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Indigenous Food Diversity and Cultural Beliefs among Pregnant and Lactating Mothers of Oraon Tribe in Odisha

PALLAVI GARDIA[1] AND JYOTIRMAYEE UDGATA*[2]
[1]Ph.D. Scholar and [2]Associate Professor
Department of Home Science, Rama Devi Women's University, Vidya Vihar, Bhubaneswar (Odisha) India
*Corresponding Author

ABSTRACT

Maternal nutrition is crucial for a safe pregnancy and healthy child development. Among the Oraon tribe of Odisha, food choices during pregnancy and lactation are shaped by traditional beliefs, cultural taboos, and the availability of local foods. This study, titled "Indigenous Food Diversity and Cultural Beliefs among Pregnant and Lactating Mothers of the Oraon Tribe in Odisha," aimed to examine local food consumption patterns and identify cultural beliefs regarding food preferences and taboos during these periods. A cross-sectional study was conducted during September 2024 to March 2025 among 290 pregnant and lactating Oraon mothers from five selected blocks namely Balisankara, Subdega, Kutra, Badgaon and Rajgangpur of Sundargarh district in Odisha. Data were gathered using a semi-structured interview schedule. The findings revealed a diverse indigenous diet within the Oraon community, which included locally available green leafy vegetables, forest fruits, mushrooms, bamboo shoots, roots, and locally sourced non-vegetarian foods. These native foods play an important role in maternal nutrition and show a strong connection to the forest ecosystem. However, traditional taboos affect food choices, limiting some nutrient-rich options. During pregnancy, preferred foods include green leafy vegetables, dates, chana, and non-vegetarian items for blood formation and strength. Ripe papaya and puffed rice are avoided because of beliefs linking them to miscarriage or excess vernix in newborns. In the lactation phase, foods like papaya, drumstick leaves, and lentils are promoted for milk production, while mushrooms, brinjal, and certain greens are avoided due to beliefs about causing indigestion or diarrhoea in infants. Further, the nutritional assessment of these foods is to be carried out to strengthen the indigenous food system. The study emphasizes the need for nutrition education that respects cultural practices while encouraging scientifically supported dietary habits to enhance maternal and child health.

Keywords: Indigenous food diversity, Food taboos, Food preference, Oraon tribe, Pregnant mothers, Lactating mothers

INTRODUCTION

Maternal nutrition is vital for safe pregnancy outcomes, healthy foetal growth, and good maternal health. In tribal communities in India, women's eating habits during pregnancy and breastfeeding are heavily influenced by cultural beliefs, available resources, and traditional knowledge. The Oraon tribe is a major indigenous group in eastern India. They mostly live in Odisha, Jharkhand, Chhattisgarh, and West Bengal. A large number of them are in the Sundargarh district of Odisha (Singh, 2023). They have a rich cultural background and a strong connection to nature. Their food practices are influenced by what is locally available, traditional wisdom, and social norms passed down through generations (Bisai *et al*., 2023). Studies have shown that maternal healthcare practices among tribal women, including the Oraon community, are closely tied to cultural norms and traditional beliefs. These factors influence dietary choices during pregnancy and lactation (Gardia and Udgata, 2024). Understanding the food variety and related taboos among pregnant and breastfeeding Oraon women is crucial for assessing their nutritional health and creating socially relevant health programs.

Food diversity means consuming a range of foods from different groups to meet nutritional needs. For Oraon

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women, dietary diversity largely relies on local and seasonal foods. Their traditional diet features parboiled rice as the staple, along with pulses, green leafy vegetables, tubers, roots, forest fruits, and sometimes meat, fish, and eggs. Even with limited access to store-bought food, the Oraon have gained extensive knowledge of indigenous food resources, many of which are rich in micronutrients. These include wild edible mushrooms like Rugda, green leafy vegetables, tubers, bamboo shoots, wild berries, mahua flowers, and fermented rice beverages like Handia (Ghosh-Jerath *et al.,* 2018, Ghosh-Jerath *et al.,* 2021). These indigenous foods not only add variety to their diet but also believed to have medicinal and ritual importance in the community.

However, food choices during pregnancy and breastfeeding are not based only on availability or taste; they are also shaped by a complex mix of beliefs and taboos. Some foods are culturally restricted due to some kind of perceptions or because they are thought to harm the mother and foetus. After childbirth, breastfeeding mothers might limit some foods, thinking these could interfere with milk production or harm the newborn (Goswami and Thakur, 2019, Sarmah and Saikia, 2023). Such taboos, while grounded in traditional beliefs may result in a lower intake of important nutrients likeiron, protein, and vitamins during pregnancy and lactation. These are times when nutritional needs increase. Evidence from other tribal areas of India shows that food insecurity, seasonal shortages, and unstable livelihoods, especially in high-migration tribal communities, worsen dietary deficiencies among women. This situation increases the risk of maternal undernutrition and negative pregnancy outcomes (Saxena *et al.,* 2020).

