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UTTAM AAHAAR, UTTAM VICHAAR

THE FAMILIAR & UNFAMILIAR

Winter Foods of India

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Aahaar Kranti

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EDITORIAL

Welcome Winter!

Nakul Parashar

Every year people in the country anxiously await the arrival of winters for reasons galore. Arrival of the farm-fresh veggies is one of them. As the temperature plummets, we observe that markets are full of bright coloured veggies – strawberry, aubergine, cauliflower, cabbage, carrot, radish, spinach, fenugreek, coriander, beetroot and a lot more. Well, with the advent of technology over the past few decades, we do get all these vegetables round the year; but the charm of enjoying the farm-fresh ones in the relevant season is altogether different.

We know that the metabolism of the body during winters is low. Thus, it is advised to take fruits and vegetables with fewer calories yet dense with nutrients. Eating seasonal fruits and vegetables has been always advised by experts. This is primarily due to the fact that vegetables and fruits grown in the off-season have lesser nutrient content than those grown and consumed in the season. Taste-wise, nutritional value-wise, and with the utmost quantity of nutrition, antioxidants and phytonutrients, fruits and vegetables grown in the season are better since all of this is lost while these agro-products are made to sit longer in cold storages and other means.

Besides being supportive of the environment, eating seasonal fruits and vegetables help local farmers in their economy. This way, costs associated with transportation, refrigeration, hothouses etc. are also reduced, thereby contributing to the betterment of the environment.

Experts are of the view that increasing the intake of hot coffee does not assist in combatting winter-related diseases. Instead, seasonal fruits and vegetables provide the required immunity boosters.

Strawberry is a wonderful winter fruit with sodium-free and potassium-rich constituents thereby making it ideal for people with high blood pressure. It contains manganese and thus it's good for overall health and in particular for the eyes.

Most of us might not like aubergine or brinjal, but it contains Niacin or Vitamin B3, which helps in increasing high-density lipoprotein (HDL) or the 'good cholesterol'. Chefs find that brinjals could be an apt replacement for potatoes, yam, sweet potatoes, and thus, could be sautéed or baked.

Carrots add colour not only to the fruit-vegetable mart but in our lives as well since they are loaded with antioxidants. Carrots, besides being rich in vitamin A, have a lot of beta carotene that assists in enhancing immunity. Thus, it keeps the winter-period flu away.

Oranges and guavas also hog the limelight during winters. Rich in vitamin C, oranges help in combatting flu-related ailments. Guava, on the other hand, is rich in vitamin C and antioxidants that are good for the skin. Since it contains magnesium, Guavas are also treated as stress busters. Guavas contain a lot of water, and thus, remain a good source to keep us duly hydrated. It is also said to play an important role in weight loss, immunity boosting, constipation, preventing diabetes, and reducing blood pressure.

The list is long and so are the benefits. So why wait, let's enjoy the abundance of winter fruits and vegetables. After all, it's all about welcoming the winters. ■

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The Familiar & Unfamiliar Winter Foods of India

Geetha Iyer

Food is the first medicine to keep us healthy. As seasons change so does the food consumed changes. The spread of seasonal food in winters keeps the body not only warm but healthy and happy. What does an Indian thali look like in the cold months? Here are some region-specific, some not so commonly heard of winter foods.

Grains

Three millets are used during winter months. Bajra or pearl millet harvested just before winter months is consumed in many different ways. It is very popular in several states of India. Rotis are made only of Bajra flour or mixed with makki (corn) flour. A special Rajasthani preparation of bajra is called keech. Similar to a kichdi, bajra is first broken down (daliya-like) and cooked with moong dal and vegetables. People in Rajasthan also make soups and pappad from bajra. Bajra is one of the constituents of the multigrain dish called thalipeeth, popular in Maharashtra. Bajra flour is used to make churma in Rajasthan. However, a lot of variations exist in making the churma that uses a lot of ghee, jaggery and milk, which serve to keep the body warm and the bones and muscles well lubricated. Dal-baati churma is a Rajasthani winter preparation.

Rotla is a type of roti made with bajra flour eaten in Rajasthan and Gujarat. It is served with onions and green garlic chutney. In Gujarat, jowar or white millet is also a commonly used winter grain. The tender, juicy, immature grains called Ponk or Ponkh is available only during the winter months. Grated corn is used in making ponk kichdi, Ponk bhaji and ponk bhel.

Most familiar of the winter dishes from up north is the one made from maize. Makki ka roti from Punjab taken with sarson ka saag (mustard plant's leaves) needs no introduction.

Leafy Greens

Aside from the mint, coriander, spinach, and radish leaves that one is familiar with there are a great many variety of the leafy greens consumed during winter months. It is quite mind-boggling with many being known by only their local names. The greens are identifiable only by local communities, who can recognise them, know how and when to harvest them as well as know how to cook them, which is important too.

Even the well-known dish sarson ka saag actually uses a variety of greens in its preparation. Nearly 9 or more different types of greens go into making sarson ka saag.

