# Ethnomedicinal Knowledge and Healthcare Practices among Tribal Elders in Malkangiri, Odisha

Padlam Nayak[1], Urmila Sahoo[2]
[1,2]*Ph.D. Scholar, Department of Sociology, Utkal University, Vani Vihar, Bhubaneswar, Odisha*

***Abstract*—Tribal healthcare practices in Malkangiri, Odisha, are closely intertwined with the forest environment and collective cultural memory. Among these communities, elderly men and women act as the primary carriers of ethnomedicinal knowledge, drawing on long–established experience with local plants and healing traditions. This study examines how tribal elders use, preserve, and transmit traditional herbal remedies and how these practices continue to guide everyday healthcare. While plant-based treatments remain the first response to illness in rural villages, modern medical services are approached selectively, generally during cases of severe illness or emergency. For elders who have migrated or frequently interact with urban institutions, healthcare has taken a hybrid form that blends indigenous remedies with allopathic medicine. This reflects a process of adaptation rather than replacement, demonstrating the resilience of tribal knowledge systems. The study is based on ethnographic fieldwork supported by interviews and survey data. Findings emphasise the importance of safeguarding indigenous knowledge and suggest that culturally rooted healing systems can provide valuable direction for developing community-sensitive and integrative healthcare models.**

***Index Terms*—Tribal elders, Malkangiri, ethnomedicine, indigenous knowledge, traditional healing, hybrid healthcare practices.**

## I. INTRODUCTION

India, a country of immense cultural diversity, is home to one of the world's largest indigenous populations, comprising over 700 tribal communities and subgroups. Together, they represent nearly 8.6 per cent of the nation's population and contribute significantly to the global indigenous demographic. These communities, distributed across varied ecological zones, have historically maintained a symbiotic relationship with nature, deriving their sustenance, livelihood, and healthcare from the surrounding environment. Deeply rooted in traditional ecological knowledge, tribal societies embody a worldview where health, spirituality, and environment are inseparable. Their medical systems, therefore, emerge not merely as curative frameworks but as holistic cultural practices that sustain community wellbeing and ecological balance.

Among Indian states, Odisha holds a distinctive place for its rich tribal heritage and demographic composition. It is home to 64 Scheduled Tribes, including 13 Particularly Vulnerable Tribal Groups (PVTGs), such as the Bonda, Dongria Kondh, and Didayi. These groups inhabit mostly forested and hilly regions in districts like Malkangiri, Koraput, Kandhamal, and Mayurbhanj. The geographical isolation of these regions, coupled with limited infrastructural development, has preserved traditional ways of life while simultaneously contributing to socio-economic marginalisation. For generations, tribal populations in Odisha have relied on the forest ecosystem for food, shelter, and medicine, evolving sustainable healthcare practices that reflect deep ecological understanding and cultural continuity.

In rural and forest-based settlements, traditional medicine remains the dominant mode of healthcare. Modern medical interventions are typically sought only in emergencies or when indigenous remedies fail to provide relief. However, exposure to urban environments, education, and migration has gradually introduced hybrid healthcare practices among tribal communities. Many elderly tribal members, especially those who have migrated to towns or maintain contact with modern institutions, now combine traditional and allopathic treatments, reflecting an adaptive strategy that maintains cultural continuity while responding to changing health realities.

The sustainability of these traditional systems depends on the preservation and intergenerational transmission of knowledge. Yet, the younger generation's declining interest, influenced by modern education and urbanisation, threatens the continuity of ethnomedicinal traditions. This study, therefore, examines sustainable healthcare practices among tribal elderly in Odisha, focusing on how traditional and modern systems coexist, interact, and evolve. The Malkangiri district, a predominantly forested region with rich biodiversity and a high tribal population, provides a significant context for this exploration. By investigating the role of elderly tribal members as custodians of indigenous knowledge and their strategies for integrating modern healthcare, this study seeks to highlight the importance of culturally sensitive, sustainable, and inclusive healthcare models. Such models not only improve health outcomes for tribal populations but also ensure the preservation of invaluable traditional wisdom that forms the foundation of community resilience and wellbeing. Therefore, this study seeks to examine the ethnomedicinal knowledge and healthcare practices of tribal elders in Malkangiri and to understand how traditional and modern healing systems coexist and are negotiated in everyday life.

