523.995  | 10.013 | 0.786  | 0.87  | 73.6   |
| Panakkerai Koottu       | 83  | 3    | 8  | 7  | 3    | 15.91  | 61.11  | 0.99   | 43.995   | 10.003 | 0.741  | 0.145 | 3.35   |

Out of seven soups standardized (table 9a&b) Pasalai keerai soup had the highest fibre (6g) content. Similarly, Ragi vadai (7g), Keerai vadai (11g) and Vazhaipoo vadai (6g) were found to be fiber rich. Fiber helps in mobility of sigmoid colon and it add roughage to the fecal bulk and helps in the management of constipation. Since all green leafy vegetable are good source of iron, the iron content of all the keerai (green leafy vegetables) preparation ranged from 8 to 13 mg per servings.

Table 10(A): Nutrient Content of Traditional Therapeutic Recipes for Multi Therapeutic Condition

| Recipes             | Energy (kcal) | Pr (g) | CHO (g) | Fat (g) | Fib (g) | Calcium (mg) | Phosphorus (mg) | Iron (mg) | Carotene (mg) | Thiamine (mg) | Riboflavin (mg) | Niacin (mg) | Vit C (mg) |
|---------------------|---------------|--------|---------|---------|---------|--------------|-----------------|-----------|---------------|---------------|-----------------|-------------|------------|
| Ragi dosai          | 151           | 14     | 33      | 0.47    | 0.975   | 95.2         | 138.85          | 1.27      | 12.4          | 0.135         | 0.0665          | 0.66        | 0          |
| Chola dosai         | 77            | 5      | 33      | 0.62    | 0.475   | 15.45        | 98.75           | 1.23      | 19.65         | 0.1315        | 0.051           | 1.445       | 0          |
| Sama dosai          | 282           | 5      | 37      | 13      | 5       | 11           | 170             | 5.075     | 0             | 0.1625        | 0.07            | 1.8         | 0.25       |
| kambu dosai         | 160           | 15     | 17      | 2       | 0.375   | 19.7         | 117.25          | 2.295     | 33.295        | 0.1125        | 0.0815          | 0.96        | 0          |
| Gohumai dosai       | 86            | 4      | 18      | 0.425   | 0.49    | 12           | 88.75           | 1.25      | 7.25          | 0.1225        | 0.0425          | 1.25        | 0          |
| Varagu dosai        | 108           | 13     | 23      | 0.32    | 1       | 12.575       | 66.75           | 0.357     | 1.9           | 0.1125        | 0.0302          | 0.635       | 0          |
| Thinnai dosai       | 152           | 15     | 30      | 2       | 3       | 16.695       | 115.75          | 0.29      | 9.9           | 0.1775        | 0.296           | 1.185       | 0          |
| Aadai               | 112           | 10     | 42      | 2       | 3       | 29.12        | 79.59           | 6.6675    | 753.7         | 1.0375        | 0.206           | 1.865       | 4.875      |
| Gothumai roti       | 202           | 11     | 47      | 2       | 4       | 57.36        | 252.8           | 3.85      | 1515.26       | 0.564         | 0.845           | 3.665       | 8.65       |
| Ragi puttu          | 82            | 2      | 18      | 0.32    | 0.9     | 86           | 95.6            | 0.975     | 10.5          | 0.105         | 0.0475          | 0.275       | 0          |
| Thinnai putu        | 83            | 4      | 16      | 2       | 2       | 7.75         | 72.5            | 0.7       | 8             | 0.475         | 0.277           | 0.8         | 0          |
| Varagu puttu        | 189           | 4      | 20      | 11      | 4       | 9.25         | 107             | 0.55      | 0             | 0.1775        | 0.0475          | 0.7         | 0.25       |
| Sama puttu          | 282           | 5      | 37      | 13      | 5       | 11           | 170             | 5.075     | 0             | 0.1625        | 0.07            | 1.8         | 0.25       |
| Gothumai kalli      | 170.5         | 7      | 35      | 0.85    | 0.95    | 24           | 177.5           | 2.45      | 14.5          | 0.245         | 0.085           | 2.15        | 0          |
| Kambu kalli         | 181           | 6      | 34      | 3       | 0.6     | 21           | 148             | 4         | 66            | 0.165         | 0.125           | 1.15        | 0          |
| Ragi kalli          | 164           | 4      | 36      | 0.65    | 2       | 172          | 1415            | 1.95      | 21            | 0.21          | 0.095           | 0.55        | 0          |
| Ulutham kalli       | 180           | 9      | 31      | 3       | 2       | 101          | 156             | 2.3       | 9             | 0.21          | 0.1             | 1           | 0          |
| Chola kalli         | 175           | 5      | 36      | 0.45    | 0.8     | 12.5         | 111             | 2.05      | 23.5          | 0.185         | 0.065           | 1.55        | 0          |
| Sama paniyaram      | 360           | 103    | 71      | 4       | 6       | 67.26        | 276.15          | 7.1065    | 756.65        | 0.33          | 0.222           | 3.23        | 4.475      |
| Cambu paniyaram     | 165           | 16     | 17      | 2       | 2       | 25.245       | 126.85          | 2.641     | 59.05         | 0.1815        | 0.1120          | 1.048       | 4.05       |
| Gothumai paniyaram  | 160           | 16     | 34      | 0.699   | 2       | 86.27        | 1416            | 1.891     | 333           | 0.2215        | 0.0926          | 1.723       | 4.05       |
| Thinnai paniyaram   | 158           | 16     | 32      | 2       | 3       | 22.495       | 55.35           | 1.341     | 34.05         | 0.1315        | 0.3271          | 1.273       | 4.05       |
| Vella paniyaram     | 149           | 12     | 35      | 0.145   | 0.075   | 29.2         | 53.25           | 0.935     | 1.9           | 0.03          | 0.019           | 0.385       | 0          |
| Varagu paniyaram    | 114           | 14     | 25      | 0.4401  | 2       | 18.115       | 76.35           | 0.06635   | 26.05         | 0.124         | 0.0613          | 0.723       | 4.05       |
| Karupatti paniyaram | 154           | 12     | 36      | 0.195   | 0.075   | 418.7        | 58.75           | 0.295     | 1.9           | 0.03          | 0.019           | 0.385       | 0          |
| Chola paniyaram     | 77            | 5      | 33      | 0.62    | 0.475   | 15.45        | 98.75           | 1.23      | 19.65         | 0.1315        | 0.051           | 1.445       | 0          |