Kangsoi from Manipur is healthy and nutritious as it is prepared by boiling food with no use of oil. Among the different varieties of Kangsoi made, the ones in winter involve mustard leaves. The popular Manipuri dish Hangam chumthong is a mustard leaf preparation cooked with fish, but without oil.

Arunachal Pradesh's food diversity is as varied and unique as its different tribal communities. The Namsai tribe and those from Eastern Arunachal Pradesh use a variety of herbs such as po-hoi-hom or Vietnamese coriander, pi chim khim, plo chim, mau plo mo and pi ki. They use mustard leaves to make steamed dish called phak ko. Namson tongpuk is made using fermented yam leaves.

The wild Iberian knapweed, locally known as 'kraich' is dried and eaten as it is believed to be good for the eyesight.

The leaves of the fern sarath (*Thelypteris clarkei*) of *Clerodendrum cordatum* and *Plumbago zeylanica* are part of the food prepared by the Garo tribes of Meghalaya.

While many leaves are consumed as food some like the Ekkam (*Phyrnium pubnerve*) are used by people from Arunachal and Meghalaya for processing or wrapping food items, much like how banana leaves are used in South India. Adi tribes from Arunachal Pradesh use ekkam leaves to cook fermented namdung (*Perilla ocimoides*) and ponkang – a dish made from amkel, a locally produced rice.

Hoch handh or Dandelion greens is a favourite winter dish from Kashmir. The wild leaves are collected and sun-dried during summers so that they can be eaten in winters. It has medicinal properties that help treat winter ailments such as common cold, chest infections, back pains etc. These greens are a good source of probiotics and Vitamins A, C, and K. It is boiled and ground to a paste, then stewed and cooked with chicken, especially during the time when there is a new born at home. The heat that this food provides is considered beneficial to the child and the mother. It's a special feast known as Handbhatta in Kashmir.

The wild Iberian knapweed, locally known as 'kraich' is dried and eaten as it is believed to be good for the eyesight.

Another leafy vegetable from Kashmir is the Haak, a favourite with the Pandit community. Haak ka saag is made with a variety of greens collectively called the collard greens (*Brassica oleracea*). The cabbage, kohl, broccoli etc.

are its close relatives. In Kashmir these greens are identified by the places and seasons in which they grow as it has a bearing on the taste. Although they grow throughout the year, those from the autumn crop called Kaathchie Haak are sought after as they are tender and more tasty.

The winter is a time for unique dishes in the hill regions of Garhwal and Kumaon, as a variety of herbs are collected from the upper reaches of Himalayas. Faran is an alpine herb, of the onion family (*Allium sp.*). It is used by the Bhotiyas to add flavour to their soups and lentil preparations. There are three species of this genus. While all three are commonly used as flavouring agents, the young aromatic leaves of *Allium humile* and *A awallichii* are also used as green vegetables. These plants have been found to have medicinal properties.

A classic and highly nutritious Kumaoni winter dish is the curry made from Sisunaak Saag or bichoo saag which is the stinging nettle. As it can give you a nasty rash if you accidently or otherwise touch it, one must know how to collect the tender leaves and cook it. It is cooked using butter and served hot with rice. Kafuli is another preparation with the nettle grass in which green leafy vegetables like spinach, fenugreek leaves and other locally available herbs are used to make a thick gravy to be taken with roti or rice.

Walor Muthia nu Shaak is a winter preparation of Gujarati people, using leaves of spinach, fenugreek and colocasia. Colocasia leaves are also used to make leaf-rolls with a variety of stuffing, which is steamed, then cut and eventually deep fried.

In South the adivasis of the Irula community residing near the forests of Anaikatti consume twenty-four different types of leaves as part of their food. Of these two types of greens Seengai keerai (*Acacia pennata*) and Munna keerai (*Premna latifolia*), collected post monsoon are an essential part of their winter food.

Seeds, Tubers, Lentils and Pulses

Just as leaves, seeds and tubers are also part of the winter diet. Tubers and seeds consumed during winter are diverse and region specific. But in the case of lentils and pulses, two items widespread and common, from the hills of Himachal and Uttarakhand to the plains of Kerala and Tamil Nadu, are the horse gram and soybeans. Both these are highly nutritious and provide warmth for the body during winters.

The adivasis of the Irula community residing near the forests of Anaikatti consume 24 different types of leaves as part of their food.

Soybean chhurpi is a popular and common dish prepared during October- February by the people of Monapa tribe from Tawang region. Soybean oil is used in the preparation of Khapse during Losar which is their New Year. It's a fried biscuit like preparation made of Amaranth seed flour. These biscuits are stored in well-aerated bamboo containers for close to 15 months.

The Khasi and Jaintia tribes of Meghalaya prepare a naturally fermented soybean food called Tungrymbai. Prepared by fermenting the soybean seeds for 3-4 days this is a side dish for any kind of main course eaten throughout winter season.