## II. RATIONALE AND OBJECTIVES OF THE STUDY

In this context, the present study seeks to explore sustainable healthcare practices among the tribal elderly in Odisha, with a specific focus on the coexistence, interaction, and transformation of traditional and modern systems. The research situates the elderly as pivotal agents in preserving ethnomedicinal knowledge, serving as healers, educators, and cultural anchors within their communities. The study also examines how these elders navigate the contemporary healthcare landscape, adapting to urban exposure, government programs, and biomedical interventions while retaining their traditional identity. The Malkangiri district serves as the focal point for this inquiry. Known for its dense forests, rich biodiversity, and high concentration of PVTGs, the district provides a fertile setting to analyse both continuity and change in healthcare traditions. By understanding the lived experiences of tribal elders, this study aims to identify pathways to sustainable, integrative healthcare models that align with public health imperatives and cultural heritage. Ultimately, the research aspires to contribute to broader debates on sustainable development, indigenous knowledge systems, and inclusive health policy, underscoring that cultural continuity and ecological sensitivity are not obstacles but essential dimensions of a holistic and equitable healthcare future.

## III. GENESIS OF TRIBAL TRADITION HEALTH CARE PRACTICES

The genesis of tribal traditional health practices in Malkangiri is deeply rooted in the intimate relationship between indigenous communities and their natural environment. For centuries, tribal groups such as the Bondas, Koyas, Gadabas, Parajas, and Kondhs have relied on ethnomedicine as their primary form of healthcare. These systems of healing are based on empirical observation, spiritual beliefs, and the collective experiences of generations. Ethnomedicinal knowledge is transmitted orally from elders, traditional healers (Disari, Bhaido, or Gunia), and herbal practitioners, forming an integral part of the tribe's cultural heritage.

This knowledge is cost-effective, locally available, and easily accessible, enabling immediate treatment for common ailments within the community without dependence on external medical infrastructure. Plants, roots, leaves, and animal products from surrounding forests serve as the main components of their pharmacopoeia. Rituals, faith healing, and the invocation of ancestral or nature spirits often accompany herbal treatment, reflecting the holistic worldview of tribal health practices that encompass physical, mental, and spiritual well-being. Despite modern healthcare interventions, ethnomedicine continues to play a vital role in Malkangiri's tribal society due to its trustworthiness, accessibility, and cultural acceptability. However, increasing deforestation, cultural change, and the declining number of traditional healers threaten this rich medicinal heritage. Documenting and scientifically validating this traditional knowledge is therefore essential for preserving indigenous wisdom and promoting sustainable community health systems.

## IV. TRADITIONAL AND INDIGENOUS HEALTH SYSTEMS: CULTURAL ECOLOGY AND PRACTICE

The traditional healthcare system among the tribal communities of Odisha is deeply intertwined with their ecological surroundings, social organisation, and spiritual beliefs. Health and illness are not understood merely in biomedical terms but as reflections of balance or imbalance between human beings, nature, and the spirit world. Healing, therefore, extends beyond the physical realm to include social harmony and spiritual restoration. The genesis of tribal medical knowledge can be traced to generations of close interaction with forests and the natural environment. For centuries, tribal groups such as the Koya, Bonda, Gadaba, Bhumia and Paraja have relied on their intimate understanding of flora, fauna, and seasonal cycles to treat illness and sustain well-being. This ethnomedicinal wisdom evolved through observation, experimentation, and oral transmission, forming a living archive of indigenous science that continues to guide healthcare practices today.

Within this traditional system, healing specialists known locally as Disari, Gunia, Bejini, or Vaidya occupy a respected social position. They diagnose illness through observation, experience, ritual interpretation, and community knowledge. Remedies are prepared using leaves, roots, bark, or fruits from locally available plants, often combined with ritual practices such as chanting or offering to deities. Commonly used plants include Curcuma longa (turmeric), Azadirachta indica (neem), Ocimum sanctum (tulsi), and Tinospora cordifolia (giloy), many of which have since gained scientific recognition for their medicinal properties.