The relationship between indigenous food diversity and cultural taboos creates a paradox. Many women have access to various local foods that are rich in nutrients, yet they often exclude many from their diets due to traditional restrictions. This is evident among the Oraon tribe in Sundargarh district, Odisha. Here, women know a lot about both wild and cultivated indigenous foods. With that they often avoid some food during pregnancy and lactation because of strong cultural beliefs. Understanding these practices provides important insights into the social and cultural factors that influence maternal nutrition within the Oraon community. It also highlights the need to include indigenous food systems in nutrition education and maternal health programs in ways that respect their cultural values and traditions.

Objectives:

The objectives formulated for the study are as follows.

1. To explore the indigenous food consumed by Oraon tribal community.
2. To find out the food preference and food taboos among the pregnant mothers in Oraon tribal community
3. To find out the food preference and food taboos among the lactating mothers in Oraon tribal community

METHODOLOGY

A cross-sectional study was conducted during September 2024 to March 2025 among 120 numbers of pregnant and 170 numbers of lactating mothers of Oraon tribal community. Five numbers of blocks of Sundargarh district of Odisha state namely Balisankara, Subdega, Kutra, Badgaon, Rajgangpur were purposively chosen based on the secondary data having a greater number of Oraon tribal population of the selected district. The information was collected with the help of a semi structured interview schedule.

RESULTS AND DISCUSSION

This section highlights the key findings of the research study derived from pregnant and lactating mothers of Oraon community in Sundargarh District.

Indigenous food consumed by Oraon community:

Exploring the indigenous foods of the Oraon community gives valuable insights into their traditional knowledge of nutrition, biodiversity, and sustainable living. The Oraon tribals are dependent on local natural products for most of their food like forest products (wild fruits, nuts, etc.), millets, leafy greens, roots/tubers, mushrooms and local pulses (George and Christopher, 2020). These choices indicate how closely the Oraon rely on the environment. The study of their dietary practices also offers insight to their cultural traditions as well as provide an opportunity to identify local nutritious food sources which can have significant positive impacts on community health by reducing malnutrition, particularly among mothers and young children.

The Table 1 shows the food consumption habits of various indigenous foods among the Oraon community

Table 1 : Indigenous food consumed by Oraon community (N=290)

Food groups	Name in Sundargadi language	Local name in Oraon community	Availability	Dish prepared	Respondents consuming	
					Frequency (f)	Percentage (%)
Green leafy vegetables	Bhadel sag	Bhadel sag	Spring and summer season	Sag	169	58.27
	Chanti sag	Chanti sag	Winter season	Sag	243	84.79
	Kusam sag	Kusam sag	Spring season	Sag	121	41.72
	Churegudi sag	Churegudi sag	Winter season	Sag	79	27.24
	Kuiler sag	Uphia sag	Spring and summer season	Sag	255	87.93
	Chench sag	Leran	Rainy season	Sag	93	32.06
Fruits	Kendu	Kendu	Summer season	Eaten raw	290	100
	Char	Char	Summer season	Eaten raw	290	100
	Kaunria	Kudurum	Winter season	Chutney	290	100
	Lesua	Lesanga	Spring and summer season Preserved and can available throughout the year	Pickles	49	16.89
	Tol (Mahua fruit)	Tol	Summer season	Curry	290	100
Flowers	Girel	Jinar phool	Spring season	Fry	266	91.72
	Mahul	Mahul phool	Spring season, preserved and used throughout the year	Indigenous liquor and kaonko (preserved form of mahua flower)	290	100
Mushrooms	Rugda	Puttu	Early rainy season only found for 2 to 3 weeks	Curry	290	100
	Bali chhatu	Bael chhati	Early rainy season	Curry	290	100
	Bihden chhatu	Potiari	Early rainy season	Curry	290	100
	Bhardo chhatu	Bhardo	Early rainy season	Curry	208	71.72
	Bhudia chhatu	Bhudia chhati	Mid-rainy season	Curry	215	74.13
	Dashra chhatu	Dashra chhati	Later rainy season	Curry	215	74.13
Bamboo shoots	Karadi	Kardi	Throughout rainy season Preserved and can used throughout the year	Fry, curry, letha	290	100
	Hendua	Hendua Dried, fermented and preserved bamboo shoot	Can be used throughout the year	Letha/ambil (A type of local soup)	290	100
Roots	Pita kanda	Gethi kanda	Later rainy and early winter season	Boiled	249	86.86
Non veg	Kai anda/ red weaver ant	Kai demta	Summer season	Curry	188	64.82
	Genda (A type of snail)	Ghanghi	Rainy season	Curry	207	71.37

of Sundargarh district, grouped by types of food such as green leafy vegetables, fruits, flowers, mushrooms, bamboo shoots, roots, and non-vegetarian items.

