TRADITIONAL DIETARY PATTERN OF INDIAN FOOD AND ITS SCIENTIFIC BASIS: AN OVERVIEW

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ABSTRACT

India is a country where different type of languages, culture & food habits are in use. There is tremendous regional diversity in their daily diets. Indian cuisine reflects a more than 5,000 year history of various groups and cultures interacting with the subcontinent, leading to diversity of flavors and regional cuisines found in modern-day India. Dietary pattern analysis is an emerging area of research. This study demonstrates the importance of elucidating the social and cultural contexts in which dietary behaviors exist, especially when considering contradictory mainstream approaches to health promotion. Most of the food items were developed by keeping the health aspect in mind and some of the foods were directly used as homemade medicine for some specific diseases as they had therapeutic value. The previous generations knew very well the medicinal value of some of the spices or other ingredients and as such made it a point to use that ingredient in some food recipe to add medicinal value in it. This made Indian cuisine rich in a wide variety and taste and also helpful for health. It also provides valuable information to develop qualitative measures for empirical assessment, develop and evaluate targeted interventions.

INTRODUCTION

India is home to a number of regional cuisines that showcase its culinary diversity. As serious as this sound, it’s rather surprising to think how our ancestors had specific recipes with added health benefits hidden in every bite of the food cooked. Back in the day, this age-old practice of eating and consuming food was very structured. There was a season for different fruits and vegetables with definite quantities.

Most dietary patterns were vegetarian with a predominance of fruit, vegetables and pulses, as well as cereals; dietary patterns based on high-fat, high-sugar foods and more meat was also identified. There was large variability between regions in dietary patterns, and there was some evidence of change in diets over time, although no evidence of different diets of sex or age was found. This review shows that dietary pattern analyses can be highly valuable in assessing variability in national diets and diet–disease relationships.

India has a rich and highly varied cuisine, and its various diets are strongly related to social identity, religion and other cultural factors as well as local agricultural practices and availability of diverse foods [1]. The identification of common dietary patterns relevant to population sub-groups in India, as well as their association with epidemiological profiles is important.

This systematic review aims to draw together the existing literature of dietary modelling studies, to identify common dietary patterns reported in India and their primary source-demographic characteristics. This is especially important, as India undergoes a significant dietary transition from traditional diets to more ‘Western’ ways of eating and a concomitant epidemiological transition.[2]

Diet According to Ayurvedic Scenario

Ayurveda recommends that diets, which aggravate dose, and are antagonistic in respect to season, place, time and combination, are harmful things should be avoided. Such as rough and cold food in the winter is antagonistic. Drinking too hot or too cold is not favorable for the digestive system and eating too many nuts in summer aggravates Pitta. [3]

There are Rajasic, Sattvic, and Tamasic foods described in the Ayurvedic text and Bhagavad Gita. These 3 terms, found in Indian scriptures, represent implicit cultural categories that participants used to describe and evaluate foods and their effects on one’s mind, behavior, and health. The mind and body are not excited we can meditate and concentrate are called Sattvic food. Rajasic food is spicy, overcooked, over spiced. It creates too much excitement and anger and worry. Tamasic food is the worst thing that can happen like drugs. Our mind also gets violent if we eat Rajasic food and gets peace if you eat simple foods.
Social and Cultural Understandings and Influences of Food-Related Behavior In India

The value ascribed to food derived from historical accounts and religious function was largely governed by a unique social cultural framework. There was widespread agreement about ideal or positive foods that contribute to health. The foods participants agreed upon as “good” for their health include balanced food such as those that are more alkaline, flour-based Chapattis and Rotis, multigrain, vegetarian-oriented Daal (lentils), milk, Dahi (yogurt), inclusion of Ghee (clarified butter), and a whole host of organic foods. There was general agreement about preparation methods stated as bad or potentially harmful for health, including some Chaat (snacks) and other “junk” foods, deep frying and/or constant use of Ghee in preparation, over-cooked foods, adding too many spices to meals, processing/treating vegetables with pesticides, and overusing oil and salt. Ethnic snacks and sweets were served at large cultural festive occasions, parties, gatherings, and religious ceremonies, these foods gain a pan-Indian symbolism.

In India most of the people are vegetarians. Their proteins are taken by beans and lentils. The staple diet of Indian people is rice to which they add lentils, Daal soup or fish in Bengal, and in various parts of India.

There was also considerable discussion surrounding the value of sweets in Indian culture. Everything auspicious in Indian culture is related to sweets. When a woman is pregnant, a child is born, graduation, or good grades. We do not offer spice since that is evil. Here we also celebrate all the festivals. There is something to eat sweet during these functions. Sweets are important as far as those traditions are concerned.