Traditional health practices are also closely associated with community ecology. Every household or hamlet typically maintains access to sacred groves and forest patches where medicinal plants are collected sustainably. Healing sessions frequently involve family or community participation, reinforcing collective solidarity and cultural identity. These systems are cost-effective, locally available, and culturally acceptable, particularly in remote areas where government medical services remain scarce. However, with increasing deforestation, migration, and modernisation, the continuity of indigenous medical knowledge faces serious threats. The number of skilled healers has declined, and younger generations show diminishing interest in learning these traditions. Yet, for most elderly members, traditional medicine continues to be the first line of defence against disease, embodying both practical wisdom and cultural memory. In this context, the traditional and indigenous health system of Odisha's tribal communities stands not only as a means of physical healing but also as a reflection of their worldview, one that integrates health, spirituality, and ecological balance into a unified system of life. Earlier ethnomedicinal research in Malkangiri (Pattanaik et al., 2007) and among the Bondo tribe (Rout et al., 2014) also highlights the central role of forest-based herbal remedies and the cultural belief systems guiding healthcare practices.

## V. MODERN / INSTITUTIONAL HEALTH CARE SYSTEM

The modern health care model in Malkangiri operates under the framework of the National Rural Health Mission (NRHM) and state health programs. It includes Primary Health Centres (PHCs), Community Health Centres (CHCs), and Sub-Centres, supplemented by ASHA workers, Anganwadi centres, and periodic mobile medical units in inaccessible areas. These facilities aim to deliver maternal and child health care, immunisation, disease prevention, and emergency services. However, the effectiveness of these services is limited by poor infrastructure, a shortage of medical staff, communication gaps, and geographic isolation.

## VI. TRIBAL HEALTH IN ODISHA: CHALLENGES, TRANSITION, AND CONTEMPORARY REALITIES

Despite the richness of their traditional healthcare systems, tribal communities in Odisha continue to experience multiple health challenges shaped by poverty, geographical isolation, and limited access to state-funded medical services. According to NFHS-5, tribal populations in Odisha show poorer health indicators than both state and national averages, particularly in areas such as anaemia, maternal health, and communicable diseases, including malaria and tuberculosis. Factors such as inadequate sanitation, low literacy levels, language differences, and distrust

of external medical institutions further restrict the use of formal healthcare facilities. In many remote forested areas, poor road connectivity and the absence of nearby hospitals leave ethnomedicine as the only accessible and culturally familiar system of treatment. In this context, traditional herbal healing remains the first response to illness for most elderly tribal people, while modern medicine is generally sought only when local remedies prove insufficient or in emergencies. This selective approach does not indicate rejection of modern healthcare, but rather reflects the resilience and cultural embeddedness of indigenous health knowledge. With increasing exposure to education, market interactions, and government health initiatives, tribal healthcare practices are undergoing a gradual process of transition and hybridisation. Many elders, especially those with periodic interaction with urban spaces, adopt a pragmatic dual system, continuing to use plant-based remedies while also accessing allopathic treatment when necessary. This blended approach demonstrates that traditional medicine is not static; it adapts in response to new needs without losing its cultural foundation. Government programs such as the National Health Mission (NHM), the Tribal Sub-Plan (TSP), and Ayushman Bharat have expanded institutional healthcare outreach in tribal regions. However, these initiatives can unintentionally marginalise indigenous medical systems when cultural knowledge is not recognised or included in health planning. Sustainable improvement in tribal health, therefore, requires integration rather than replacement where formal healthcare institutions acknowledge the value of indigenous knowledge and collaborate with traditional healers.

Overall, the tribal health scenario in Odisha reflects a complex interaction between cultural continuity and gradual adaptation. Traditional medicine continues to provide holistic care rooted in ecological knowledge and spiritual understanding, while modern healthcare offers lifesaving interventions. The challenge ahead is to ensure these systems coexist in a way that strengthens community well-being while safeguarding the knowledge heritage carried forward by the elderly.

## VII. LITERATURE REVIEW

Ethnomedicine in Odisha: Tribal communities in Odisha have a long-standing tradition of utilising local flora for medicinal purposes. Various studies document the use of numerous plant species to treat a wide range of ailments. For example, Behera (2025) reported 40 plant species used for anti-malarial treatments in Mayurbhanj district, primarily involving leaves and roots in decoctions and pastes. Similarly, Sahoo and Misra (2019) recorded 68 plant species used by the Kandha tribe in Kandhamal district, noting that traditional healers often acquire their knowledge through spiritual experiences. The transmission of this knowledge is largely male-dominated, and younger generations show limited interest, raising concerns about its continuity.