Black soybean or bhatt is an iconic food item of Kumaon region. There are various ways by which this is cooked. In Pawalagarh area this is especially roasted only in iron frying pans. Gahat or horse gram is a winter speciality. Kafuli is soup made using gahat with nettle (bichoo) grass, spinach, and fenugreek leaves. Gahat paranthas

are also made during winters. Chainsoo is a dish made using bhatt or black gram along with garlic and coriander leaves.

Chemi is a locally growing colourful bean which is not available commercially but passed down from one generation of farmers to the next. A rich source of vitamin A and proteins, it is used to make kichdi and is made during pujas. Villagers living near Dhanoulti in Garhwal consume this dal on the days they fast.

Kumaoni lemons (a different variety of *Citrus pseudolimon*) are available only during winters. Sana is a special dish made using the lemon with curd, jaggery, and roasted hempseeds that are ground with ginger, coriander and Himalayan salt. A slight variation of this dish uses their hill radish to prepare the "sana hua nimboo muli" In the Garhwal region this is known as 'khatai'

Tubers provide energy. Gaithi or air-potato is a tuber belonging to the yam family Dioscoreacea, that is consumed widely. Jakhiya, a wild mustard that grows here is used in the preparation of this tuber. Other tubers used here are kachaloo, tairu, kuchai and pindaloo all belonging to the colocasia family. Some of these tubers are pickled while others are cooked with lentils.

Noora and Naara are two types of tubers that the Paniya tribes from Nilgiris collect from forests during the months of November to January. These tubers too belong to the same family as air-potato.

Noora and Naara are two types of tubers that the Paniya tribes from Nilgiris collect from forests during the months of November to January.

The Winter Sweet Dishes

The diversity here too is no less. Gaajar ka halwa made from the red variety of carrot is well known. Lesser known is the Lucknow special black gajar ka halwa, a rarity. Winter special ladoos are made of gondh and til. Sonth ke ladoo is another winter specialty made from ginger powder with nuts added to them.

While gajak and rewadi made of til and gur are common in winter in Northern India, til Pitha is made in Assam, especially during Bihu. Gulguley is famous in Rajasthan, Haryana, Uttar Pradesh and Bihar. Pithas are a favourite dish of Bengal. Bhapa pitha is a rice cake composed of coconut, and date molasses. Koat Pitha prepared with flour, banana, jaggery, and mustard oil is the sweet dish of Arunachal Pradesh.

Nolen Gur or fresh palm jaggery loved in Bengal and Orissa is available only during winter months. Nolen Gurer Rasogolla, Sandesh, Ice-Cream, Cheesecake etc. are loved by all.

I have but skimmed the surface of the diverse agricultural produce available/consumed across the country. The staggering variety is localised and have not all been lost in globalisation. To raise a toast to this diversity, I finish with this winter drink from the land of the rising sun, Arunachal Pradesh. The Monpa New Year festival, Losar, is celebrated with Sing-chang, a sweet beer like concoction prepared by mixing together millets, buckwheat, and barley. ■

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Bamboo Source of Nutrition

Ankita

Bamboo, also known as green gold, is a sustainable and versatile natural resource and an inseparable part of Indian culture. But most of the people are unaware of the fact that bamboo has medicinal value as well and are consumed as a food.

A member of the family Gramineae (Poaceae), bamboo is the world's fastest growing herbaceous plant. It belongs to the Bambusaceae family, which includes more than 115 genera and 1,400 species. The bamboo found in India grows to a height of about 12 m. Its length may vary under different circumstances; length of some is only 30 cm, while some can grow up to 40 m. Some species of bamboo have the ability to grow up to 1 meter in a day. This wonderful plant grows in tropical and temperate environments. Bamboo is mainly found in Africa, America, and Asia. In India bamboo is mostly found in the forests of North-Eastern states, West Bengal, Bihar, Madhya Pradesh, Odisha, Tamil Nadu, Kerala, and Karnataka. After China, India is the second largest bamboo producer in the world.

According to the chief scientist of Central Food Technological Research Institute-CSIR and head of Department of Traditional Food and Sensory Science, Mysore Dr N.G. Iboyaima Singh, bamboo is grown without pesticides or chemical fertilizers. It does not require irrigation; it rarely needs replanting. Bamboo grows rapidly and can be harvested in 3-5 years. Compared to other trees, bamboo trees release 35 per cent more Oxygen into the atmosphere and absorb 20 per cent more Carbon dioxide. By cultivating bamboo scientifically, it is possible to improve the quality of the atmosphere. Bamboo prevents soil erosion as well as helps in retaining soil moisture.

By cultivating bamboo scientifically, it is possible to improve the quality of the atmosphere. Bamboo prevents soil erosion as well as helps in retaining soil moisture.

Bamboo can be used in over 1500 ways and is one of the most economically important plants in the world. Bamboo shoots are used as food and in many traditional recipes since ancient times. Bamboo shoots are young bamboo plants, which are cut before they can grow. The unripe parts of bamboo shoots can be dried and kept for later consumption. Bamboo is used to make a variety of dishes, apart from preparing vegetables, pickles, salads, noodles, candies and papads. Dishes made from bamboo shoots are extremely popular in tribal areas.