Conversely, participants indicated that giving up sweets would detract from the auspiciousness of these special occasions. To a limited extent, participants have stated that eating some Indian sweets in moderation can be good for health i.e., sweets made of Jaggery.

Illustration of this theme was the sacred interrelationship between food and religion in Indian traditions, which emerged from the analysis. Food was seen as a symbolic offering to God, expressing people’s reverence for the abundance and nourishment that a divine being provides through food.

Fasting represented reverence, offering, and sacrifice, often to a deity and was considered to purify and strengthen the individual. Many female respondents fasted to exert self-control and restraint over indulgent behavior, illustrate the devotion to their husbands, and exhibit inner strength with respect to purifying the body. As a logical extension, participants linked their sacred religious beliefs with health and nutritional effects.

Heating does not mean the increase in the temperature. It means the effect it has on the body. It is a physical thing. For example, when we have a fever, we boil Tulsi (basil) leaves and make a tea out of it. It reduces the body temperature.

Many described the creation and purpose of food-based ancient medicines, and the regular use for themselves, their children, and their grandchildren in conjunction with their use of doctors and prescription and over-the-counter drugs. The medicinal value of spices was overwhelmingly agreed upon by respondents. The unique combinations of spices and herbs that are used skilfully in cooking Indian food originate from the health-oriented properties that each is considered to possess within a “native” system of illness and medicine. Given that these characteristic preparations are also enjoyable to eat, these “native” interpretations remain very important in people’s food preferences.

Most Indian people’s lifestyles have changed so much that they recognize that they cannot eat the way like their previous generations did. If we look backward our past generations worked hard in the field and they ate every day a simple meal, and they lived a long life. Occasionally, they add fried and sweets like Diwali.

The refrigeration and reheating of leftovers evoked considerable criticism. Many believed that refrigerators and freezers cause negative health consequences in food. Food that was cooked the previous day and was reheated was considered bad for health. As an illustration of the ascription of social class on food-related behavior, many highlighted that leftovers are uncommon in India because any remaining food would be given to domestic servants or, if people are unable to afford hired help, they most probably would not be “burdened” with extra food.

These statements indicate a unique socio-cultural perspective in that each “category” of food is often ascribed a positive or negative connotation by participants of Indian origin.

There was considerable conflict with values around vegetarian versus non-vegetarian foods in the discussion. Those who considered themselves “strict” vegetarians from their upbringing and lives in India were struggling with preserving this identity in the other foreign countries. Their beliefs about the negative aspects of eating non-vegetarian foods were complex. Some former vegetarians stated that eating meat had caused health problems for them. Others believe that introducing limited amounts of chicken and eggs in their diet has been necessary to supplement the amount of protein they consume. Those who define themselves as non-vegetarian, consider the meats they eat as healthy, with the provision that they remove excess fat from meat.

Asian Diet Components

Asian cuisine varies widely throughout Asia. The Indian diet is largely vegetarian and incorporates vegetables and fruits; dairy products, such as yogurt and butter; pulses such as chickpeas and lentils, rice, flat breads made from whole grains or bean flour; and a variety of nuts and seeds. Diets in Eastern Asia - which includes China, Japan, Korea, and Thailand - incorporate steamed, sauteed or raw vegetables and small portions of sauteed, grilled or fried meats, seafood, eggs and tofu. Meals usually contain rice or noodles in place of breads.
Differences Between Asian Diet and Mediterranean Diet Pattern

Both Asian and Mediterranean diets are mainly based on fresh, minimally processed ingredients. But in India, food often serves as both nourishment and medicine. Indian diets tend to focus on a balance between salty, sweet, sour and spicy flavors, as well as crunchy and soft textures. Indian tend to favor strong flavors and use rich, infused oils to dress their foods.

In contrast, the Mediterranean diet favors simple meals with earthy, light flavors. The focus is on fresh, whole foods with minimal preparation. Fish, meats and vegetables are typically dressed and cooked in olive oil and garlic and herbs are used to add flavor, rather than salt or heavy sauces. Because they are rich in whole grains, colorful vegetables, lean proteins and heart-friendly, antioxidant-rich fats (such as olive and vegetable oils) nuts and fatty fish - both Indian and Mediterranean are good choices for a healthful diet.

Diversity of Indian Cultural Cuisine in Aspect of Availability and Utilization and its Health Benefits

The level of diversity in household diets is an indirect measure of diet quality and the extent to which nutritional needs of households are being met. There is also a positive relationship between dietary diversity and the three pillars of food security, viz., availability, access and utilization.