Intergenerational Knowledge Transfer: The preservation of ethnomedicinal knowledge relies on its transmission from elders to younger generations. However, factors such as modernisation, education, and migration have led to a decline in this transfer (Mishra, 2011). Despite the spread of modern healthcare services, many tribal communities continue to depend on traditional practices, highlighting the urgent need to document, preserve, and transmit this knowledge to future generations (Siva et al., 2025).

Integration with Modern Healthcare: There is a growing trend to integrate ethnomedicinal practices with modern healthcare systems. Beura (2024) documented the use of 55 medicinal plants for treating leucorrhoea, demonstrating the efficacy of roots and leaves. Likewise, Pandey et al. (2024) highlighted traditional medicinal knowledge among communities near the Gandhamardan Mountain Chain, showing potential for complementary approaches that combine traditional and modern healthcare. Such integration not only improves healthcare access but also validates the scientific value of tribal medicinal practices.

Sustainability and Policy Support: The sustainability of ethnomedicinal practices faces multiple challenges, including environmental degradation, biodiversity loss, and erosion of traditional knowledge (Beura, 2024; Bag et al., 2019). To address these challenges, government initiatives and NGOs have introduced measures such as mobile health units and community health officers to improve access in remote areas. The Odisha Tribal Research Institute actively documents and preserves indigenous health knowledge, supporting a blend of traditional and modern healthcare. Sahoo (2025) notes that infrastructure deficits in remote tribal areas

remain a concern and recommends measures like improving the population-healthcare ratio and expanding mobile health services to ensure continuity and sustainability of healthcare delivery.

## VIII. AREA & METHODOLOGY

This study was conducted in the Malkangiri district of Odisha, a predominantly tribal region characterised by forested terrain, rich biodiversity, and limited access to institutional healthcare services. The district is home to several tribal communities, including the Koya, Bonda, Bhumia, Gadaba, and Paraja, whose traditional health practices remain closely tied to the local ecological environment. This setting provides a meaningful context for examining the continuity, adaptation, and coexistence of indigenous and modern healthcare systems among the elderly.

A qualitative ethnographic approach was adopted to explore the lived experiences, cultural beliefs, and everyday healthcare practices of elderly tribal individuals. In-depth interviews, semi-structured conversations, and participant observation were employed to document herbal knowledge, preparation of remedies, and interactions with traditional healers. Field visits included plant identification walks, observation of healing practices, and informal group discussions within village settings. To complement qualitative insights, a quantitative survey component was included to understand the frequency of ethnomedicine use, patterns of health-seeking behaviour, and reliance on allopathic treatment. This mixed-methods approach allowed for a holistic understanding of healthcare practices, combining narrative depth with descriptive statistics. The study population consisted primarily of elderly individuals aged 60 years and above, recognised within their communities as custodians of ethnomedicinal knowledge. Traditional healers, caregivers, and household members were included as secondary respondents to provide broader perspectives on knowledge transmission and decision-making within families. In total, 80 participants were included, ensuring diversity across gender, tribal subgroup, and settlement type (rural and semi-urban). A purposive sampling strategy was used to identify elderly respondents with significant knowledge and experience in traditional healing practices. Snowball sampling further assisted in locating well-regarded healers and elders living in remote villages. All participants were informed about the purpose of the study, and verbal or written consent was obtained in accordance with ethical research guidelines. Confidentiality and anonymity were strictly maintained.

## IX. DATA COLLECTION AND ANALYSIS

Data were collected using multiple qualitative and quantitative techniques to ensure depth and reliability. Field observations documented everyday health practices, including the preparation and usage of medicinal plants and interactions with traditional healers. Semi-structured interviews and short questionnaires were used to gather demographic details, patterns of ethnomedicine use, and circumstances under which modern healthcare is sought. Additionally, focus group discussions with elders, caregivers, and younger community members provided insight into knowledge transmission and community attitudes towards traditional and modern healthcare systems. Secondary sources such as ethnobotanical research, district health reports, and government publications were referred to for contextual understanding.