Per 100 grams of bamboo shoots contain only 20 calories,

3-4 g carbohydrates, 2.5 g sugar, 0.49 g fat, 2 to 2.5 g protein, and 6-8 g fibre. Also, vitamin A, vitamin E, vitamin B, vitamin B6, thiamine, riboflavin, niacin, folate and pantothenic acid, calcium, magnesium, phosphorus, potassium, sodium, zinc, copper, manganese, selenium and iron are found.

Bamboo dishes can be easily prepared at home. For example, bamboo shoots can be consumed as a vegetable after they are cut to small pieces and boiled for about 20 minutes, till they soften. Bamboo can be used to make soup and bamboo shoots can be consumed by making its powder. Make a decoction of bamboo shoots and leaves and drink it. A paste of its leaves can be applied on the skin. Apart from this, bamboo marmalade and pickles are also made.

Dr Iboyaima explains that bamboo shoots have been used in traditional Chinese medicinal ingredients for more than 2000 years. Banslochan is a translucent white substance, composed mainly of silica and water with traces of lime and potash, which is obtained from the nodal joints of some species of bamboo. Also known as tabashir and bamboo manna, it finds frequent mention in Ayurvedic, Indo-Persian, and Tibetan medicinal systems.

Modern research has shown that bamboo shoots have many health benefits. Amino acids found in bamboo shoots are effective in increasing height. Bamboo shoots are good for uterine health. An element called uterotonic is found in bamboo, which helps in increasing the contraction of the uterus. Bamboo shoots contain vitamin E, which is significantly good for skin health. Vitamin E acts as an antioxidant which helps in protecting the skin cells from the effects of free radicals. These free radicals are the main cause of signs of premature aging. Erysipelas is a type of skin infection in which the outer layer of the skin is affected. It causes red rashes and swelling of the face and can be treated with antibiotics. Applying the paste of bamboo leaves on the skin can cure this ailment.

Bamboo shoots contain a good quantity of vitamins, minerals, proteins, many types of antioxidants, etc. and help in strengthening the immune system. It contains phytonutrients that help in improving the functioning of the heart. According to a study, phytosterols and phytonutrients found in bamboo shoots help in reducing bad cholesterol in the body. Apart from this, bamboo shoots also contain potassium which plays an important role in maintaining healthy blood circulation and heart rate. Regular consumption of new bamboo shoots can reduce the level of LDL or the bad cholesterol significantly.

Antioxidants present in bamboo buds are helpful in protecting our body from oxidative stress. Oxidative stress can damage DNA and cause cancer. New and tender bamboo also contains some amount of chlorophyll which helps in the growth of healthy cells. Regular consumption of bamboo shoots helps in increasing red blood cells, thereby maintaining oxygen flow to all the organs of the body. The fibre content of bamboo shoots is high. This helps in curing constipation.

Low calorie and fat in bamboo buds make it good for weight loss. New bamboo shoots have antioxidant and anti-inflammatory properties, which help reduce the effects of bacteria and infections in the urinary tract. Bamboo contains a variety of vitamins and minerals that help in the development of skin cells. The high amount of calcium present in it helps in increasing the density of bones and preventing osteoporosis.

The usefulness of bamboo as a food has not been taken seriously and many people are still deprived of its benefits. Environmentalists, forest-researchers, and farmers can play a big role in changing this situation. ■

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Translation: Suman Bajpai

The Tender Power of Young Coconut

India Science Wire

Tender coconut traditionally has been a popular refreshing drink for people staying in the coastal towns. Some twenty years back, it was quite difficult to spot a 'nariyalpani wala' selling green, fresh coconut in North Indian cities. However, with time the awareness about the immense health benefits of tender coconut has grown and people, particularly during summer months, look forward to enjoying a cool break to quench their thirst. Modern age health freaks have adopted tender coconut water as their favourite natural 'Cold Drink'. Unlike the past, you no longer have to walk around to spot a tender coconut water seller. These are now available on the shelves of online supermarket in a hygienic and convenient pack.

From the backyards of south and west India to the homes, wellness centres and grocery stores of the north, the green coconut has, indeed, made a big leap. Its spiralling popularity also indicates a high jump in the health awareness levels of the common people.

Tender Coconut Water (TCW) was largely seen as a cooling, summer drink; but today, it is in high demand throughout the year.

Health Drink

Tender Coconut Water (TCW) was largely seen as a cooling, summer drink; but today, it is in high demand throughout the year. Earlier, people used to have it more during March to September, but now, even during winter months people have it. Doctors have been recommending it after the pandemic as a general supplement, as a part of the rehydration therapy for fever and diarrhoea. It is safe for the infants as well.

