

Traditional recipes from south India for holistic nutrition for adolescents and young adults

Abstract

Nutrition is the most relevant and important topic to be dealt with in the present situation. Making adolescents eat healthy foods at times feels like an uphill task. However, in the long run, it is important as children need proper nutrients to stay healthy and grow strong. Adolescents are usually choosy about food, however food preferences can be developed through consistent exposure to a variety of foods. Globalization has made a major impact on food systems around the world. In present times, factors like fast-paced life, increasing nuclear families etc, have led to more dependence on fast food and ready to eat foods. Ethnic foods originate from the heritage and culture of an ethnic group that uses its knowledge of local plants and/or animal sources that can substitute fast foods like ketchup, jams, jellies, candies, mayonnaise etc. In the southern part of India, there are traditional foods which are natural, nutritious and delicious. This paper intends to bring out the richness of traditional South Indian foods. It aims to throw light on many such traditional Indian recipes like Chutney Pudi, Unde which are not popular like other condiments and snacks. Some of the recipes are easy to prepare, nutritious, tasty and have a long shelf which can be used as substitutes for sauce and jams. This is a humble attempt to communicate the wealth of culinary knowledge of Indians on traditional foods for the betterment of humankind all over the planet.

Keywords: traditional food, nutrition, lifestyle diseases, health

Volume 16 Issue 4 - 2023

Shubhashree MN, Sonam Chandhok, Rinky Thakur, Bhavya BM

Research Officer (S-3), Central Ayurveda Research Institute, India

Correspondence: Shubhashree MN, Research Officer (S-3), Central Ayurveda Research Institute, Bangalore, Karnataka, India 560109, Email shubhatheja@gmail.com

Received: April 29, 2023 | **Published:** July 03, 2023

Introduction

Holistic nutrition is vital for a long healthy life and its foundation starts to build from childhood years. Youngsters are the future of this world, and ensuring their healthy growth and development ought to be a supreme concern of all societies. Boosting their immunity and fostering their proper physical, mental and psychological growth is the holistic way to make them stronger and healthier. Especially, childhood is a crucial age of development. Statistics show that the majority of children below the age of 5 years do get 7–8 episodes of cold per year¹ as children are more vulnerable to infection because their immune system is underdeveloped. At this age, any intervention which can improve their immune system may prove to be a boon.

With changing lifestyles and food habits, there has been an increasing trend in the intake of fast food (junk food) and sweetened beverages.² Due to convenience, palatability, catchy presentation, different taste and tempting flavours, easy availability, lack of time, affordability, fad etc., consumption of such food is increasing day by day.³ It has also been analysed that the fast-food industry is expanding at a rate of 40% every year.⁴ A survey conducted by the Centre of Science and Environment (CSE) on 13,200 children between the age group of 9–14 years has seen that 93% of children eat packaged food and 68% consume sugar-sweetened beverages more than once a week. 53% consume these products at least once a day and one-fourth of school-going children consume burgers, pizza etc. more than once a week.⁵ Also, metabolic disorders are on a rise recently, reasons for which can be attributed to food and lifestyle. The increase in childhood obesity has led to life-threatening conditions in many developing countries.⁶ Even among the children of developed nations, there exists a problem of inadequate nutrition. Lack of nutrition or under nutrition is not affecting only the poor; in fact, it affects all the socio-economic groups across the globe.^{7,8}

Ayurveda, a traditional system of medicine that originated over three millennia ago in the South Asian region, offers extensive

insights about food and health. The classical Ayurveda texts cover an array of themes on food ranging from the diversity of natural sources, their properties in relation to seasons and places and to their specific function both in physiological and pathological states.

According to Ayurveda, food is one of the three basic pillars of life as it plays a vital role in maintaining health and longevity. Acharya Charaka stated that “we are what we eat”, highlighting the role of good quality food in the health of an individual. The diet and *agni* (Gut/metabolism) influences healing and well-being rather than mere intake of nutrients and calories. In fact, it has elaborate rules on what to eat, how to eat, when to eat, combinations to avoid, who can eat what, and so on. For children to have a stronger gut, a disciplined dietary routine and an active lifestyle is a must. India represents vast geographic, socioeconomic, biological, and cultural diversity which is also reflected in the dietary diversity of traditional foods.

