A survey study on Traditional Food Pattern of Kandhamal and Boudh District (Odisha)

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INTRODUCTION

Food enhances vitality, and strength makes the body sturdy, and increases enthusiasm, memory, Agni, lifespan, luster, and Ojas. Complexion, clarity, good voice, intelligence, happiness, satisfaction, and nourishment all are present in Food, so all living beings in the world require food. Food has been important since the Vedic period and they mostly depend upon herbal and vegetable products so their life span was above 100 years. But nowadays people mostly eat fast food, Chinese food, oily food, etc. so, life span gradually decreases. Traditional food pattern is very important for the health of Indian society as well as Odisha according to Desha and Kala. We observe two types of food pattern in our country i.e., Indian traditional food pattern which is running differently by the complying principals of Desha, Kaaal in different region of our country. Another is Western pattern of food which we can notice in cities and metropolitans and rarely in towns of India. This pattern does not follow the Desha, Kaal, and Prakriti and completely based on the mathematical formulations of nutrition. This pattern is ever-increasing due to urbanization, globalization, and commercial propaganda. We can see the availability of packed food even in villages which is not based on our indigenous pattern. Hence the pattern what we are following is mixed type, but still the people of the areas where the effect of commercialization and urbanization might not reach

ABSTRACT

Ayurveda is an ancient science of life science since time immemorial and it was developed more than 3000 years ago. It’s based on the belief that health and wellness depend on a delicate balance between the body, mind, and spirit. Ayurveda, apart from providing various therapeutic measures for diseases, emphasizes maintenance, promotion of health, and prevention of diseases through diet and lifestyle regimens. In Ayurveda food, sleep, and celibacy are considered as the three supports (Traya Upastambha) of life. Food is the best among things that sustain life and it has been given prime importance for health. No medicine is equivalent to food. It is possible to make a person disease-free and healthy with just a proper diet. Traditional foods are foods and dishes that have been consumed for many generations. For growth and development as well as maintain of health, nutritional food is highly required. So that scholar wants to know about what are the traditional food pattern and what is the status of health by taking traditional food pattern.

Key words: Food, Aahar, Traditional food, Ayurveda.
are following their traditional food patterns. Traditional foods are foods and dishes that are passed on from generation to generation and have been consumed for many generations.\(^\text{[1]}\) It can be also defined as food production in which the key production steps performed in a certain area at the national regional or local level are authentic in their recipe. It is originally traditional foods are originated formed as they were created; they are not modernized not processed, and not packaged. It is very highly nutrient-rich and has a long history of supporting health and wellness.\(^\text{[2]}\) It is simply prepared and basic fruits and vegetables to meat, poultry fish to dairy, legumes, eggs, nuts, and seeds. Taking this type of food; helps with weight control, better for muscle and blood, better for wound healing and fighting infection, better for vision and fighting diseases, better for strong bones and teeth, and an increase in body strength and well-being.\(^\text{[3]}\)

**AIM AND OBJECTIVES**

1. The aim of the study is to know about traditional food Pattern and what is status of health by taking traditional food.
2. To know about how they get their proper nutrition, which herbs and vegetables they include in their diet in Kandhamal and Boudh district Odisha.

**MATERIAL AND METHODS**

**Selection of Subjects**

1. Randomly 500 subjects were selected.
2. Eligibility Criteria

**Inclusion Criteria**

1. Subjects must be citizen of Salaguda, Kulikuda, Pipalamala, Damaraju village of Kandhamal district and Dhalapur, Takud village of Boudh district of State Odisha.
2. Subjects either gender were taken.
3. Individuals willing to participate in this study.

**Exclusion Criteria**

1. People from others district were not selected.

**Sample for survey**

It was very hard to survey and study the entire Kandhamal and Boudh district in a short period of time so that Salaguda, Kulikuda, Pipalamala, Damaraju Village of Kandhamal district and Dhalapur, Takud village of Boudh district is selected as a sample of the survey.

Design of questionnaire: A four phased questionnaire designed.