In the light of these statements, the patterns of food consumption and dietary diversity in villages of India with a view to understanding the heterogeneity in food habits, quality of dietary intake and the socioeconomic and demographic determinants of the dietary diversity in the region. There was a significant disparity across the villages in terms of budgetary shares and intake levels of different food items. The level of heterogeneity in food intake was also reflected in the estimates of dietary diversity across villages.

Though India is not a uniform entity, what one does see is across all plates, North and South Indian, is an even spread of items which complement each other not only in taste, but also nutrition, palatability and visual appeal.

Western India Food Habits

Western Zone of India is known by its hot climate. The utilization of food is a part of survival in warm weather condition and the people use food, which keep them active and away from summer ailments. In this article we discuss about some food specially consuming in the desert zone of India, which they use for better living.

Buttermilk (Chach), an Indian diet for healthy summers is found in every home is well known by summer drink. There are some health benefits of buttermilk which will let you have a healthy summer season. It is believed that western Indian people consume this summer drink, buttermilk on a daily basis to help in good digestion. One of the best health benefits of buttermilk is that after you have eaten a heavy meal; drink a glass of milk to avoid indigestion. During the summer season, it helps one to feel cool. It also improves immunity as it contains lactic acid. A daily consumption of this summer drink helps to keep the heart healthy as it contains less amount of fat which is good for the heart [4].

Dahi or curd is actually a super food, says It’s a must-have in summer. Most lactose intolerant people can also have it. It is one of the richest sources of calcium.

Onion is an effective remedy used to treat sun stroke too, as per Ayurvedic practice. Experts suggest taking a spoon of onion juice, which contains strong antioxidants that can neutralize the ill-effects of cellular damage caused by the harsh sun. Another remedy is to apply onion juice on the chest to reduce body temperature. It is also said to reduce inflammation caused by burns. Eat white onion raw or add it your chutneys dips or salads. Onions are primarily used as a food source, in cooking as the start off ingredient in Indian and other Asian cooking, in making onion soups and chutneys, raw in salads and as pickles in vinegar.

Onions are rich in the strong sulfur containing compounds which are the primary cause of their strong smell and healing properties. They contain high levels of flavonoids particularly Quercetin which is also an anti oxidant. Onions are a good source of vitamins B6, C, biotin, K, folic acid, chromium, calcium, and fiber.

In the western part of India, People use spicy food. It makes food delicious, but also a lot of health benefits. Fresh and dried chilli peppers were the most common spicy sources. Capsaicin in chillies triggers the body to respond as if it was in a hot environment. This increases blood circulation and makes one sweat, which helps one cool down faster. People who frequently consumed spicy food also showed a lower risk of death from cancer or ischemic heart and respiratory system diseases [5]. Capsaicin is a bioactive ingredient in chilli peppers, which has been linked to health, perks such as increased fat burning. Folk medicine practitioners also say capsaicin can help fight infection and stimulate the kidneys, lungs and heart. Then, there’s the old wives’ tale that says eating spicy food will induce labor.

Ghee or Butter is used in all over India. But in western zone they use too much butter in food, especially in winter. India’s ancient super food which is a must have during winters. In the part of the culture they are in the habit of using it in daily food culture. Winter is the best time to have ghee as it is easily digested and also provides the much needed warmth to the body. It helps in digestion and enhances eyesight, keep muscles healthy and take out impurities from the body. Most importantly, it has a softening effect and prevents dryness of skin which is quite common during the winter season it has been used to treat a number of ailments like cough and cold, weakness, skin diseases and pimples.

Bajra is also known as pearl millet and is grown in areas with a dry, hot climate. This crop is considered a staple in the Rajasthan as well as adjoining regions and is the fourth most popular crop used within the country. Consuming Bajra Roti or foods containing it like Rabri, Lassi will provide a great deal of energy because this food mostly consists of starch. Bajra contains potassium and magnesium, both of which help to regulate blood
South Indians use Banana leaves for cooking, wrapping, and food-serving in various occasions and family events. The wax coat on the banana leaf melts when hot food is served on it. It also gives a nice flavor and adds taste to the food. Banana leaves are also used to cook a few dishes. The leaves keep juices in and protect food from burning. Here banana leaves act as a protective sheet. Antioxidants in banana leaves help to fight against cancer. Banana leaves have antibacterial properties. Banana leaves kill few bacteria that cause diseases. [7]