The main objective of this paper is to disseminate the healthy and popular as well as lesser known traditional foods and to compile an evidence base for traditional food.

Methodology

Various recipes of traditional foods were gathered using primary and secondary sources along with their nutritional profiles.

Results

Traditional recipes like Chutney Pudi, Unde, Ragi Hurihittu are discussed below. For each recipe, their regional variations and nutritional profiles are elaborated on in this section.

Enumeration and description of traditional food of (Karnataka) South India

Chutney pudi⁹ Popularly known as Chutney powder or gunpowder is a spicy powder made up of roasted lentils or groundnut. It is served as a condiment to enhance the taste with rice or breakfast

dishes like Dosa, Idli. It is prepared with urad dal, chana dal, toor dal, grated coconut, dried red chillies and some curry leaves. Each state of South India has its variety and form based on the main ingredient (i.e. dried curry leaves are the main component of curry leaves chutney pudi). In Karnataka, this powder is traditionally mixed with steamed rice and ghee or combined with plain yogurt. It can be sprinkled on salads or stuffed into veggies. It can be used as a substitute for ketchup and sauces.

Karnataka-style chutney pudi 0

It is prepared using Black gram (Urad dhal), Bengal gram, red chillies, dry coconut powder, tamarind, curry leaves and salt. The ingredients are roasted, powdered and mixed (Appendix 1). Since it contains Black gram and Bengal gram, it is rich in proteins and helps in growth and development. Tables 1 & 2 show the nutritional information and mineral profile of its ingredients.

Table 1 Showing the Nutritional Profile^{11,12} of the ingredients of Karnataka style Chutney Pudi

Ingredients (Per 100 g)	Black Gram	Bengal Gram	Red Chillies	Dry Coconut	Tamarind	Curry Leaves
Moisture (g)	10.9	9.9	10	4.3	20.9	63.8
Protein (g)	24	20.8	15.9	6.8	3.1	6.1
Fat (g)	1.4	5.6	6.2	62.3	0.1	1.0
Minerals (g)	3.2	2.7	6.1	1.6	2.9	4.0
Crude Fibre (g)	0.9	1.2	30.2	6.6	5.6	6.4
Carbohydrates (g)	59.6	59.8	31.6	18.4	67.4	18.7
Energy (Kcal)	347	372	246	662	283	108
Calcium (mg)	154	56	160	400	170	830
Phosphorous (mg)	385	331	370	210	110	57
Iron (mg)	3.8	5.3	2.3	7.8	17	0.93
Carotene (µg)	38	129	345	0	60	7560
Thiamine (mg)	0.42	0.48	0.93	0.08	-	0.08
Riboflavin (mg)	0.20	0.18	0.43	0.01	0.07	0.21
Niacin (mg)	2.0	2.4	9.5	3.0	0.7	2.3
Folic acid (µg)	132	32	-	16.5	-	93.9
Vitamin C (mg)	0	147.5	50	7	3	4

Table 2 Showing the Mineral Composition^{11,12} in the ingredients of Karnataka style Chutney Pudi

Ingredients (per 100g)	Mg (mg)	Na (mg)	K (mg)	Cu (mg)	Mn (mg)	Mo (mg)	Zn (mg)	Cr (mg)
Black gram	130	39.8	800	0.93	0.96	0.425	3	0.029
Bengal gram	130	73.2	720	1.34	1.05	0.195	1.7	0.001
Red chillies	-	14	530	-	-	-	-	-
Dry coconut	-	-	-	1	6.24	0.021	5	-
Tamarind	41	-	-	0.2	0.55	-	-	0.056
Curry leaves	44	-	-	0.10	0.15	-	0.20	0.006

Uchellu/ gurellu chutney pudi

It is a speciality of North Karnataka. It is a mixture of dry roasted powders of Niger seeds (Hyoscyamusniger), peanuts, garlic, red chillies, curry leaves, tamarind and salt (Appendix 1). Tables 3 & 4 show the nutritional information and mineral profile of its ingredients.