1. **Samanya Dincharya** (Brief daily regimen): in this phase, 6 questions were asked about their daily routine i.e., time of awakening, time for lunch, dinner and sleep in day and night etc.
2. **Samanya Ahar** (General food): 12 questions were asked to the people about their general food habits.
3. **Vishesh Ahar** (Specific food): This phase contains 17 questions about specific food which they consume.
4. **Swasthya** (Health status): This contains 7 questions for observation the normal health status.

**Respondents of survey**

The scholar approached 500 people of Salaguda, Kulikuda, Pipalamala, Damaraju Village of Kandhamal district and Dhalapur, Takud village of Boudh district randomly.

**A Phase wise Discussion of the Survey Study work is described below**

Man is a social creator and cannot live alone without systematically creating a society, rules and regulations for his self-improvement. Different societies have created certain rules and regulations that must be followed in life. In our country. As in other states, the people of Odisha live according to their own customs, occupations and social structure. Ayurveda, as knowledge and science flows through our societies, today we can consider it a tradition that is also reflected in our diet. The people of Kandhamal and Boudh district in Odisha follow a traditional diet system based on Desh and Kala.
Among the people of area 500 people including 297 male and 203 female in age group of 18 years to 85 years randomly interviewed and most of the people are Hindu. Respondents of the survey have different occupation i.e., house-wife, labourer, businessman, student, Govt. servant and businessmen etc.

First phase: Related to Dincharya

Wake up in the morning: The time of early morning awakening is mentioned in Ayurveda as Brahma Muhurt. The whole day and night are divided into eight mukhurta. Each mukhurta equals three hours. This last Muhruata is when Sattva Guna prevails, the amount of prana Vayu is more atmospheric than at other times. Suppression of the urge to defecate during sleep, during this period causes abdominal pain, headache, flatulence, calf muscle pain, and abdominal distension.

Data found in the survey shows that 78.8% people of in this area are habitual to get up before sunrise i.e., 4.00 am to 6.00 am and 21.2% of people get up after sunrise. Hence, this is beneficial for their health and prevents many diseases.

Hours of Work: The geography of Kandhmal and Boudh district is different from other part of the Odisha. According to the survey, from Table no. 7 maximum no. of people works 6-12 hours i.e. 65.2% because most of the peoples are farmer and labourer. As the district have commercial activities, agriculture and related fields are the main occupation of the people for livelihood.

Hard work brings good health and balanced body parts, increase Agni, eliminate laziness, bring lightness, and purify the body. There is no measure to compare with obesity, even if there is an enemy, it cannot be harmed because of fear, and old age comes late. The body becomes strong, muscles develop correctly in people.

Sleeping time: Data found that maximum peoples tend to sleep 7 hrs in night i.e. 63.4% followed by 33.8% of people sleep 8 hrs in night which is good for health. According to Ayurveda, sleep is one of the important pillars (Traya Upastambha) that sustains life. Sleep is coming from an insurmountable need (Adharniya Vega). Persistent sleep deprivation, which is mainly caused by nocturnal studies and night duties of various professions, can increase the risk of a number of chronic health problems. Maximum no. of peoples habitual to sleep 30 min -1 hrs in day time i.e. 55.8% which is good for health. In Ayurveda, daytime sleep is contraindicated except during Grishma (summer).

Second Phase: General food habits

Type of food: In this study found that most of the people were having mixed type food i.e. 95.8% while, 4.2% people were Vegetarian. In Ayurved, both foods are recommended for healthy people and all people based on their Desh, Kaal, Prakriti and broad classification of foods of vegetarian and non-vegetarian origin. The dish improves vitality, strength and makes the body strong. Food increases Enthusiasm, Memory, Hunger, Longevity, Gloss and Ojas. People depend their food according to the availability in this area.

Frequency of taking proper food in a day: In this study found that maximum no. of people i.e. 71% people were taking proper food 3 times per day, followed by 27% of people were taking 2 times, 1.2% of people taking once and 0.8% of people taking were taking more than 3 times proper food in a day. Most people of this area working 6-12 hrs in a day so they need more energy and nutrition that’s why they take 3 times proper food in a day.