Qualitative data from interviews and field notes were analysed through thematic analysis, allowing the identification of recurring ideas and cultural patterns. Quantitative responses were summarised using basic descriptive statistics to assess frequency and variation in healthcare practices. The integration of qualitative and quantitative findings enabled a holistic understanding of healthcare behaviour among the tribal elderly, illustrating both cultural continuity and adaptive change.

## X. FINDINGS & RESULTS

### Ethnomedicinal Practices Among Tribal Elderly

The study revealed that tribal elderly in Odisha continue to rely heavily on traditional medicinal practices for everyday health needs and the treatment of common ailments. In the field observations and interviews conducted across the Malkangiri district, it was evident that elders possess extensive knowledge of local flora, utilising leaves, roots, and bark to prepare decoctions, pastes, and infusions.

These practices are deeply embedded within cultural and spiritual frameworks, with certain remedies associated with rituals or specific times of the year. Traditional healers, often male elders, serve as the primary custodians of this knowledge, guiding the community in diagnosis and treatment. For instance, in the Mayurbhanj district, elders commonly used leaves of Andrographis paniculata and roots of Tinospora cordifolia for treating fever and malaria-like symptoms. In Kandhamal, plants such as Ocimum sanctum and Curcuma longa were frequently used for respiratory ailments and digestive disorders, reflecting a rich biodiversity-driven pharmacopoeia maintained by the communities.

Rural-Urban and Gender Differences

The study revealed significant rural-urban variations in healthcare practices among elderly tribal populations. Rural elders predominantly relied on ethnomedicine, with 85–90% using traditional remedies exclusively. In contrast, urban migrant elders demonstrated a hybrid approach, combining ethnomedicine with modern medical interventions. For minor ailments, they preferred traditional remedies, whereas severe or emergency conditions, such as high fever or accidents, prompted hospital visits and allopathic treatments. These patterns indicate that migration and exposure to modern healthcare systems influence healthcare decision-making among the elderly. Gender-based differences were also apparent. Female elders were more engaged in household healthcare management, including preparing remedies for family members and children. Male elders, on the other hand, were more often consulted for community-level health decisions. Despite these role distinctions, both genders were equally recognised as custodians of traditional knowledge and actively participated in transmitting it to younger generations. Overall, these findings highlight how geographical context and gender roles shape healthcare practices, affecting both the use of traditional medicine and the adoption of modern healthcare interventions.

Persistence of Ethnomedicine

Despite the availability of modern medical services, rural elders overwhelmingly rely on ethnomedicine as their primary healthcare strategy. This preference is rooted in a combination of cultural beliefs, spiritual practices, and the proven effectiveness of plant-based remedies. Plants such as Neem, Tulsi, Turmeric, Giloy, and Amla continue to be widely used for both minor and chronic ailments, reflecting a deep understanding of local flora and ecological resources. These findings are consistent with prior studies highlighting the resilience of traditional knowledge systems among indigenous populations (Patel & Dutta, 2018; Behera, 2020).

## XI. HYBRID HEALTHCARE PATTERNS

Elders who migrated to urban areas displayed a hybrid healthcare approach, combining ethnomedicine with modern interventions, particularly for severe or emergency conditions. This adaptation illustrates the flexibility of tribal healthcare practices and the capacity to integrate new knowledge while retaining cultural identity. The findings align with research emphasising that urbanisation and exposure to modern healthcare services led to selective incorporation rather than complete replacement of traditional practices (Das & Sahoo, 2019).

Gender Roles and Knowledge Transmission

Gender-specific roles emerged in healthcare practices, with female elders managing household remedies and male elders guiding community-level healthcare decisions. Both genders actively transmit knowledge to younger generations, although intergenerational knowledge transfer is challenged by youth migration, schooling, and modernisation. The observed decline in traditional knowledge among younger members underscores the importance of targeted initiatives to document and preserve ethnomedicinal practices.

Sustainability and Intergenerational Knowledge Transfer

The study underscores the sustainability of traditional healthcare practices among tribal elderly, which are deeply connected to ecological knowledge, cultural beliefs, and community cohesion. Ethnomedicine not only addresses physical health needs but also strengthens social and spiritual bonds, contributing to overall well-being. Preservation of these practices requires community-based strategies, educational programs, and policy support to integrate

traditional knowledge into broader public health systems.