Niger seed flour is a good source of important amino acids. Niger oil possesses high levels of omega-3 fatty acids and linoleic acid. Niger seeds are used in treating gastrointestinal and respiratory disorders and bladder hyperactivity.¹³ Study has proved anti-inflammatory, analgesic and antipyretic activities of seeds of Hyoscyamusniger and isolation of a new coumarinolignan which is used to treat arthritis, gout, rheumatism, fever and high blood pressure.¹⁴

Table 3 Showing the Nutritional Profile^{11,12} of the ingredients of Uchellu/ Gurellu Chutney Pudi

Ingredients (per 100g)	Niger seeds	Peanuts	Garlic
Moisture (g)	4.2	1.7	62
Protein (g)	23.9	26.2	6.3
Fat (g)	39	39.8	0.1
Minerals (g)	4.9	2.5	1.0
Crude Fibre (g)	10.9	3.1	0.8
Carbohydrates (g)	17.1	26.7	29.8
Energy (Kcal)	515	570	145
Calcium (mg)	300	77	30
Phosphorous (mg)	224	370	310
Iron (mg)	56.7	3.1	1.2
Carotene (µg)	-	0	0

Table 3 continued.....

Ingredients (per 100g)	Niger seeds	Peanuts	Garlic
Thiamine (mg)	0.07	0.39	0.06
Riboflavin (mg)	0.97	0.13	0.23
Niacin (mg)	8.4	22.1	0.4
Vitamin C (mg)	0	0	13

Table 4 Showing the Mineral Composition^{11, 12} in the ingredients of Uchellu/ Gurellu Chutney Pudi

Ingredients (per 100g)	Mg	Na	K	Cu	Mn	Mo	Zn	Cr	S	Cl
Peanuts	-	-	-	0.9	1.10	0.166	3.90	0.048	-	-
Garlic	71	-	-	0.63	0.86	-	1.93	0.020	-	-

Nuvvulu pudi

It is a recipe of the state of Andhra Pradesh in India. It is made by dry roasting and grinding sesame seeds, black gram (dhal), Bengal gram, coriander seeds, cumin seeds and red chillies along with salt and can be eaten along with idly, dosa, rice etc (Appendix 1). This is very nutritious as it contains proteins and fat. Table 5 shows the nutritional information and mineral profile of its ingredients.

Ayurvedic lexicons attribute various properties to sesame such as Balya (Strength promoting), Keshya (promotes hair growth), Tvachya (Emmolient), Vranaropana (Wound healing), Dantya (Strengthens the teeth), Matiprada (promotes intelligence) and Agni deepana (improves appetite).¹⁵

Table 5 Showing the Nutritional Profile^{11, 12} of the ingredients of NuvvuluPudi

Ingredients (Per 100 g)	Sesame seeds	Coriander seeds	Cumin seeds
Moisture (g)	5.3	11.2	11.9
Protein (g)	18.3	14.1	18.7
Fat (g)	43.3	16.1	15
Minerals (g)	5.2	4.4	5.8
Crude Fibre (g)	2.9	32.6	12
Carbohydrates (g)	25	21.6	36.6
Energy (Kcal)	563	288	356
Calcium (mg)	1450	630	1080
Phosphorous (mg)	570	393	511
Iron (mg)	9.3	7.1	11.7

Nallakaram pudi

This recipe is popular in Andhra Pradesh in India. It is made by roasting black gram (dhal), Bengal gram, coriander seeds, red chilli, garlic pods, curry leaves and cumin seeds separately, grinding and mixing with tamarind and salt (Appendix 1).

the digestive tract. It is rich in iron, minerals such as potassium, magnesium, phosphorous and calcium too. It also helps to reduce inflammation in skin. It is the best source of protein for vegetarians. This is the healthiest homemade food item for those kids who are fussy. This will definitely change their taste if sprinkled over warm idlis and masala dosa as well. Table 6 shows the nutritional profile of Nallakaram Podi.