Modern science has also validated the tradition and first-hand experience of TCW's beneficial effects. Quoting medical studies, S R Priya and Lalita Ramaswamy of the Nutrition and Dietetics Department of the College of

Arts, Coimbatore, laud TCW. In a research paper titled 'Nature's Elixir to Mankind' (*International Journal of Recent Scientific Research*, 2014), the authors say, "TCW is composed of both organic and inorganic compounds which play a vital role in aiding the human body antioxidant system; its inorganic ions are required for normal cellular function and are critical for enzyme activation, bone formation, haemoglobin function, gene expression, and the metabolism of amino acids, lipids and carbohydrates." "These ions contribute to the therapeutic value inherent in coconut water," the paper says, adding that "this basic ion composition of coconut can replenish the electrolytes of the human body excreted through sweat such as sodium, potassium, magnesium, and calcium."

Medical Validation

The mineral composition of TCW is described as 95.5% water, 4% sugars, 0.1% fat, 0.02% calcium, 0.01% phosphorous, 0.5% iron, considerable amounts of amino acids, mineral salts, vitamin B complex, vitamin C, and cytokines. The other components in TCW include sugar alcohols, lipids, amino acids, nitrogenous compounds, organic acids, and enzymes.

The Coconut Development Board of India endorses TCW for at least a dozen health problems, including kidney stones, intestinal worms, urinary infections, and oral rehydration during cholera.

A review by Sunil L. and others in the November 2020 issue of *Indian Coconut Journal* (ICJ) describes TWC as 'Nature's Miracle Health Drink'. In an exhaustive list of its benefits, the paper says: "It can be used to prevent oxidative stress, provide antioxidant activity, prevent lipid peroxidation activity, improve lipid profile, control blood pressure, improve cardio-protective activity, provide anti-inflammatory effects, diarrhoea therapy, increase haemoglobin levels, anti-diabetic effects, anti-thrombotic activities, anti-cancer and anti-viral effects."

TCW is composed of both organic and inorganic compounds which play a vital role in aiding the human body antioxidant system.

Side Effects

The authors, however, advise caution to those suffering from hypertension: "Coconut water might decrease blood pressure, and taking coconut water along with medications for high blood pressure might cause the blood pressure to go too low." The paper recommends that hypertensive people "consume it carefully and in consultation with the cardiologist."

TCW as IV Fluid?

Described as a "Life Fluid" comparable to human plasma, TCW has also been used successfully as intravenous (IV) fluid by default and in emergencies. It is reported to have been used during World War II, both by the British in Sri Lanka and the Japanese in Sumatra. Although disregarded by many as "Fiction", these stories spurred scientific curiosity. Research on whether TCW can, indeed, substitute IV fluid dates back to the 1940s.

The high demand for TCW has also given an impetus to research on the best ways to preserve the natural flavour and properties of coconut water. According to the *ICJ* research paper by Sunil L. and others, the authors experimented on the preservation of fresh coconut water. Kept in glass bottles at -20° to -2°C, TCW tasted and smelt the same as the original for two to three months. They also refer to a list of the top bodies, including the CSIR-CFTRI and the DRDO-Defence Food Research Laboratory, both in Mysuru, that have been conducting research on packaging TWC. The official emphasis on such research and the popularity of TWC among the well-off notwithstanding, it is too expensive for the common people, especially in non-coastal areas. "If you enjoy the taste and your budget allows it, coconut water is a nutritious and relatively low-calorie way to add potassium to your diet and keep you well-hydrated," says Director of Nutrition at *Web MD* Kathleen Zelman. ■

Ideal Food For Children Up To Six Years

India Science Wire

The human body needs proper nutrition to be healthy and creative. If children do not get enough nutrition, it affects not only their physical development, but their mental and social developments also get barred.

Infants need nutritious food the most, as this is the age for their physical and emotional growth and development. Infants should be breast fed exclusively up to six months from their birth. Also, they must be breast fed within 30 minutes after delivery. It is also important for a baby to have the first milk (Colostrum) as it increases immunity.

Breast feeding assures safe nutrition for infants and it helps them in their complete development. It is the best nutritious and natural food for their physical and mental development. The infants who are breast fed do not require extra water.

According to the report of WHO (World Health Organization) first six months after birth the infants must be only breast fed and even after that, along with dietary supplements, they must be breast fed constantly up to two years and afterwards.

During a special talk with India Science Wire, Dr Hemlata, Director of National Institute of Nutrition, Telangana said that a baby needs to be breast fed within 30 minutes from the birth. Extra care must be taken regarding using baby food in the first six months. During the first six months a baby must not be given honey and water, and bottle feeding must be avoided.

Infants need nutritious food the most, as this is the age for their physical and emotional growth and development.

Dietary supplements must be given after six months and along with that breast feeding must be continued till two or more than two years.

After six months a baby needs more nutrition as only mother's milk is not enough. So, to fulfil other requirements regarding nutrition a child needs supplementary food. A baby cannot eat much at one time, so they must be given food in little amount at certain intervals, say, thrice or four times a day. Besides, the food must be thick or semi-solid which a baby can easily swallow. Balanced diet is the key to protect your child from nutrition deficiency. However, poor-quality nutrition, because of unbalanced or insufficient food, can cause malnutrition.