A critical aspect of sustainability is the transfer of knowledge across generations. Elders reported that younger generations, especially urban youth, have a limited understanding of medicinal plants and their uses. Rural youth occasionally assist in plant collection but often rely on modern medicine, while urban youth rarely engage with traditional practices, highlighting a growing challenge to the continuity of ethnomedicinal knowledge.

Representative quotes from participants illustrate this concern:

"Our children do not know the names of the plants or how to use them; they prefer medicines from the city."

"If the leaves are collected incorrectly, the remedy will not work; only elders know the correct method."

These findings indicate that the sustainability of ethnomedicinal practices is closely linked to effective intergenerational knowledge transfer, emphasising the need for deliberate efforts to preserve and promote traditional healthcare knowledge within tribal communities.

Table 1. Ethnomedicinal Plants and Healing Practices among Tribal Elders in Malkangiri

| Plant Name | Part Used | Treated For | Preparation Method | Effectiveness / Notes from Elderlies |
|---|---|---|---|---|
| Neem (Azadirachta indica) | Leaf | Fever, Malaria | Boiled as a decoction, consumed twice daily | Bahut upakari (highly effective) |
| Tulsi (Ocimum sanctum) | Leaf | Cough, Cold | Infusion or steam inhalation | Madhyama asara deyi (moderate relief) |
| Turmeric (Curcuma longa) | Root | Wounds, Inflammation | Paste applied externally | Nischita upakari / bahut viswasara aushadhi (trusted strong remedy) |
| Amla(Phyllanthus emblica) | Fruit | General weakness, Anaemia | Raw fruit or juice | Dhire dhire asara kare (slow but helpful) |
| Ginger (Zingiber officinale) | Rhizome | Cold, Sore throat | Decoction or chew raw | Madhyama asara deyi (moderate relief) |
| Ranga tree roots | Root | Body Pain | Root decoction; bark extract used as a tonic for fatigue | Madhyama asara deyi (gives moderate relief) |
| Shila Konda | Fruit | Chicken pox / Skin cracks | Leaf juice applied on wounds and rashes | Bahut upakari kahi jana jaye (considered very effective, trusted) |
| Kumisanda / Patal Garudo / Gadakuri | Plant | Waist & joint pain | Root decoction; believed anti-inflammatory | Dhire dhire asara kare (slow but steady effect) |
| Kumisanda / Kukur Jibo / Moringa Oleifera varieties | Fruit, Leaf | Spirit/Ghost afflictions | Used in ritual purification; smoke or leaf offerings | Sustha rakhibare upakari (general strengthening / restorative) |
| Patalgaruda / Curcuma longa | Root | Snake bite | Root/rhizome paste applied to the bite area | Nischita upakari (trusted remedy for wounds and bites) |
| Batasila / Kukur Lagudi / Hardasangada | Trunk | Bone fracture/dislocation | Leaf poultice tied with bamboo splints | Bahut upakari haddi sudharibare (considered very effective for bone-setting) |
| Sundrimati(soil) with Peacock feather ash | Herbal healing soil | Vomitig (Banti) /nausea | Small quantity of Sundrimati powdered, peacock feather is burned and the ash is mixed; taken with honey or warm water | Madhyama asara deyi (moderate relief); believed to "cool the stomach" and settle the body |
| Gudakuri plant | Leaf | Intestinal worms / Stomach disorders | Leaf decoction or seed paste taken orally | Pet safa kare dhire dhire (slow but steady relief for stomach/intestinal discomfort) |
| Honey Oil | Oil | Cold, Cough | Applied or consumed | Ketebele asara kare (works sometimes, situation-based) |

| | | | | |
|---|---|---|---|---|
| Hajadi fruit / Bata dudali | Fruit | Dizziness (Maya) / Breast milk-related conditions | Warm leaf compress + turmeric milk | Bhabana o viswasa re upayoga (used with spiritual belief / ritual healing) |
| Gangasihuli leaf | Leaf | Malaria | Leaf juice | Bahut upakari malaria pain (locally considered highly effective for malaria) |
| Karanj Seeds (Oil) / Kusum Seeds (Oil) | Seeds | Cracked skin, leprosy, and skin diseases | Warm oil is applied to the affected parts | Chamra samasya pain bahut upakari (strong effectiveness for skin problems) |
| Khajuri Thadi / Salap (Date palm juice) | Juice | Dehydration / digestive weakness | Consumed fresh as a cooling tonic | Sarira thanda rakhe, takata dei (cooling and energizing effect) |

(Source: Field data collected from elderly respondents and local healers in Malkangiri (2024)
Note: "Reported effectiveness" reflects elders' perceptions and traditional use, not clinical validation.