It has an immense amount of dietary fibre, helps to improve digestion and stimulates easy release of waste material outside

Table 6 Showing the Nutritional Profile^{11, 12} of NallakaramPodi (per 100gm)

1	Calories	364,810
2	Fat	11gm
3	Carbohydrate	50gm
4	Sodium	2560mg

Shenga chutney pudi

Peanuts, Garlic cloves, cumin seeds, salt and red chillies are dry roasted separately and grinded into coarse powder to prepare this (Appendix 1). This powder is very nutritious, healthy and prepared immediately with fewer ingredients. It can be taken with curd, idli, dosa and plain roti as well. Its ingredients has many benefits as shown in Table 7.

Menthye Hittu

It is popular in the Western Ghats region of Karnataka. Rice, Wheat, Bengal gram, Black gram, green gram, lentil, fenugreek seeds, mustard seeds, Cumin seeds, Coriander seeds, red chillies and Black peppercorns are roasted separately and seasoned with turmeric powder and Asafoetida. It is coarsely grounded to prepare menthyehittu (See Appendix 1). Tables 8 & 9 show the nutritional profiles and mineral information of the ingredients of menthye Hittu

Table 7 Properties and Benefits of Peanuts¹⁶ and Garlic¹⁷

Ingredients	Properties	Benefits
Peanuts	Rich in Protein	Handful of peanuts contain 7.3 gm of protein
	Vitamin B1, B2, Folate, Vitamin B9, Thiamine	Provides Instant energy, good for brain health.
	Manganese	Makes bones strong
	Phosphorous	Builds bones
	Niacin, Vitamin B3	Healthy skin formation, prevents skin disease
	Zinc, Vitamin A	Good for eyes and prevents night blindness
Garlic	Anti-inflammatory property	Prevents inflammatory conditions like Arthritis
	Antioxidant	Free radical scavenger
	Antimicrobial, Antiviral, Antifungal properties	Preventing and treating cold and other infections

Table 8 Showing the Nutritional Profile^{11,12} of the ingredients of MenthyeHittu

Ingredients (Per 100 g)	Rice, raw, milled	Wheat flour, (whole)	Green Gram	Lentil	Fenugreek seeds	Mustard	Turmeric	Asafoetida
Moisture (g)	13.7	12.2	10.1	12.4	13.7	8.5	13.1	16
Protein (g)	6.8	12.1	24.5	25.1	26.2	20	6.3	4
Fat (g)	0.5	1.7	1.2	0.7	5.8	39.7	5.1	1.1
Minerals (g)	0.6	2.7	3.5	2.1	3.0	4.2	3.5	7
Crude Fibre (g)	0.2	1.9	0.8	0.7	7.2	1.8	2.6	4.1
Carbohydrates (g)	78.2	71.2	59.9	59.0	44.1	23.8	69.4	67.8
Energy (Kcal)	345	346	348	343	333	541	349	297
Calcium (mg)	10	41	75	69	160	490	150	690
Phosphorous (mg)	160	306	405	293	370	700	282	50
Iron (mg)	0.7	5.3	3.9	7.58	6.5	7.9	67.8	39.4
Carotene (µg)	0	29	49	270	96	162	30	4
Thiamine (mg)	0.06	0.49	0.47	0.45	0.34	0.65	0.03	0
Riboflavin (mg)	0.06	0.17	0.21	0.20	0.29	0.26	0	0.04
Niacin (mg)	1.9	4.3	2.4	2.6	1.1	4	2.3	0.3
Folic acid (µg)	8	35.8	140	36	84	-	18	-
Choline (mg)	-	-	-	299	1161	211	-	-

Table 9 Showing the Mineral Composition^{11,12} in the ingredients of MenthyeHittu

Ingredients (per 100 g)	Mg	Na	K	Cu	Mn	Mo	Zn	Cr	S	Cl
Rice, raw, milled	64	-	-	0.07	0.51	0.045	1.3	0.003	-	-
Wheat flour, (whole)	132	20	315	0.51	2.29	0.039	2.2	0.006	122	29
Green gram	122	27.2	1150	0.39	2.47	0.304	3.0	0.014	188	12
Lentil	74	-	-	1.37	0.81	-	3.1	0.020	-	-
Fenugreek seeds	33	76.1	31	0.10	0.23	0.40	0.36	0.006	167	165
Mustard seeds	-	-	-	0.83	2.56	0.089	4.80	0.063	-	-
Turmeric	278	-	-	0.39	8.38	-	2.72	0.069	-	-
Asafoetida	80	-	-	0.43	1.12	-	0.83	0.079	-	-

The Fenugreek seeds contain soluble dietary fibre. The compounds present in fenugreek help lower LDL- Cholesterol levels by bile salts reabsorption in the colon.