They use Brown rice (Matta rice/Shali chawal) which is a variety of brown rice. It is a well-known fact that parboiled brown rice is often suggested to people looking to lose weight. Various South Indian dishes like Idli and Appam are made from this rice. It helps in preventing blockage and clogging of arteries. The rice does not have any amount of fat in it. It is an ideal weight loss. It contains Vitamin A and B, which helps in improving our health. Deficiency of Vitamin A and B causes several types of diseases, so eating Matta rice helps in preventing this deficiency. The rice contains Vitamin B6, which helps in the production of serotonin in our body. It helps in preventing insulin resistance while helping in lowering blood sugar levels due to its low glycemic index value. It also improves digestion and bone health.[8]

For instance, the Sambhar is the epitome of healthy food. It has tamarind, spices, lentils and vegetables. Tamarind thins the blood, lentils are packed with proteins, vegetables have a dose of vitamins and the tempering seeds like mustard and Methi have medicinal benefits. Sambhar is a daytime food.

Rasam has therapeutic properties. It’s the ultimate medicine for fever, cough, and cold. Curd rice is great for digestion. The curd clears ulcers and keeps the body temperature steady. Curd also prevents infection. Rasam and curd could be taken in the night time. Pure milk and buttermilk are deemed as divine food in the Ayurvedic science and are nourished. Poriyal is high in fiber and boosts the immunity.

The optimal use of butter, ghee and edible oils such as sesame and coconut, in balanced amount is good for the joints and revitalize the body. They also have vitamins A, D, E and K. Their use of steam cooking as opposed to deep frying. The choice of coconut oil over any other kind of oil. They also use very small quantities of butter/ghee as compared to several other Indian cuisines.

The South Indian peoples believe that Coconut is the cure for all illness, which is why the palm tree (from which coconuts are grown) is known as “The Tree of Life.” Palm tree is found everywhere in south India. It has tons of calcium, potassium, and magnesium, as well as plenty of electrolytes. [9] In fact, coconut water is known to have the same electrolyte levels as human plasma, and has even been used for plasma transfusions. Coconut oil is thought to possess healing properties above and beyond that of any other dietary oil. Eating coconuts are excellent for one’s immunity. The oil is excellent for

**Southern India Food Habits**

Today, south Indian food is considered to be one of the most exotic cuisines that exist. There is a throng of south Indian restaurants in foreign countries that validate that statement; each one with a unique version of the standard south Indian food menu. On the other side, the Southern Indian people are fonder of using more vegetables, rice and seafood as compared to the North Indians food habits. In the recipes of the South Indian Food, adding more coconut is the common custom than that of the North Indian food. The South Indian dishes are contained the rice and coconut in most of the cases and the dishes have higher water content.

In the process of making the chutneys, and curries, Coconut is used. The use of the Seafood dishes is also frequent in the South. From the medical point of view, the south Indian food is considered to be healthier due to the prime reason of less use of the rich creams and ghee no matter if they are made for vegetarian or non-vegetarian people. The people who are fond of eating the spicy dishes must prefer the South Indian dishes because they are much spicier than that of the northern dishes. In the curries, you will disclose the more content of water with additional nutritional benefits by using the coconut and native fruits in their preparation procedure. The names of the most famous South Indian dishes are Dosa, Idli, Rasam, and Uthappam, Payasam.
keeping one young and beautiful. Its antioxidant properties slow down the aging process by protecting the body from harmful free radicals. Because of that, if we consume coconut in any of its various forms (whether it be raw coconut, coconut oil, coconut milk, coconut butter, chutney etc.), It is a good neutralizer of acid secreted in the stomach. It improves gastritis and acid reflux.

**North Indian Food Habits**

In this mountain region, where harsh conditions and extreme altitudes prevent the use of many standard crops, local communities use varieties adapted to the environment. These crops – amaranth, buckwheat, naked barley, millet, common bean, and high altitude rice – have the potential to be critical to the continued food security of these mountain communities.

The main difference of the North Indian Food and South Indian Food is very simple as the wheat is the staple food of the people living in the Northern side of the India while the rice is the staple food of the Southern Indian people. The most of the Northern Indian food varieties has been much influenced by the Mughlai cooking techniques.

In the people of the Northern Indians, find both the vegetarians and non-vegetarians ones and the most things among all of them are the excessive use of wheat. The one of the major crops of the North India territory is wheat, and therefore, in most of the North Indian Food recipes, you will discover the influence of this crop by and large from the use of the wheat, lots of food items are made such as the Naans, Parathas, Rotis, Chapattis, and others. A variety of fresh seasonal fruit along with the vegetables and spices that are growing in the North India can be found in different dishes as well. The basic ingredients of the North Indian food are the onions, tomatoes, ginger and garlic. The taste of these dishes is developed with the help of the curries, spices, ghee and oil.