Table 10(B): Nutrient Content of Traditional Therapeutic Recipes for Multi Therapeutic Condition

| Recipes                 | Energy (kcal) | Pr (g) | CHO (g) | Fat (g) | Fib (g) | Calcium (mg) | Phosphorus (mg) | Iron (mg) | Carotene (mg) | Thiamine (mg) | Riboflavin (mg) | Niacin (mg) | Vit C (mg) |
|-------------------------|---------------|--------|---------|---------|---------|--------------|-----------------|-----------|---------------|---------------|-----------------|-------------|------------|
| Sundakaai kuzhambu      | 257           | 6      | 8       | 12      | 7       | 163.5        | 125.2           | 4.275     | 802.85        | 0.107         | 0.0816          | 1.06        | 4.15       |
| Fish kuzhambu           | 182           | 5      | 3       | 3       | 0.34    | 9            | 121.675         | 2.485     | 0.003         | 0.017         | 0.0295          | 0.15        | 1.2        |
| Karuvattu kuzhambu      | 182           | 5      | 3       | 3       | 0.34    | 9            | 121.675         | 2.485     | 0.003         | 0.017         | 0.0295          | 0.15        | 1.2        |
| Mullikaai kuzhambu      | 164           | 0.655  | 3       | 3       | 0.34    | 7            | 75.675          | 2.485     | 0.003         | 0.017         | 0.0295          | 0.25        | 1.2        |
| Idli podi               | 109           | 8      | 34      | 0.9     | 1       | 48.65        | 73.84           | 3.125     | 780.45        | 0.561         | 0.118           | 1.65        | 2.9        |
| Groundnut chutney       | 123           | 14     | 15      | 2       | 2       | 14.65        | 81.25           | 2.136     | 413.75        | 0.5125        | 0.090           | 0.14        | 2.95       |
| Groundnut podi          | 142           | 7      | 35      | 0.9     | 2       | 50.44        | 171.44          | 3.99      | 780.4         | 0.6585        | 0.1050          | 2.175       | 2.9        |
| Karunai kelangu poriyal | 118           | 2      | 16      | 16      | 3       | 28.5         | 34.5            | 0.83      | 57.75         | 0.089         | 0.023           | 0.88        | 2.7        |