It helps to increase the bulk of the food and augment bowel movements, helps in easy digestion and relieves constipation. The seeds are used in traditional medicines to make laxatives, digestive and as a remedy for cough and bronchitis. If used regularly, fenugreek seeds help control cholesterol, triglycerides as well as high blood sugar (glycaemia) levels in diabetics.

Unde: It refers to sweet balls made using a syrupy base of jaggery and ingredients like Rava (Semolina), Soya, dry fruits etc. They can be consumed as evening snacks as they have good nutritional value and shelf life varying from 3 days to 1 week.

Antinunde:¹⁸ It is made out of dry raisin, almond, cashew, pistachios, dry coconut and seedless dates. All ingredients are roasted in ghee and ground to coarse powder. It is then made into balls and stored in air tight container. This is very nutritious and rich in proteins, fats and antioxidants. It is highly recommended for children, pregnant women and also for lactating mothers. Table 10 and Table 11 show the nutritional profiles and mineral information of the ingredients of Antinunde.

Shenga unde: It is an easy recipe with very less ingredients like ground nut and jaggery syrup. Ground nut is roasted and put in jaggery syrup and balls are made (See Appendix 1). Peanut kernels are a good source of dietary protein; compose fine quality amino acids that are essential for growth and development of a child. Table 12 shows the nutritional profile of Shenga Unde.

Table 10 Showing the Nutritional Profile^{11,12} of the ingredients of Antinunde

Ingredients (Per 100 g)	Raisins	Almonds	Cashew	Pistachios	Dates
Moisture (g)	20.2	5.2	5.9	5.6	59.2
Protein (g)	1.8	20.8	21.2	19.8	1.2
Fat (g)	0.3	58.9	46.9	53.5	0.4
Minerals (g)	2	2.9	2.4	2.8	1.7
Crude Fibre (g)	1.1	1.7	1.3	2.1	3.7
Carbohydrates (g)	74.6	10.5	22.3	16.2	33.8
Energy (Kcal)	308	655	596	626	144
Calcium (mg)	87	230	50	279	22
Phosphorous (mg)	80	490	450	528	38
Iron (mg)	7.7	5.09	5.81	8.5	0.96
Carotene (µg)	2.4	0	60	144	26
Thiamine (mg)	0.07	0.24	0.63	0.67	0.01
Riboflavin (mg)	0.19	0.57	0.19	0.28	0.02
Niacin (mg)	0.7	4.4	1.2	2.3	0.9
Vitamin C (mg)	1	-	-	-	5

Table 11 Showing the Mineral Composition^{11,12} in the ingredients of Antinunde

Ingredients (per 100g)	Mg	Na	K	Cu	Mn	Mo	Zn	Cr
Raisin	28.32	10.16	913	0.39	0.41	0.011	0.25	0.009
Almond	373	-	-	0.97	1.88	-	3.57	0.161
Cashew	349	-	-	1.66	1.42	-	5.99	0.163
Pistachios								
Dates	12	-	-	0.05	0.03	-	0.03	0.004

Table 12 Showing the Nutritional Profile¹⁹ of the ingredients of 1 serving of ShengaUnde (Peanut Ladoo)

S. No.	Nutrients	Value
1	Calories	235.4
2	Carbohydrate	12.1gm
3	Fat	18.8gm
4	Protein	8.6gm
5	Sodium	2.2mg
6	Potassium	240.3mg
7	Vitamin B6	4.7%
8	Vitamin E	14.2%
9	Folate	13.2%
10	Niacin	2.4.7%

Wheat unde: Wheat flour is fried with ghee and added to Jaggery syrup along with fried groundnuts and balls are made. These wholesome and nutritious balls/laddus are best for kids to satisfy hunger pangs,

weight gain and anaemia also. Table 13 shows the nutritional profile of whole wheat grain.