Milk and milk products like cottage cheese, curd etc. that we get from dairy products are useful for babies. Additionally, fresh

fruits, fruit juices, lentils, lentil water, green leafy vegetables, porridge etc. can be given to the baby during this time to fulfil their nutritional requirements.

When the children complete their first year they are generally extremely active. At this stage they start eating food themselves and take interest in their food. Childhood is the time when a child develops physically as well mentally and gains immunity to fight with infections. Therefore, it is very important to give them food which includes energy, protein, vitamins, and minerals.

According to Dr Hemlata children during their one to three years must have 75 g of grains, 25 g of beans, 100 g of vegetables, 75 g of fruits, 400 ml milk, and 25 g of fat. She also says that the food for the children whose age is from four to six years must include 120 g of grains, 25 g of beans, 100 g of vegetables, 75 g of fruits, 400 ml milk and 25 g of fat.

For the optimal development of children and boosting up their immunity, it is very important to give them balanced diet which is prepared in a proper way. As the bones develop in this stage, children must be given foods which are rich in calcium like milk products (milk, cottage cheese, curd, etc.), broccoli, spinach etc. These food items have calcium in abundance.

To fulfil the requirements of calories in children, they need carbohydrate and fat in good amount. So, their food must have whole grains like wheat, brown rice, dry fruits, vegetable oil and fruits and vegetables like banana, potato, sweet potato etc. At the same time, proteins play an important role to build and develop the muscles as well as antibodies. To fulfil the requirement of protein they must be given meat, egg, fish, and milk products. Fruits and vegetables are also good source for essential vitamins.

Childhood is the time when a child develops physically as well mentally and gains immunity to fight with infections.

According to Dr Hemlata, better nutrition in childhood is crucial for better health and overall development. If children do not get macronutrients and micronutrients in proper amount, they easily get infected. It delays their mental and physical development which may lead to several adverse conditions.

Nowadays children are more attracted towards junk food. So, it is important to motivate them in consuming nutritious food. Wrong eating habits create long-term health complications such as obesity, heart disease, diabetes and osteoporosis. Therefore, it is significant to instil good habits in children to have appropriate food from the beginning and make them aware of its benefits. ■

Translation: Kshama Gautam

Health Benefits of Jaggery

India Science Wire

Many of us like to have something sweet after our meal. It may be a sweet dish made with milk like kheer. Some, however, prefer to have jaggery instead. Jaggery not only accelerates our digestion process but also strengthens it. Many people are generally not aware of numerous benefits offered by jaggery.

Also known as Panela, jaggery is produced in world's nearly 25 counties on a large scale. With 70 per cent share in the world's total jaggery production, India remains at the top position. On an average, India produces 60 to 80 lakh tonne jaggery every year. About 20 per cent of the total sugarcane production in the country is used in jaggery and khandsari industries which provide employment to approximately 25 lakh people.

Nearly 80 to 90 per cent of the total jaggery produced in the country comes from Uttar Pradesh, Maharashtra, Tamil Nadu, Karnataka, and Andhra Pradesh. It is usually prepared by boiling the sugarcane juice in huge pots and then cooling it down. But in many parts of the country, it is made from juice of fruits like pomegranate and tree sap like toddy.

Rich in minerals, proteins, and vitamins, jaggery is a nutritious food. It is also considered a much better and healthy alternative to sugar. We get equal amount of calories from both jaggery and sugar, but jaggery provides

Jaggery is produced in world's nearly 25 countries on a large scale. With 70% share in the world's total jaggery production, India remains at the top position.

us protein, potassium, fat, phosphorus, and magnesium. It also has iron, vitamin B, calcium, copper, and zinc.

Professor Vilas Salve of Kolhapur-based Regional Sugarcane and Jaggery Research Institute told India Science Wire, "Jaggery contains 10-15 per cent glucose, 60-85 per cent sugar, 0.25 per cent protein, 0.40 per cent calcium, 383 calorie of energy and many other nutrients. On the contrary, we get 99.5 per cent sugar and 398 calorie of energy from sugar. A large number of people in India consume jaggery. It is an integral part of their diet."

Jaggery has an important place in Ayurveda. It is considered having numerous benefits, including prolonging life and slowing down aging. According to Ayurveda, jaggery is alkaline, heavy, and oleaginous.

A number of health problems can be fought by including jaggery in our diet. It is generally consumed more in winter as it has a warming effect and keeps our body warm which accelerates blood circulation. Jaggery also helps in blood thinning and thus reduces the chances of blood clotting.

Taking jaggery after meal activates digestive enzymes. Its consumption improves digestion and also helps in relieving acidity, bloating, and gas. It has a good amount of iron which can be beneficial to pregnant women and people with anaemia and lack of haemoglobin.