In the green leafy vegetables, Kuiler sag (Uphia sag) which is available in only in summer and spring was the most commonly eaten, with 87.93% of respondents reporting that they consumed it. This was followed by Chanti sag (84.79%) available in winter and Bhadel sag (58.27%) available in spring and summer. Other varieties like Kusam sag (41.72%), Chench sag (32.06%), and Churegudi sag (27.24%) were consumed but in smaller amounts.

In the fruit group, all the respondents (100%) consumed Kendu, Char, Kaunria (Kudurum), and Tol (Mahua fruit). Kendu and char are seasonal fruits and available only in summer season. However, Lesua (Lesanga) was eaten less often, with only 16.89% reporting consumption, mostly in the form of pickles.

Among flowers, Mahul phul was consumed by everyone (100%) which is available largely in spring, either in the form of daru (local alcohol) or by kaonko preparation. Meanwhile, Girel (Jinar phul) found during spring was eaten as bhaja (fry) by 91.72% of respondents.

Mushrooms are a key part of the Oraon diet, used in many curries. Rugda also known as Puttu (only found in forest in early rainy seasong), Bali chhatu (Bael chhati), and Bihden chhatu (Potiari) were eaten by all respondents (100%). Whereas Bhudia chhatu (Bhudia chhati) and Dashra chhatu (Dashra chhati) were consumed by 74.13%, while Bhardo chhatu was consumed by 71.72% of respondents.

For bamboo shoots, both Hendua and Karadi (Kardi) were eaten by all (100%) respondents, showing their strong traditional preference and year-round availability in their diet. Whereas in the roots category, Pita kanda (Gethi kanda) which is only found in later raily season and early winter season was eaten boiled by 86.86%, highlighting its importance as a common and nutritious food source.

Within non-vegetarian foods, Genda (Ghanghi), a type of snail was consumed by 71.37%, and Kai anda locally known as Kai demta, eggs of red weaver ant was consumed by 64.82%, both usually prepared as curries.

Overall, the data shows that the Oraon community in Sundargarh district maintains a rich dietary diversity, largely based on indigenous and locally available food sources such as green leafy vegetables, forest fruits, flowers, mushrooms, roots, and bamboo shoots. These foods reflect their strong connection to the forest environment and are vital for ensuring nutritional security and cultural continuity within the community.

Food preference and food taboo during pregnancy in Oraon community:

Food preferences and taboos during pregnancy have a strong impact on maternal nutrition and foetal development. These preferences are often influenced by cultural, regional, and personal beliefs. This study looks into these practices to highlight good dietary choices that support health while tackling harmful taboos. Some women avoid nutrient-rich foods like eggs or leafy greens because of unfounded fears. By examining global patterns, the research aims to promote guidelines based on evidence. These guidelines will help pregnant women make informed and safe eating choices.

The Table 2 shows food preferences and food taboos during pregnancy among the respondents. For food preferences during pregnancy, a large number of respondents said they consumed green leafy vegetables (85.00%). They believed these vegetables help with blood formation. Non-vegetarian foods were prefered by 81.66% of the women because they were thought to increase strength during pregnancy. Chana was eaten by 64.16% of respondents for energy and power, while 56.66% of women preferred dates as they were believed to aid blood formation. In contrast, only 18.33% of respondents consumed beetroot even though it was seen as beneficial for blood formation. A small number of women (15.00%) said they had no specific food preference, meaning they ate all foods without any restrictions.

Regarding food taboos during pregnancy, 32.50% of respondents avoided ripe papaya, thinking it could cause miscarriage. Similarly, 38.33% of women steered clear of puffed rice, as it was believed to lead to too much vernix in the newborn. However, a significant number of respondents (39.16%) reported having no food taboos and consumed all foods freely. Overall, the findings show that traditional beliefs play a strong role in dietary practices during pregnancy, with both beneficial food preferences and restrictive taboos influencing what women eat.