Fuel is used for Cooking: In this study found that maximum people i.e. 73.8% use wood for cooking food followed by 25.8% of people use gas, 0.4% of people use induction for cooking. Nearly 66 percent of the district's area is covered with dense forest and towering mountains. People collect wood regularly from forest and carry to home while coming back from agriculture sites. Wood is cost less and available in adequate quantity in hill areas. Food cooked in wood is delicious and wholesome. That’s why they use dry wood as fuel for cooking.

Tea or coffee used in daily life: In this survey found that most of the people i.e., 83.2% were consumes coffee/tea in daily life followed by 16.8% of people were consume coffee/tea in daily life so that most people have issue in digestion constipation problem.
Practice of fasting: In this survey study found that most of the people i.e. 54.2% were not doing fasting in daily life followed by 45.8% of people were not doing practice fasting. In this survey study from table no 20 found that most of the people i.e., 81.22% intake fruits during fasting time followed by 10.48% of people intake dairy products, 4.36% of people intake Sabu Dana, Dalia etc. and 3.93% of people not taking any food during fasting.

Fasting is "a completely voluntary abstinence from any food for a period of time, so that the digestive system can rest". It helps to remove meat contaminated with harmful residues. "Vital Vitality" is involved in the elimination of pathogenic foreign bodies that accumulate in different parts of the body. It is one of the hygiene habits that help the digestive system rest and heal at the root.

Drinking water regularly: In this survey from found that most of the people i.e., 35.6% were consumed tube well water in daily life followed by 34% of people were consume river water, 19% no of people were consumed supply water in daily life which is not good for health and suffering in diarrhoea, skin diseases, fever etc.

Showing addiction: In this survey found that most of the people 51.4% were not addict to smoking and drinking followed by 30.2% of people were addict to smoking and drinking, whereas 16.8% of people were addict to only drinks and 1.6% of people addict to only smoking. Mostly people depend on Mahua alcohol which is made local area or made by own.

Third phase: Specific food habits

Variety of Rice consume daily: In this survey study found that most of the people i.e., 98.6% consumed white rice in daily life followed by 1.4% of people were consume brown rice. Most people use white rice in the form of 2 type i.e. Arwa and Usna rice

Arwa rice: Once the plants have reached full growth (approximately six months after planting) and the grains begin to ripen. After ripening the rice grain will dry under the sunlight directly which helps to remove the moisture. After drying the rice grain, it undergoes the milling process directly, and then it is known as Arwa rice.

Health Benefits of Arwa Rice: Arwa rice is a good source of fiber and vitamins like niacin, thiamine, vitamin B7, and folate.

Usna Rice: Usna rice is extracted by boiling the paddy and cooking them a little. The rice cooked later has been dried in the sunlight to get tightened again. After drying, the husk is removed, and rice is extracted, known as Usna rice. Because of this cooking process, Usna rice is a little yellowish. This process is known as the Sell process and is used in many eastern and southern states of India. The cooking time and absorption of the water in Usna rice are higher than in Arwa. Usna is less susceptible to getting any insects. On the other hand, the number of carbohydrates present in rice decreases, which is very beneficial for our health.

Health Benefits of Usna Rice:

1. It has slightly fewer calories as compared to Arwa rice.
2. After eating that rice, the person himself feels the energy.
3. It contains more fiber, less fat, and more vitamins. On the other hand, white rice is better for working people because it has more calories.
4. Usna is suitable for diabetes patients and helps in controlling overall diabetes.

Hulling of paddy before the preparation of rice results in considerable variation in the quality of uncooked rice. The biggest problem with white rice is that it is very high in carbohydrates. In such a situation, taking it regularly and not doing physical work can have a suspicious effect on health, but it makes up for the shortcoming of white rice. Usna rice is a little smoky and light for the stomach, and one of the great benefits is that this rice has fewer carbohydrates. The process of extracting rice is different from Arwa rice. That’s why it has more nutritional value and more health benefits.