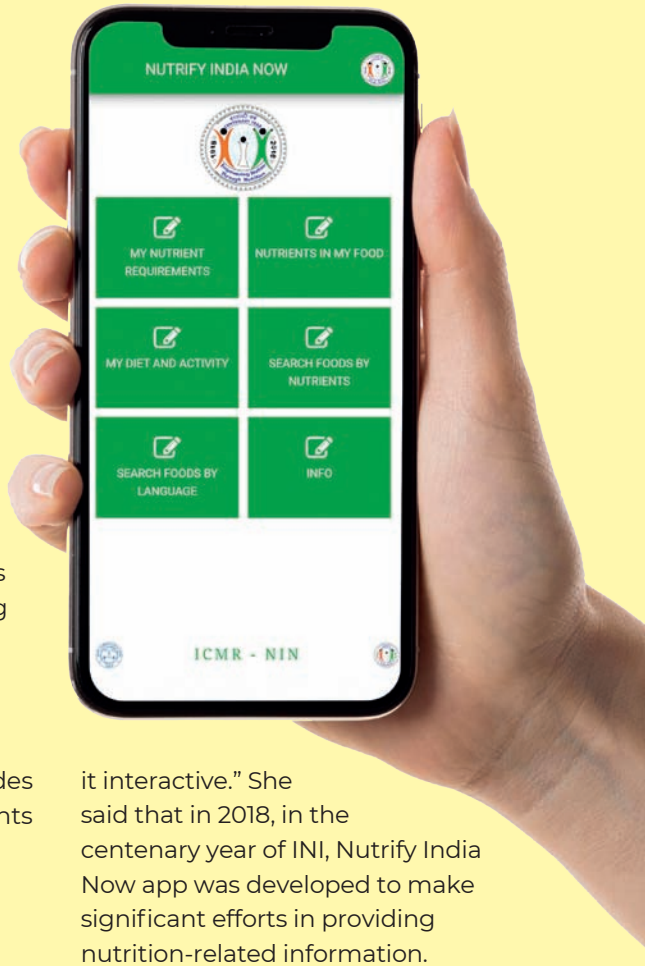
Jaggery provides us with good quantity of selenium, zinc, and micronutrients, which enhance our immunity system. Professor Salve said that the older the jaggery, the better it is for health and it contains more medicinal properties. He also mentioned that jaggery purifies our blood. It can also prevent and abate piles, rheumatism, and *Pitta* disorders.

Consumption of jaggery with ginger helps in relieving problems of phlegm. Taken with *harad* (*Terminalia Chebula*) it eliminates *pitta*. Consuming jaggery with *sonth* or dry ginger helps in curing *Vaata*-related diseases.

Jaggery is easily available locally, but very few people are aware of its benefits. It is given a special place in Ayurvedic and traditional medicines. Regular consumption of jaggery not only helps in preventing many serious ailments but also keeps our body fit. ■

Translation: Neelam Bhatt

The App Which Tells the Actual Number of Calories in Your Food



India Science Wire

The people who are suffering from diabetes, heart diseases and some other kind of diseases have to take extra care about the daily intake of calories in their food. Now it is going to be very easy for them to check on the calories in their food. National Institute of Nutrition (NIN), a laboratory of Indian Council of Medical Research, situated in Hyderabad has developed a mobile application which can help in this regard.

Lately, putting constant efforts for the improvement in nutrition level, an application named "Nutrify India Now" has been launched by NIN. According to the researchers who have developed this app, it can help spread awareness in people about requirements related to nutrition. This app provides complete knowledge about Indian food and the nutrition it contains. This app also helps the users calculating the energy balance (consumption vs. expenditure).

The main feature of the app is that it has been developed on the basis of specific database of Indian population. "Nutrify India Now" app has been evolved on grounds of extensive and authentic research. Proper use of the guidelines laid down by ICMR, the top medical research body of the country makes this app more efficient. It especially includes the vast knowledge related to nutrition, Indian food ingredients, and various components.

This app provides a vast knowledge related to nutrition as well as calories, proteins, vitamins, and minerals in Indian food ingredients along with the recipes of common Indian food items. It has been prepared to provide extensive nutrition guidance considering the Indian users. The app provides the names of the food ingredients in seventeen Indian languages.

Through this app one can look for the nutrients and food ingredients according to one's taste. The name of any edible item can be entered in local language to search for its nutrition values. The app is available in online app store on android and IOS platform to download for free.

When this app was launched, Professor Balram Bhargav, Director General of ICMR said, "Nutrify India Now app works as a guide, which can help estimate the nutrients in various foodstuff consumed by the human body." According to Professor Bhargav, this app is one of the major initiatives by ICMR to fight non-communicative diseases. Further, he stated, "this app can be a chief component of the Prime Minister's National Nutrition Mission."

According to Dr Hemlata, Director of NIN, "Nutrify India Now app works as a personal nutrition advisor for people. It has the substantial data which makes it interactive." She said that in 2018, in the centenary year of INI, Nutrify India Now app was developed to make significant efforts in providing nutrition-related information.