Table 2 : Food preference and food taboo in pregnancy (N=120)

Variables	Particulars	Reason and Beliefs	Respondents	
			Frequency (f)	Percentage (%)
Food preference in pregnancy	Green leafy vegetables	Blood formation	102	85.00
	Dates	Blood formation	68	56.66
	Chana	Power	77	64.16
	Beat root	Blood formation	22	18.33
	Non veg	Increase strength	98	81.66
	Eat everything without any preference		18	15.00
Food taboos in pregnancy	Papaya (ripe)	Miscarriage	39	32.5
	Puffed rice	Excessive vernix in baby	46	38.33
	Eating everything without any taboo		47	39.16

Table 3 : Food preference and food taboo in lactation (N=170)

Variables	Particulars	Reason and Beliefs	Respondents	
			Frequency (f)	Percentage (%)
Food preference in lactation	Papaya	Milk formation	149	87.64
	Drumstick leaves	Reduce back pain	58	34.11
	Rice	Strength	144	84.70
	Bhaji sag	Blood formation	152	89.41
	Lentil	Milk formation	126	74.11
	Rice water	Milk formation	40	23.52
	Eating everything without any preference		09	5.29
Food taboos and beliefs in lactation	Mushroom	Indigestion	07	4.11
	Don't breast feed baby after bath	Baby will catch cold	30	17.64
	Bhaji sag	Diarrhoea in children	10	5.88
	Brinjal	Diarrhoea in children	102	60.00
	Eating everything without any taboo		36	21.17

Food preference and food taboo during lactation in Oraon community:

Food preferences and taboos during lactation significantly impact maternal recovery, milk quality, and infant nutrition. These practices often stem from cultural traditions and misunderstandings. This study looks at these habits to highlight supportive dietary choices that improve breastfeeding success and child growth. It also questions restrictive taboos which can deny mothers important nutrients. Through a global analysis, the research aims to create evidence-based recommendations for nutritious, culturally appropriate lactation diets.

The Table 3 indicates the food preferences and taboos of mothers during the lactation period. Among the preferred foods during lactation, Bhaji sag (Amaranth leaves) was eaten by the most mothers, at 89.41%, because it was thought to help with blood formation. Papaya was chosen by 87.64% of respondents as it was believed to increase breast milk production. Rice was commonly consumed by 84.70% of mothers since it was seen as a source of strength and energy. Lentils were taken by 74.11% of respondents due to the belief that they aid in milk production. In contrast, fewer mothers consumed drumstick leaves (34.11%) to alleviate back pain, and rice water (23.52%) to boost milk secretion. Only a small number of mothers (5.29%) indicated that they ate all foods without any specific preference.

Regarding food taboos during lactation, the most commonly avoided food was brinjal, which 60.00% of respondents restricted due to the belief that it could cause diarrhoea in children. Likewise, Bhaji sag was avoided by 5.88% of mothers for the same reason. There are also some restrictions were noted, as 17.64% of mothers restricted from breastfeeding their baby right after bathing, fearing that the baby might catch a cold. Very few mothers (4.11%) avoided mushrooms mainly due to worry about indigestion. However, 21.17% of respondents reported having no food taboos and consumed all foods freely. Overall, the table shows that traditional beliefs have a strong influence on food choices during lactation, impacting both consumption and avoidance. Understanding these practices is important for improving maternal and child nutrition through culturally appropriate health education.

Conclusion:

The study on indigenous food diversity and cultural beliefs associated to food choices among pregnant and lactating mothers of the Oraon tribe in Odisha highlights the complex relationship between traditional food practices, cultural beliefs, and maternal nutrition. The findings show that the Oraon community has a rich understanding of local indigenous food sources. These foods are a key part of their diet and cultural identity. Their dietary variety includes many green leafy vegetables, forest fruits, mushrooms, roots, tubers, bamboo shoots, and non-vegetarian foods, demonstrating their strong bond with nature. This food diversity not only ensures food security but also supplies essential nutrients needed for the health of mothers and children. However, the study also points out that cultural taboos and traditional restrictions significantly influence food choices during pregnancy and lactation. These taboos, while based on cultural wisdom and health precautions, sometimes limit access to nutrient-rich foods when maternal nutritional needs are at their peak.The mixture of food diversity

and dietary taboos creates a situation where availability does not always lead to sufficient consumption. This highlights the need for culturally sensitive nutrition education and health programs that build on traditional knowledge while addressing harmful or unscientific practices. Raising awareness about the nutritional benefits of indigenous foods and including them in maternal health programs can greatly improve dietary quality among Oraon women.

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