Table 13 Showing the Nutritional Profile of 100gm of whole grain wheat

Major Nutrient	Value per 100gm Wheat ²⁰	Value per 100 gm Ghee ²¹	Value per 10 gm Jaggery ²²	Value per 1gm Roasted Groundnut
Calories	340		38.3	5.9
Protein	13.2gm		0.01 gm	0.2gm
Water	11%		0.40gm	0
Carbohydrates	72gm		9.8gm	0.2gm
Fat	2.5gm	99.5gm	0	0.5gm
Fiber	10.7gm	Saturated Fats-61.9g,	0	0.1gm
Sugar	0.4gm	Trans-4g,	9.7 gm	0.1gm
Vitamins	-	VitaminsA-3069 IU, Vitamin E- 2.8mg	Naicin-0.01 1mg,Vitamin B6 0.004mg,Folate 0.1mcg	-
Minerals	-		Calcium-8mg, Iron-0.30mg,Mg- 16mg, Potassium- 13mg,Sodium-3mg, Manganese -0.01mg	Iron0.1%,Sodium-4.1mg
Cholesterol	-	256mg	-	-

Rava unde: Semolina is fried in a pinch of ghee and added to sugar syrup. It is garnished with raisins and cashews and balls are made (Appendix 1). These are stored in air tight containers and eaten as evening snacks. Table 14 shows the nutritional profile of RavaUnde.

Soya unde: Soya beans are powdered, roasted and put into jaggery syrup and heated till it becomes thick. It is then rolled into balls and stored in air tight container. It can be garnished with cashew, raisins and other dry fruits.

Ragi hurihittu

Ragihurihittu is the flour of popped finger millet, enriched with nutrients and dietary fibres (Appendix 1). The flour is used for the preparation of ready-to-eat malts. It can be rolled into balls by adding milk and jaggery to prepare a healthy and tasty snack (Appendix 1). The major reason behind the high nutritional value of ragihurihittu is the presence of high reducing sugar concentration and amylase enzyme activity of finger millet. To enhance the nutritional value of hurihittu, finger millet is germinated, which improves the bioavailability of iron, zinc and calcium. It can be used for the preparation of dietetic foods for anaemia patients and geriatric food formulation. Ragi is given as the first food for infants as it is rich in nutrition. Gelatinization increases digestibility, improves taste, and enhances nutritional properties.²⁵ Nutritional facts about ragi are shown in Table 16.

Table 14 Showing the Nutritional Profile²³ of the ingredients of 1 serving of RavaUnde (Semolina Ladoo)

S.No	Nutrients	Value
1	Calories	303 kcal
2	Carbohydrate	45gm
3	Fat	12gm
4	Protein	3gm
5	Sodium	15mg
6	Potassium	70mg
7	Cholesterol	27mg

Table 15 Showing the Nutritional Profile²⁴ of Soya

S.No.	Composition	Value
1	Moisture	8.1
2	Protein	43.2
3	Fat	19.5
4	Minerals	4.6
5	Crude fibres	3.7
6	Carbohydrates	20.9
7	Calcium	240
8	Phosphorus	690
9	Iron	10.4
10	Carotene	426
11	Thiamine	0.73
12	Riboflavin	0.39
13	Folic acid	100
14	Magnesium	175mg
15	Manganese	2.11mg
16	Copper	1.12mg

Some other preparations related to Ragi are described below

- a) Ragi or Finger Millet is soaked, sprouted, dried, powdered and stored. The powder is mixed with water or milk and heated to make porridge.

- b) Ragi can also be administered as ragi sweat balls. Ragi powder and grated dry coconut is added to jaggery syrup and mixed till it attains thick consistency. It is rolled into balls and stored in air tight containers. It can be a good evening snack for children.

- c) Ragiambli is another recipe with ragi. Few spoons of ragi is cooked with lots of water and later consumed with buttermilk. Ragi is the food of choice in South India in diabetes as it has low glycaemic index.