Table 10(B): Contd.,

| Nethuli karuvadu         | * Nethuli karuvadu |      |      |       |       |       |         |        |         |        |        |       |      |
|--------------------------|--------------------|------|------|-------|-------|-------|---------|--------|---------|--------|--------|-------|------|
| Thundu karuvadu          | *Thundu karuvadu   |      |      |       |       |       |         |        |         |        |        |       |      |
| Blood poriyal            | 156                | 2    | 15.4 | 6     | 1.3   | 2.5   | 60      | 0.425  | 0       | 0.0125 | 0.025  | 0.2   | 0.25 |
| Vatasarna keerai poriyal | 4                  | 0.55 | 3    | 0.09  | 0.6   | 17.5  | 15      | 0.5    | 98      | 0.047  | 0.0365 | 0.195 | 12.5 |
| Panna keerai poriyal     | 90                 | 4    | 6    | 6     | 3     | 123   | 69.5    | 15.035 | 247.9   | 0.515  | 0.243  | 1.33  | 0    |
| Thandu keerai poriyal    | 45                 | 4    | 0.5  | 1     | 6     | 397   | 83      | 3.49   | 5520    | 0.03   | 0.30   | 1.2   | 99   |
| Sesame ladoo             | 240                | 5    | 31   | 11    | 0.725 | 365.5 | 102.75  | 2.4025 | 15      | 0.1525 | 0.35   | 1.1   | 0    |
| Puffed rice ladoo        | 165                | 4    | 87   | 0.05  | 0.15  | 17.5  | 75.5    | 3.6275 | 0.005   | 0.105  | 0.005  | 2.05  | 0    |
| Multigrain ladoo         | 506                | 5    | 61   | 55    | 0.56  | 23.5  | 47.1    | 4.6025 | 129.855 | 0.141  | 0.113  | 0.4   | 0    |
| Pasipayaru ladoo         | 183                | 7    | 40   | 0.375 | 2     | 34    | 81.75   | 11.775 | 23.5    | 0.1175 | 0.0675 | 0.525 | 0    |
| Thinnai ladoo            | 183                | 3    | 41   | 0.425 | 2     | 10.75 | 72.75   | 0.775  | 8       | 0.1475 | 0.277  | 0.8   | 0    |
| Maladu                   | 933                | 12   | 104  | 53    | 0.5   | 38    | 170.375 | 4.9    | 176.5   | 0.21   | 0.1    | 1     | 0    |

Out of Fourty Six recipes standardized (table 10 a &b) for Multi therapeutic condition , the recipes namely Ragi dosai (14g), Kambu dosai (15g), varagu dosai (13g),Thinnai dosai (15g), Cholam, Kambu and Gothumai paniyaram (16g) each and Sundaikaai kuzhambu (6g) were found to be rich in protein. Since all dosai, Puttu and paniyaram contain cereals they are rich in both calories and protein. \*Since the nutrient content of Nethuli and Thundu karuvadu is yet to explore the investigator was not able to calculate the same.