Kashmiris is heavy tea drinkers. The word "noon" in Kashmiri language means salt. The most popular drink is a pinkish colored salted tea called "noon chai". It is made with black tea, milk, salt and bicarbonate of soda. Noon Chai or Sheer Chai is a common breakfast tea in Kashmiri households and is taken with breads like baqerkhani in a variety of fresh seasonal fruit, herbs and spices. It helps to reduce stress, boost immune system, burn fat and improve digestion. [10]

**East Indian Food Habits**

East India is comprised of the states of West Bengal, Sikkim, Assam, Arunachal Pradesh, Meghalaya, Manipur, Nagaland, Mizoram, Tripura and Orissa. This region is home to beaches and mountains and Cherrapunji, the city with the highest rainfall in the world.

Because of the climate, Eastern India grows a lot of rice, green vegetables and fruit are also abundant and thus are the recipes using them. People, though, are a balanced mix of vegetarian and non-vegetarian. The geographical location of this region means its food bears the strong influence of Chinese and Mongolian cuisine.

Eastern dishes favor mustard seeds, poppy seeds, and mustard oil, giving dishes a light pungency. Rice and fish also feature prominently in Eastern cuisine. Overall, Eastern dishes are more lightly spiced than those from other regions. Rasgulla is a popular sweet treat consisting of semolina and cheese curd (chenna) balls that are boiled in a light sugar syrup.

In coastal regions fish is the food of choice while further inland pork wins the position on the plate. This region is known for its abundance of rice due to the ideal growing climate. Dishes also utilize a variety of local vegetables and fruit. Other popular ingredients are mustard seed and paste, chilies (both green and red), as well as Paanch foran which is a mix of five spices – white cumin seeds, onion seeds, mustard seeds, fenugreek seeds and cardamom seeds[11]. The presence of cumin in the five-recipe helps to secrete pancreatic juice thus good in smooth digestion. It also acts like as appetizer. Fenugreek seeds are beneficial for breast milk, diabetic patients, enhance fair complexion. Nigella seeds are useful for more or less all type of diseases and disorders. These are regarded as seeds of miracle cure. Fennel seeds are good in lowering blood pressure. These seeds are also good for cardiac problems and developing immunity of the body.

Yogurt, coconut, maize and gram flour are also common ingredients. Milk and dairy products play a huge role in the preparation of sweets in Eastern India. Mustard oil is very popular and used for both deep frying and cooking.

**DISCUSSION**

After years of biological and medical research, it is definitely possible to look at the Indian diet as a robust and complex scientific concept. It can be used by any practitioner, provided it is adapted to each specific geographic area and population and called the modernized Indian diet. Respondents described their evaluation of food-related behaviors within a unique cultural framework. Many of these assessments were
based on beliefs preserved from the value systems commonly found in India. Specific foods and cooking methods were defined as “good” and “bad.”

These findings are consistent with what is already known about diets in India, namely that the majority of diets are vegetarian and high in fruit, vegetables and pulses [12]. Our review of the associations between dietary patterns and health outcomes found several associations that are suggestive of dietary effects on health. The strongest evidence was about a relationship between dietary pattern and body size, but hypertension, diabetes and cholesterol levels were also found to be significantly related to particular dietary patterns. Common to many of the dietary patterns associated with less favorable risk factor profiles was the presence of snacks as a major dietary component. Snacks in India are usually high-fat, high-salt, fried foods that may also be high in trans-fats[12] and this may explain their relationship with a number of different health outcomes. On the other hand, a varied diet high in fruits, vegetables, pulses and nuts was associated with lower cholesterol, indicating that more traditional diets may have a healthier profile.

CONCLUSION

Unity in diversity is an Indian culture. All the traditional food reveals the culture of different places in the country. If one looks at the each of the state it would be seen that every state has some specialty in usage of ingredients, a variety of foods and tastes and also health aspect. It has created a rich heritage which was needed to be protected for the next generations as they do not have not much understanding of its value yet. Such knowledge is always transferred from one generation to the next. The major concern is that we do not have a record of this unparallel knowledge, therefore may not be transferred to future generations and even may not be available for them in near future if not recorded.

In actuality, the food of India is as regionally specific and diverse as its population. These cuisines are heavily influenced by India's history, conquerors, trade partners, and the religious and cultural practices of its populace. A little background on the commonalities and differences between India's regional cuisines can turn your next Indian meal into an exhilarating, and deeply gratifying, adventure. So Indian cuisine is highly regionally specific, there are certain common threads that unite the different culinary practices.

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