Table 16 Showing the Nutritional Profile²⁶ for edible portion of ragi per 100g

Nutrients	Values	Nutrients	Values
Protein	7.3g	Thiamine	0.42 microgram
Fat	1.3g	Riboflavin	0.19 mg
Energy	328Kcal	Niacin	1.1mg
Calcium	344mg	Vitamin A	42 microgram
Phosphorus	283mg	Iron	3.9mg

Discussion

Ethnic foods which originate from a heritage and culture of an ethnic group who use their knowledge of local ingredients of plants and/or animal sources could be the substitute of the fast foods like ketchups, jams, jellies, candies, mayonnaise etc. Childhood overweight and obesity persist as significant health risks for children globally. Current literature suggests that in order to promote healthy eating habits, parents must strike a balance between setting reasonable limits, providing healthful foods, structured eating occasions, supporting children’s unique food preferences and regulation of appetite.²⁷

Different regions in the southern part of India have various food recipes which are not so familiar in other regions but are rich in nutrition and are also delicious. For instance, antinaunde is a very nutritious recipe which does not require any preservatives, it can be a great substitute for jellies or can be consumed as an evening snack. It can be consumed like a protein bar by children or debilitated people. Ragihurihittu is the flour of popped finger millet, rich in dietary fibres and nutrients. To enhance the nutritional value of hurihittu, finger millet is germinated, which improves the bioavailability of iron and zinc and calcium. It can be used for the preparation of dietetic foods for children from 6 months to 2years as a substitute for ready foods like cerelec.

Childhood is a crucial period for establishing lifelong healthy nutritional habits. Jaggery (*Gur*) is a natural sweetener made by the concentration of sugarcane juice, and contains all minerals and vitamins present in sugarcane juice.²⁸ Addition of ghee to these preparations and incorporating it in the diet helps in improving memory and concentration also. It boosts digestion, relieves constipation, strengthens immunity and enhances skin texture. Addition of dry fruits in various preparations not only imparts taste but also makes them an extremely rich source of proteins and minerals. For instance, raisins are natural sources of iron rich and prevents anaemia. Thus, including dry fruits in the diet of children can help their overall growth and development.²⁹

Conclusion

Our ancestors used to eat healthy and nutritious food based on their native traditions that were based on scientific principles. Generation by generation, the rich knowledge of nutritious yet tasty food has faded over time. Today, most people live a fast-paced life with increasing over-dependence on fast food, sweetened beverages, preservatives and

junk food which has an adverse impact on the health of children all over. Globally there has been a considerable rise in lifestyle diseases. Strengthening traditional knowledge related to healthy foods is also expected to enhance local production and consumption systems which are local livelihood supporting and sustainable. The growing human imprints, fast life and modernization have put the Natural Environment across the globe under strain. It is a known fact that changing dietary habits have made a major contribution in the same. Therefore it is strongly felt and recommended that scientific documentation of knowledge and the importance of the use of traditional food should be encouraged. The use of traditional food across the regions would help in improving the health of the society overall. It will enable the generations to come to lead a healthy lifestyle and appreciate the principles of nature and traditional food.

Acknowledgements

Authors are grateful to Director General, Central Council of Research in Ayurvedic Sciences and Assistant Director Incharge, CARI for their constant support and encouragement. Sincere thanks to Dr. Shylashri C. and Dr. Suma for their valuable inputs and creative suggestions. Authors are thankful to Dr. Chandini C. for the technical support.

Conflicts on Interest

Author declarers there are no conflicts of interest

Funding

None.