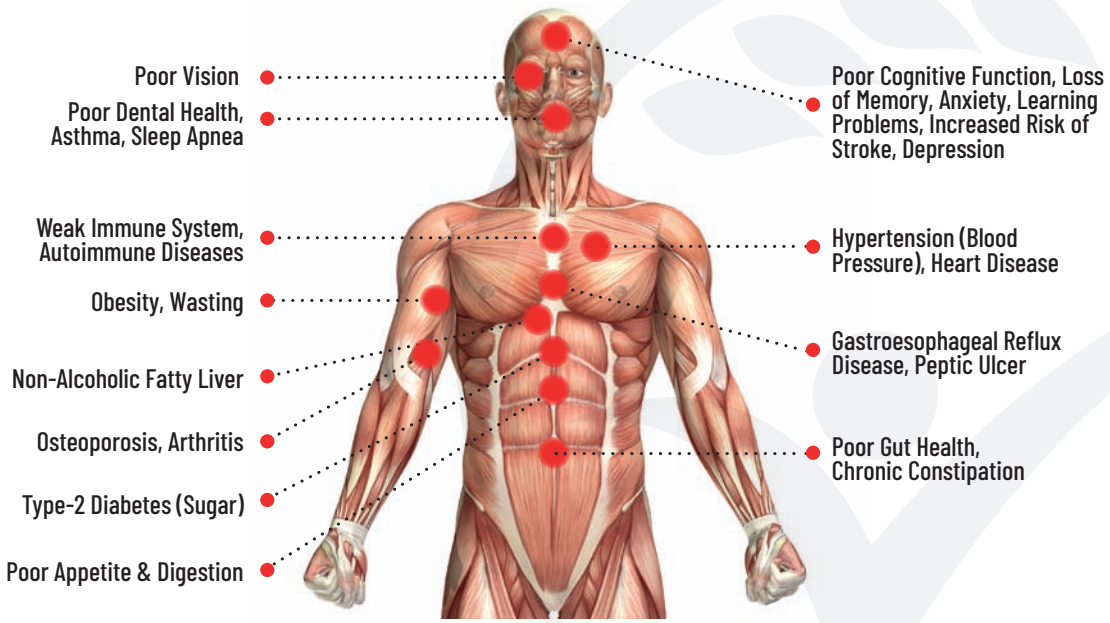
NIN, situated in Hyderabad, is known for its studies on various aspects of nutrition research. Owing to such researches in various fields, food and nutrition from laboratory to medicinal applications, this institute has a great impact at global level. This institute started in 1918 in the form of 'Beri-Beri Enquiry Unit' in Pasteur Institute, situated at Coonoor, Tamil Nadu.

Merely in seven years, the Beri-Beri Enquiry Unit developed as the study centre of Deficiencies Disease Enquiry and later in 1928 it became the National Research Laboratory. In 1958, this Institute was transferred to Hyderabad and in 1969, on the occasion of its golden jubilee, it got the new name as National Institute of Nutrition. ■

Translation: Kshama Gautam

Train the Trainers Teachers Module 1

Malnutrition Adversely Impacts Most Body Systems...



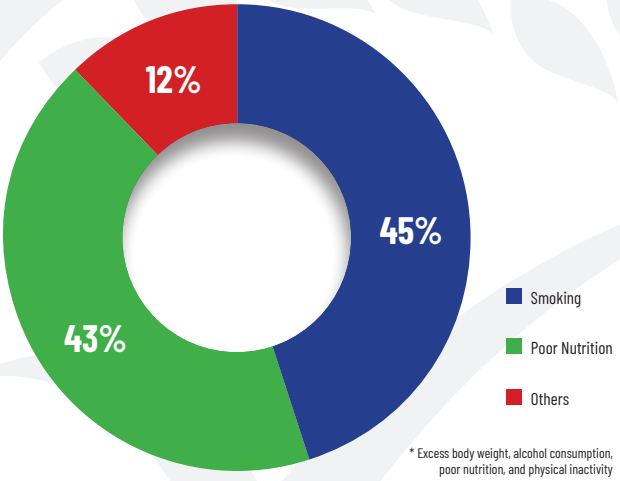
Source: American Journal of Lifestyle Medicine, Center for Disease Control, Eat This Not That, Global Nutrition Report, LANCET, Poznań University of Life Sciences, Seoul National University, University of Navarra, University of Pavia, Uppsala University, World Health Organization

...And Leads to Multiple Life-long Health Problems

Examples of Malnutrition Driven Health Problems

- Several Types of Cancer
- Worsened Quality of Life
- Stunting & Wasting for Children
- Slower Wound Healing
- Eating Disorders
- Metabolic Diseases
- Many Other Chronic Illnesses
- Overall Lower Life Expectancy

Causes of Preventable Cancers



Source: American Cancer Society, American Journal of Lifestyle Medicine, Center for Disease Control, Eat This Not That, Global Nutrition Report, LANCET, Poznań University of Life Sciences, Seoul National University, University of Navarra, University of Pavia, Uppsala University, World Health Organization