Consume of Chapati (Roti): In this survey found that most of the people i.e. 61.2% were not consumed
chapati in daily life followed by 29% no of people were taking chapati once per day followed by 8.6% no. of people taking twice per day and 1.2% no. of people taking thrice per day chapati in daily life.

**Consume of Dal:** In this survey study found that most of the people i.e. 46.8% consume all type of dal followed by 16.4% no. of people consume pigeon pea, 14% no of people consume masoor dal. So that they get proper protein from all variety of dal.

**Consume of Vegetables and fruits:** Most of the people consume variety of vegetables and fruits which is available in this area according to season. They cultivate variety of vegetables and some vegetables also grow naturally by which is fulfil their nutrition. Some fruits like Kendu, Dimir, Karamanga, Bana Khajur etc. seen in this forest area and these are commonly consumed by people who give vitamin and macronutrients.

**Consume of oil for cooking:** In this survey study found that most of the people i.e., 40.8% were consumed mustard oil followed by 37% no of people were consumed Gara oil and 22% no. of people consumes sun flower oil for cooking in daily life.

**Mahua seed oil (Gara Oil):** The mahua tree, commonly known as the Indian Butter Nut Tree. Once the fruits are harvested from the tree, the seeds are removed. Each fruit bears one seed at its core. The seeds are then smashed with a stone or pestle to remove the external covering. The remaining seed kernel is left to dry in the sun after which it is pounded into granules. These granules are sun dried as well. The ground mahua seeds are wrapped in a cloth and subjected to steaming for 15–20 minutes. Oil is expelled by grinding them in a mortar and pestle using circular motions. The granules are hand-squeezed to extract the oil. Sometimes, the oil is filtered through a cloth and boiled to purify it.

**Consume of Ghee:** In this survey study found that most of the people i.e. 94.8% were consumed cow ghee followed by 5.2% of people were consumed goat ghee in daily life which is good for health.

**Consume of Meat:** In this survey study from found that most of the people i.e. 80.2% were consumed all type of meat followed by 12% no of people were consumed Chicken and mutton, 4.8% of people not taking any type of meat and 2.8% of people were taking only chicken. Meat is regular part of the diet in winters. Meat fulfilled the nutritional value of the people.

**Consume of fish:** In this survey study found that most of the people i.e. 68.2% were eat fish once per week followed by 25.4% of people were eat fish twice per week, 5.8% of people not eat fish and 3 (0.6%) no. of people were eat fish daily. In this survey study found that most of the people i.e., 52.6% consume all type of fish followed by 27.4% of people consume rohu, 7.4%of people consume Catla fish, 5.2% of people not intake fish, 3.2% of people consume Khaiinga fish, 2.6% of people eat Chuna fish. They eat because as it is availability in this area due to river, canal, water reserve dam etc and people love to eat fish in various method of cooking. Definitely it fulfilled the nutritional source.

**Consume of sweet:** In this survey study found that most of the people i.e., 82.6% were eat sweets twice per week followed by 29% of people were eat sweets thrice per week, 6.2% of people not eat and 2.2% of people were eat sweets daily. Sweet is the best part in Odisha as well as in Kandhmal and Boudh District. It connected each other in various festivals by mutual sharing in their family and villages.

**Consume of Fast food:** In this survey study found that most of the people i.e. 69.4% were consume fast food sometimes followed by 17.8% of people were consume fast food on regular basic and 12.8% of people not taking fast food. It shows people consume less fast food and junk food in compare to urban area by which it definitely impacts in health.

**Consume of Peya Dravya, Salad and Chatani:** In this survey study found that most of the people i.e., 38.8% were consume Peya Dravya and 63.4% were consume Chatania and salad on regular basis which is beneficial for health.

**Consume of Roots, Tubers:** In this survey found that most of the people i.e., 59.8% were eat sometimes and 36.6% of people were eat of roots, tubers, fruits on...
regular basis which is beneficial of health and it is obtained from forest.