References

- Jesenak M, Ciljakova M, Rennerova Z, et al. Recurrent Respiratory Infections in Children – Definition, Diagnostic Approach, Treatment and Prevention. In: Martin-Loeches I, editor. *Bronchitis*. London: IntechOpen; 2011.
- Kaushik JS, Narang M, Parakh A. Fast food consumption in children. *Indian Pediatr*. 2011;48(2):97–101.
- Joseph N, Nelliyanil M, Rai S, et al. Fast Food Consumption Pattern and Its Association with Overweight Among High School Boys in Mangalore City of Southern India. *J Clin Diagn Res*. 2015;9(5):LC13–LC17.
- Gupta P, Shah D, Kumar P, et al. Indian academy of pediatrics guidelines on the fast and junk foods, sugar sweetened beverages, fruit juices, and energy drinks. *Indian pediatrics*. 2019;56(10):849–863.
- Bhushan C, Taneja S, Khurana A. Burden of Packaged Food on Schoolchildren: Based on the CSE Survey ‘Know Your Diet’. New Delhi: Centre for Science and Environment; 2017.
- Hotamisligil GS. Inflammation and metabolic disorders. *Nature*. 2006;444(7121):860–867.
- Prentice AM, Jebb SA. Fast foods, energy density and obesity: a possible mechanistic link. *Obes Rev*. 2003;4(4):187–194.
- Nisar N, Qadri MH, Fatima K, Perveen S. Dietary habits and life style among the students of a private medical university Karachi. *J Pak Med Assoc*. 2009;59(2):98–101.
- Nayak’s Masalas. Chutney Powder. Mangaluru: Nayak’s Masalas; 2022.
- Kota I. Karnataka Style Chutney Pudi. New York: Big Apple Curry; 2013.
- Gopalan C, Rama Shastri BV, Balasubramanian SC. Nutritive Value of Indian Foods. Hyderabad: National Institute of Nutrition, ICMR; 2012.
- Longvah T, Anantan I, Bhaskarachary K, Venkaiah K. Indian food composition tables: Nutritive Value of Indian Foods. Hyderabad: National Institute of Nutrition, ICMR; 2017.
- Gilani AH, Khan AU, Raoof M, et al. Gastrointestinal, selective airways and urinary bladder relaxant effects of Hyoscyamusnigerare mediated through dual blockade of muscarinic receptors and Ca²⁺ channels. *Fundam Clin Pharmacol*. 2008;22(1):87–99.
- Begum S, Saxena B, Goyal M, et al. Study of anti-inflammatory, analgesic and antipyretic activities of seeds of Hyoscyamusniger and isolation of a new coumarinolignan. *Fitoterapia*. 2010;81(3):178–184.
- Nighantu B. Commentary by KC Chuneekar. Varanasi: Chowkhamba Bharti Academy. 2004.
- <https://www.tarladalal.com/article-health-benefits-of-peanuts-254>
- <https://www.tarladalal.com/article-8-crucial-health-benefits-of-lehsun-garlic-263>
- <https://www.indianhealthyrecipes.com/recipes/karnataka-recipes/>
- Spark Recipes. Calories in Peanut Laddu. Spark Recipes; 2022.
- <https://www.healthline.com/nutrition/foods/wheat#nutrition>
- Food Data Central, 2019. U.S. Department of Agriculture, Agricultural Research Service.
- Singh J. Jaggery Nutritional value, Nutrition fact and analysis. India: Ayur Times; 2022.
- <https://www.myfitnesspal.com/food/calories/rava-ladoo-semolina-ladoo-243150157>
- Kamboj R, Nanda V. Proximate composition, nutritional profile and health benefits of legumes–A review. *Legume Research*. 2018;41(3):325–332.
- Muralikrishna G, Malleshi NG, Desikachar HS, et al. Effect of popping on the properties of some millet starches. *Starch/Stärke*. 1986;38(2):48–51.
- National Institute of Nutrition. Dietary guidelines for Indians– A manual. Hyderabad: National Institute of Nutrition; 2011.
- Blaine RE, Kachurak A, Davison KK, et al. Food parenting and child snacking: A systematic review. *Int J Behav Nutr Phys Act*. 2017;14(1):146.
- Lamdande AG, Khabeer ST, Kulathooran R, et al. Effect of replacement of sugar with jaggery on pasting properties of wheat flour, physico-sensory and storage characteristics of muffins. *J Food Sci Technol*. 2018;55(8):3144–3153.
- Benakatti VB. Nutritional diet in Balyavasta–An Ayurvedic Perspective. *Journal of Ayurveda and Integrated Medical Sciences*. 2017;2(05):89–92.