## CONCLUSIONS

The advent of westernization and frequent dinning out practice has made the tradition foods to take their back seat. Tamilnadu as such has a numerous traditional therapeutic foods with potential's to cure and relieve symptoms of various disease conditions (communicable and non- communicable). It is the duty of the researcher and academician to protect and promote our tradition therapeutic recipes for our future generation. Hence the results of the current serves as a promotional tool to popularize and educate our younger generation on the traditional therapeutic systems of medication in the form of recipes. The analysed nutrient content of recipes can serve as a useful resource for the food industries (Hotel Industry) who wish to re- introduce the traditional therapeutic recipes into the commercial market. The dietary departments in hospital can incorporate the above recipes in their diet recommendations to offer holistic traditional therapeutic remedies for various disease conditions.

## Limitation of the Study

Since only limited studies have been taken up in this area, inadequacy of literature on traditional therapeutic foods for survey was experienced by the investigator.

The nutrient content for some of the traditional therapeutic foods like Karpuravalli, Thuthuvalai, Mullikaai etc., are yet to be explored and hence the investigator was not able to calculate the nutrient.

## REFERENCES

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Table 5: Nutrient Content of Traditional Therapeutic Recipes for Convalescent Period. 133. 12. Index Copernicus Value: 3.0 - Articles can be sent to editor@impactjournals.us. Exploration of Nutrient Content of Traditional Recipes of Tamil Nadu with Therapeutic Properties. One serving of Navarathana kannjee (Sweet and Salt) gives 12 gram of protein for each recipe. The preparation is mainly given to children and adolescence during convalescent period. Nutrient content of traditional therapeutic recipes for Diabetic. 172.5 1.975 24 172.5 1.975 24 72.9 1.728 150.3 1 0.06 0 89.5 1.21 18.75 59.5 0.54 81.75 172.5 5.35 814.35 75.5 2.165 2340.235 5 0.55 0 142.2 3.968 814.05 97.5 3.8778 821.85 5 Thavala Adai or Thavala idli is an age old recipe from Thanjavur, Tamil Nadu. It is also called as savoury pancake in English. A heavy yet tasty and delicious snack or dinner recipe prepared in TamilNadu. It is a long lost recipe loaded with lenti 1.1 Administrative map of Tamil Nadu. 1.2 State data. 2.1 Configuration of the continental shelf off Tamil Nadu. 3.1 Districtwise distribution of marine fishing craft 1980. Since the marine resource potential is believed to offer scope for increased production, the state government of Tamil Nadu plans to expand both the fishing fleet and its operational zone by improving and diversifying the fleet. The Sixth Plan target is an additional 80,000 tonne of marine fish, of which more than 70-75% will be the share of the small-scale sector. The state is collaborating with the FAO/SIDA Bay of Bengal Programme for the Development of Small-Scale Fisheries in technological improvement which includes development of beachcraft and high-opening bottom trawling, kattumaram imp Think of Tamil Nadu's food and what mostly comes to mind is filter coffee, idli-vadai and dosai. But, did you know that the land of temples has much more to offer? Even though cuisines from other states are popular here, the state's very own "Chettinad, Kongunadu, Nanjil Nadu and Tambrahm meals are supremely popular here. Every region in the state boasts of special varieties. Some of the traditional Kongu dishes are not cooked anymore. Late chef Jacob was among the few chefs who used to regularly make authentic Kongunadu dishes," says Mallika, adding, "The spice is mild, and they use a lot of pepper and jeera in their dishes." They also add freshly grated turmeric to their dishes, which gives it a unique taste. Their tiffin varieties are said to be really popular. This article takes you through Tamil Nadu's exceptionally fantastic dishes and their recipes. Open the doors to a world of aromatic and taste-bud tingling sensations by trying these classic dishes of Tamil cuisine. 1. Arachuvitta Sambar (Pumpkin Sambar). This is the ultimate soul food for Tamilians and makes its appearance at every festival. Source: Pinterest. Ingredients: 2-inch pieces of tamarind- 2 pieces. Boiled water- 1/2 cup. Toor dal- 1/4 cup.