Sarur/Arabi, Sankha Saru (Colocasia), Tunga, Muli (Radish), Gajjar (Carrot), Kukundara (Beetroot), Sweet Potato, Khambda Aloo (Yam), Mushroom, Pala Mushroom (Paddy straw mushroom), Mitri Mushroom/Hunka mushroom, Palua (Arrowroot), Olua (Elephant foot yam) these roots and tubers are available in this area and they consume in their daily life.

Change in diet pattern according to season: In this survey study found that most of the people i.e., 77% of people change in diet pattern and 23% of people not change in diet pattern according to season. It shows that maximum people changed the diet according to change the season. According to Ayurveda this is beneficial for health.

Traditional raw food item: Use of traditional cereals, millets, pulses and legumes are still continuous in this area than urban part of our country. Shali Dhanya, Godhuma, Yava, Kodo, Tandulium, Shyavak, Kanguni, and Chinoo (Chinak), Maize etc. are regular part of diet in this area. Consumption of Masa, Chana, Mudga, Kullatha, Brihi etc. is as daily diet in this area.

Vegetables like Kadau, Tori, Karela, Chichra, Kundari, Kakode, Baragada, Mrunalala, Para Bala, Papita, Raw jack fruit, Drumsticks shows they use traditional raw food. Use Tubers/ Root/Rhizomes like Potato, Sarur/Arabi, Sankha saru, Tunga, Muli, Kukundara, Sweet Potato, Khambda Aloo, Mushroom, Pala Mushroom, Mitri mushroom/Hunka mushroom, Palua, Olua which shows that they use most traditional food which is good for health. Vegetables leaf like Palak, Vastuk, Sarso, Muli, kosala leaf (Amaranth leaf), Sajana (Drumstick), Khada leaf (Amaranth leaf), Kumda leaf (Pumpkin leaf), Patta Gobhi, Loni (Garden Pursalane), Karela leaf this type of traditional food use by the people in various season. This not only fulfilled the nutritional value but also made their immunity strong.

Fruits like Kendu (Ebony fruit), Jamun, Mango, Tarabhujoy, Sitaphal, Ripe papaya, Rama phala, Dimbiri (Fig), Amalaki, Karamanga (Star Fruit), Kapitha, Bilwa, Khajur (Date fruit), Guava, Emli, Chiku, Tada Phala, Ganna, Coconut, Ber (Jujube) shows that they use various fruits which is fulfilled vitamins, macronutrients etc.

### Traditional food items

<table>
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<tr>
<th>SN</th>
<th>Raw Food</th>
<th>Traditional Food Items Mostly Consumed</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Rice</td>
<td>Pakhala, Khichdi, Kheer, Murmura, Lia (fried paddy), Bhat.</td>
</tr>
<tr>
<td>2.</td>
<td>Dal</td>
<td>Dolma, Moong Dal/ Bir dal, Sambor, Kanji.</td>
</tr>
<tr>
<td>3.</td>
<td>Vegetables</td>
<td>Santula, Mix veg (Ghanta), Kosala leaf fry, Pumpkin flower fry, Banana Stem Curry (pseudo stem), Bamboo shoots (Karadi) fry.</td>
</tr>
<tr>
<td>4.</td>
<td>Non-Veg</td>
<td>Chicken Bamboo, Dry fish fry (Sukhna), Fish curry/ Fish besabar.</td>
</tr>
<tr>
<td>5.</td>
<td>Sweet</td>
<td>Chenna Podda, Rasgulla, Boonodi Laddo, Khaja/ Phenki, Jalebi, Gulgulla.</td>
</tr>
<tr>
<td>6.</td>
<td>Alcohol</td>
<td>Mahuli wine (Mahua), Salpa Rasa</td>
</tr>
<tr>
<td>7.</td>
<td>Pitha (Cake and Pan cake)</td>
<td>Manda Pitha, Arisha Pitha, Chitau pitha, Chandra Kanti, Idly (Rice Cake), Dosa, Poda Pitha</td>
</tr>
</tbody>
</table>

Fourth phase: Status of Health

After the phase of questionnaire related to daily regimen and diet pattern fourth phase is designed to assess effect of diet and food on the health of the people.

