

Indigenous knowledge and Medicinal Plants, The Healing Practices of The Tribals: A Case Study of Deomali Hills of Koraput District, Odisha

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Abstract - For many years, Indigenous knowledge has been an important way of keeping cultural traditions and practical skills alive; especially in traditional medicine. This study looks at the healing practices of tribal groups living in the Deomali Hills of Koraput District, Odisha. The research was carried out through visits to the villages, talking to people, watching their daily activities and noting down details of the plants they use. It records which medicinal plants are used, how they are collected, prepared and applied to cure different health problems. Traditional healers, known in the community as Dishari, play a key part in looking after people's health. However, changes in the environment and culture, such as the loss of plant diversity and fading traditions, are putting this knowledge at risk. The study points out the importance of protecting both the natural resources and the traditional wisdom of these communities. It suggests that combining this local knowledge with modern healthcare could help create sustainable health solutions. At the same time, it calls for policies that support indigenous healing practices and protect the cultural heritage of tribal groups in Odisha.

INTRODUCTION

Background of the Study

The Deomali Hills in Koraput district, Odisha are home to many tribal groups such as the Paraja, Bhumia, Gadaba and Kondh. These communities have a close bond with nature and have built a strong tradition of using plants for healing and medicine. Since modern healthcare is not easily available in these areas, the people still rely on the traditional knowledge passed down from their elders and local healers (known as Disharis, Gunias, or Bhisaris). The forests in Deomali rich in plants and natural resources; act as both a medicine store and a place of spiritual healing. Here, villagers treat everything from small injuries to serious illnesses with leaves, roots, bark, flowers and special rituals.

Importance of Indigenous Knowledge

For the tribals of Deomali, traditional knowledge is more than just a way to treat illnesses; it is a part of their culture and daily life. Their healing system combines both spiritual beliefs and plant-based remedies, making it the main source of healthcare in far-off villages where hospitals are rare. Studying and recording this knowledge is important for two reasons: first, it helps protect both cultural traditions and rare plants that may disappear; second, it may provide useful ideas for new medicines in the future. With fast environmental changes and a decline in cultural practices, it is urgent to conserve and respect these traditions.

Objectives of the Study

- To record the tribal knowledge and use of medicinal plants in the Deomali Hills.
- To understand the role and methods of traditional healers (Disharis, Bhisaris, Gunias).
- To study the cultural, ecological and spiritual aspects of their healing practices.
- To examine the challenges these practices face, such as biodiversity loss and cultural shifts.
- To suggest ways to preserve this knowledge and connect it with sustainable healthcare.

STUDY AREA: DEOMALI HILLS, KORAPUT DISTRICT

Geography and Ecology

Deomali Hills is the highest peak in Odisha with an elevation of about 1,672 meters, located in the Koraput district within the Eastern Ghats (*Koraput District Survey Report, Government of Odisha, 2024*). It lies near villages like Barabandha and Doodhari; around 60–70 km from Koraput town. The area is filled with

thick evergreen and semi-evergreen forests that support rich plant and animal life. The climate here is tropical with hot summers, heavy monsoon rains from June to September and mild winters. These conditions help create a unique natural environment that supports many special plants and animals (*IJCRT, 2025; Odisha Environment Congress, 2022*). The hills have rolling shapes, deep valleys, streams, and waterfalls, all helping to maintain the area’s ecological importance and cultural value. Deomali is also known for mineral resources such as bauxite, limestone, and gemstones (*Koraput District Survey Report, 2024*).

People and Tribes

Several tribal groups live in the Deomali Hills, including the Kandhas, Parajas, Bhumia, Malis and Bhotias. These communities have lived here for generations and share a strong bond with nature. Forests provide them with food, fuel, and medicinal plants which are a vital part of both their health practices and cultural traditions. Their knowledge of local plants is often linked with spiritual beliefs and community customs.

Economy and Way of Life

The main source of livelihood for these tribal groups is small-scale farming, collecting forest products and using traditional healing methods. Because the area is remote and the terrain is difficult; modern infrastructure and healthcare are not easily available. As a result, people often depend on traditional healers and their centuries-old knowledge of medicinal plants for day-to-day health care.