## XII. CASE STORIES ON ETHNOMEDICINE AND INDIGENOUS HEALING PRACTICES IN MALKANGIRI

Malkangiri district in southern Odisha is home to tribal groups such as the Koya, Bonda, Didayi, Gadaba, Bhumia and Paraja, who continue to rely on traditional health systems embedded in forest ecology and ancestral belief. Their healing practices reflect a holistic understanding of health, where physical well-being is closely linked to spiritual and environmental balance. The following case narratives illustrate how ethnomedicine is understood and practised in everyday life.

Case 1: Snakebite Healing among the Koya in Kudumulu Gumma

In Kudumulu Gumma village, a respected Koya healer, Lachha Disari, is known for treating snakebite cases. He prepares a remedy using the roots of Patal Garuda (Rauvolfia tetraphylla) mixed with Kancha Haladi (Curcuma caesia) to form a paste. This past A ae is applied externally on the bite area, and a small measured quantity is given orally to the patient. Before administering the medicine, the healer offers grains of rice to the forest deity and chants protective mantras. According to Lachha Disari, "the poison weakens when the spirit is calmed." The treatment thus combines herbal pharmacology with ritual healing, reflecting the Koya belief that snakebite is both a biological crisis and a spiritual disturbance. Patients often report gradual recovery without accessing biomedical care.

Case 2: Bone Fracture Care among the Didayi of Chitrakonda

In the Chitrakonda region, Didayi healers are widely recognised for bone-setting. For fractures, a paste made from Batasila and Kukur Lagudi roots is applied, and the area is wrapped with forest leaves. Bamboo splints are tied to stabilise the bone. During recovery, Karanja seed oil (Pongamia pinnata) is used for massage to reduce swelling and pain. The healer visits the patient daily to monitor progress and adjust the bandage. Community members contribute by gathering plants and supporting the injured person. This method is cost-free, locally managed, and often preferred in remote areas where access to orthopaedic services is limited. Many elders claim that bones "heal stronger" with this method.

Case 3: Women's Herbal Knowledge in Bonda Hills

Among the Bonda tribe, elderly women play a central role in household healthcare. For skin infections, they apply Haladi (Curcuma longa) mixed with Kankadaakhi leaf. During winter, Kusum oil (Schleichera oleosa) is used to treat cracked skin. After childbirth, women receive herbal leaf infusions to restore strength and stimulate lactation, prepared under the guidance of elder women. These practices demonstrate how women serve as custodians of ethnomedicinal knowledge, passing plant-based remedies through oral transmission and daily practice. Their healing work is embedded in labour, kinship, and caregiving, reflecting gendered dimensions of tribal health traditions.

Case 4: Spirit Healing and Ritual Medicine in the Motu Area

In the forest belt of Motu, illnesses are often interpreted as arising from spirit intrusion or ancestral displeasure. In such cases, healing is performed by a Gunia (traditional priest). During one observed ritual, the Gunia burned dried leaves of Sali and Malatipatapatia to purify the space and applied a paste of Kumi Sanda root to the patient's forehead. Drumming, chanting, and the offering of a fowl formed part of the ceremony. The ritual aimed to restore balance between the human body, nature, and ancestral spirits, rather than merely treating symptoms. Such practices highlight the spiritual dimension of tribal healthcare, where wellness is understood as harmony within both social and cosmological relationships.

## XIII. ANALYTICAL OBSERVATION

The case stories reflect the plural and adaptive nature of tribal healthcare practices in Malkangiri. While medicinal plants and herbal preparations remain central to treatment, healing is rarely limited to the physical body alone. The involvement of prayers, rituals, and offerings to ancestral or forest spirits indicates that illness is understood as both a biological and a relational-spiritual imbalance. This integrated approach demonstrates that ethnomedicine in tribal communities is not simply a set of remedies but a holistic cultural system rooted in ecology, belief, and social memory. A clear pattern that emerges from the narratives is the role of elderly knowledge holders. Elders serve as healers, bone-setters, caregivers, ritual specialists, and interpreters of illness meanings. Their knowledge is transmitted orally, through apprenticeship and observation. However, the stories also highlight vulnerabilities, especially the gradual decline of this knowledge due to youth migration, school-based socialisation, and increasing exposure to biomedical interventions. The coexistence of traditional and modern healthcare observed in these stories points to a hybrid medical culture, where communities selectively draw from both systems based on accessibility, severity of illness, and cultural trust.