**Bowel habit:** In this survey found that most of the people i.e., 69.4% were regular in bowel habit followed by 28.8% of people are constipated. Maximum people show good bowel habit so, that it indicates the food is properly absorbs in the body which keep body healthy.

**Sleep habit:** In this survey study found that most of the people i.e., 91.8%were habitual in sound sleep. Most of people were farmer, labourer so they work hard and take sufficient food which leads to proper sleep at night.

**Allergy reaction to any food:** In this survey found that most of the people i.e., 86.4% were not suffer in any allergy reaction to body means the people in this area were fully adopted to this type of food which keep their body, mind healthy. It shows their immunity strong.
Stomach upset due to fast food: In this survey study found that most of the people i.e., 90.2% were not suffering in Stomach upset due to fast food which is good for health because they consume less fast food in compare to urban area and these types of food easily digest because of good digestion power and hard work.

Health issue like fever, cold, cough etc. in seasonal change: In this survey study found that most of the people i.e., 45.2% were not suffer in health issue like fever, cold, cough etc in seasonal change followed by 37.8% of people had no health issue like fever, cold, cough etc in seasonal change and 17% of people had sometime suffering in health issue, which is the sign of good immunity in their body because of good food intake and hard work.

BMI: In this survey study found that most of the people i.e. 93.6% have average BMI rate followed by 4.8% of people have higher BMI rate and 1.6% of people have below BMI value. It shows that they have good health and less people suffering in obesity and thin catagories.

Suffering in Diseases: In this survey found that most of the people i.e., 60% were not suffering in any diseases but in this area most of the people not suffering in any diseases because of their life style and type food. Acharya Charak said that, the body as well as diseases are formed by food. Wholesome and unwholesome food is responsible for happiness and misery respectively.[13]

Suffer in any chronic diseases/in last 2 month: In this survey study found that most of the people i.e., 16.4% were suffering in fever. This area is fully covered by forest, waterfall, river which is suitable for mosquito that’s why most people suffering in Dengue, malaria. Most peoples are uneducated so that they have not proper knowledge about malaria, dengue so that Govt. published various scheme like DAMAN etc in this area.

In this survey study found that 9.2% of people suffering in Amlapitta. It is less number in compare to the urban area. It is due to people do hard work, sometime they have to work in empty stomach it leads to Amlapitta. May be some reasons are intake of wine, intake of old fermented rice, lack of water intake which leads to the diseases Amlapitta (hyperacidity).

In this survey study found that 9% of people suffering in Anemia it is due to Malaria and may be some people due to poverty. 3.8% of people suffering in Atisara. Still some people use river water, well water etc. maybe it is the cause of Diarrhoea, dysentery etc.

In this survey study found that 6.4% people in severe constipation may be it is due to less quantity water intake. In this study found that 9% people in suffering in Vata Roga. In this region people do hard work and most people work 7-8 hrs in a day by which in future it leads to various Vataja disorder.

In this world we can’t say a person who is completely diseases free and may be all people in this universe suffer small or big health issue. In this study shows that 8.6% of people they not have any diseases in last two month or any chronic diseases which is shows that good immunity power. All though people suffering in various diseases but they are not suffering serious health issue, no such major life style disorder. Only 3.8 % in diabetes, 2% in hypertension, 3 % in C.K.D. suffering in life style disorder.

CONCLUSION

Kandhamal and Boudh district of Odisha is mainly Aanup and Sadharan type of Desh and has both types of indicators in it. People are agriculturist, labourer etc. by occupation so they work hard in their daily life, and those who are not in this occupation also induced to perform physical exertion. A seasonal modification of food items in their tradition helps them to maintain their health. Less individual found in this sample suffering from key life style disorders such as diabetes, hypertension and heart diseases which are alarming to our urban population of country, so the life style of people of this area gives a light in this concern. By respecting traditions in the field of food and daily living, we can reduce and even solve many health-related problems. Therefore, it is necessary to propagate in urban areas so that rural people can accept and encourage conservation. Food is a powerful clinical tool that aids in preventing and treating disease.
Therefore, the choices we make about what we consume as food will have a bearing on our health.

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