## XIV. DISCUSSION

The findings of this study reveal the enduring strength of traditional healthcare systems among the tribal elderly of Odisha. Despite growing exposure to modern medical facilities, ethnomedicine remains a vital and trusted means of healing, particularly in rural and forest-based communities. The persistence of these practices can be attributed to their cultural embeddedness, accessibility, and holistic approach to well-being. For the tribal elderly, medicine is inseparable from culture, belief, and environment, which together shape their understanding of health and disease.

The study also shows a clear pattern of adaptation among elders who have migrated to or interacted with urban spaces. These individuals increasingly combine herbal and allopathic treatments, not as a rejection of traditional methods but as a pragmatic blending of two systems. This integrative approach reflects an evolving healthcare landscape in which traditional knowledge coexists with biomedical practices, thereby offering a model of resilience and flexibility. Similar findings have been reported in other studies on tribal communities in Odisha and neighbouring states, suggesting that integration, rather than displacement, is becoming a defining feature of indigenous healthcare in modern contexts.

Gender emerges as another key dimension of healthcare practices. Female elders play an active role in family and community health management, preparing and administering remedies within the household, while male elders often act as advisors and traditional healers at the community level. This gendered division of medical responsibility reflects both the social organisation of tribal communities and how knowledge is transmitted and preserved. However, the growing disinterest among younger members poses a major challenge to the intergenerational transmission of ethnomedicinal knowledge. The evidence from Malkangiri district underscores that ethnomedicine is not merely a collection of remedies but a living system of knowledge sustained by daily practice, belief, and ecological intimacy. The gradual erosion of forest resources, environmental degradation, and the declining number of traditional healers threaten this delicate balance. Therefore, any discussion of tribal health must consider not only the biomedical

dimension but also the socio-cultural and environmental contexts that sustain indigenous healing systems. These patterns resonate with global discourses on sustainable indigenous healthcare, where traditional systems are increasingly recognised as models for community-based resilience. The case stories align with documented tribal healing patterns that integrate herbal knowledge with ritual and spiritual interpretation (Rout et al., 2014).

In summary, the discussion reaffirms that the tribal elderly act as both practitioners and guardians of traditional healthcare. Their lived experiences reveal how indigenous medical knowledge adapts to new realities while retaining its cultural depth. Understanding and valuing these practices provides crucial insights into sustainable health models that respect diversity, promote inclusivity, and bridge the gap between traditional wisdom and modern science.

## XV. CONCLUSION

This study highlights how the tribal elderly in Odisha, particularly in Malkangiri district, continue to preserve and practice a deeply rooted system of traditional healthcare closely linked to their natural surroundings and cultural worldview. Their ethnomedicinal knowledge, developed through generations of observation, experience, and spiritual belief, forms the cornerstone of community health. For these elders, healing is not only about treating illness but about maintaining harmony between people, nature, and the spiritual world. Even as modern healthcare facilities slowly reach tribal regions, the older population continues to rely on indigenous methods that are trusted, affordable, and locally accessible. Many elders have also begun to combine traditional remedies with allopathic medicine, creating a blended form of healthcare that reflects both adaptation and continuity. This coexistence of systems demonstrates the resilience of tribal knowledge and its ability to evolve in response to changing social and environmental realities. Yet, the survival of these practices faces growing threats from deforestation, migration, and the gradual decline in younger generations' interest in learning t raditional healing methods. Unless efforts are made to document and transmit this knowledge, an irreplaceable part of cultural heritage may disappear.

In essence, the tribal elderly stand as the living repositories of a sustainable, nature-based healthcare tradition that continues to shape community well-being. Recognising and respecting their wisdom is essential not only for cultural preservation but also for understanding how indigenous systems can contribute to a more holistic and inclusive vision of health in contemporary India.

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