LITERATURE REVIEW

Indigenous Knowledge in Odisha

In Odisha, tribal people have special knowledge that is a big part of their culture and helps them survive. This

knowledge includes how to use plants from their area for medicine. They learn and share this information by talking to each other across generations. Tribes like Paraja, Kandha and Gadaba in the Deomali Hills have many traditional medicine practices using herbs from the forest. Their knowledge is not only about the plants but also about how to collect, prepare and use these plants in healing; including spiritual methods. They see health in a complete and natural way. This traditional knowledge has been documented in studies of the Paraja and Gadaba tribes, showing the use of over 70 plant species from more than 38 plant families for treating several ailments; notably reproductive health issues (*Pattanayak et al., 2021*). Research also highlights how these communities combine herbal remedies with rituals and spiritual practices, forming a holistic approach to wellbeing (*Palita, Patra & Panda, 2016*). These indigenous systems contribute not only to healthcare but also to conserving local plant biodiversity.

Medicinal Plants in Koraput and Nearby Areas

Koraput district in Odisha is known for its rich biodiversity; especially when it comes to medicinal plants. The tribal communities in this region have been using a wide variety of local plants for generations to treat many common and serious health problems. Studies show that around 49 to 89 different medicinal Plant species are commonly used among tribes here; originating from over 50 families of plants. These plants form the backbone of traditional healthcare in Koraput, particularly because access to modern medical facilities is limited in many remote villages. Among the most commonly used medicinal plants are *Achyranthes aspera*, *Aegle marmelos* (commonly known as Bael), *Azadirachta indica* (Neem), *Calotropis gigantea*, *Moringa oleifera* and *Terminalia arjuna*. Each of these plants serves multiple purposes as shown in the following table -

Plant	Common Name	Significance
<i>Achyranthes aspera</i>	Chaff-flower, Anghedi	To cure wounds and inflammation
<i>Aegle marmelos</i>	Bael, Bengal quince, Golden apple, Japanese bitter orange, Indian bael	Known for its cooling and digestive benefits, often used to manage diarrhea and stomach problems.
<i>Azadirachta indica</i>	Neem	Leaves are used to cure skin infection and diseases
<i>Calotropis gigantea</i>	Giant Milkweed, Crown Flower, Swallow-wort	Used in wound healing and to relieve joint pain.
<i>Moringa oleifera</i>	Drumstick tree, Horseradish tree, Moringa	Known for its nutritional value and used to boost immunity and treat skin conditions.

Terminalia Arjuna	Arjuna, Arjuna Tree	To support heart health and manage various chronic ailments
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The local tribal people use different parts of these plants like leaves, roots, bark, flowers and fruits to prepare medicines. The preparation methods vary widely and include making decoctions (boiled extracts), pastes, powders and infusions; depending on the ailment. Tribal healers, called Gunias or Disharis; combine these plant-based remedies with spiritual rituals and timing the harvesting of herbs according to natural cycles. This holistic approach ties the medicinal value of plants with rituals meant to cleanse the body and mind, reflecting a deep cultural connection to nature. Beyond the well-known species, Koraput’s tribal healers use plants specifically for treating issues from digestive disorders and fevers to skin diseases, wounds, snakebites, respiratory ailments, rheumatism and even neurological problems. For example, a plant like *Tamarindus indica* (tamarind) is valued for its digestive support and is traditionally used to treat dysentery. Castor oil plants (*Ricinus communis*) are used as laxatives for constipation.

Traditional Healing Practices Among Tribals

In the Deomali region, traditional healers called Disharis or Gunias play a key role in tribal health. They use their deep knowledge of medicinal plants along with spiritual and ritual practices to treat both physical and mental illnesses. Healing goes beyond herbs and includes ceremonies connecting patients with nature and local deities (*Tribal Digital Document Repository, 2014*). Plant collection is carefully timed with natural cycles to enhance effectiveness. Disharis perform cleansing rituals and invoke deities, as illness is often seen as an imbalance of body, mind and spirit (*Pattanaik et al., 2007*). Treatments include herbal pastes for wounds, decoctions for fevers & digestion and rituals for ailments believed caused by spirits (*Mishra et al., 2022*). These traditional treatments are vital due to limited access to modern healthcare. They are affordable, accessible and trusted by many villagers who share positive experiences. The healing knowledge is passed down orally within communities and families (*Pattanaik et al., 2007; Tribal Digital Document Repository, 2014*). Preserving this heritage is important as it represents both healthcare and

cultural knowledge that also supports biodiversity and sustainable forest use.

MEDICINAL PLANTS IN DEOMALI HILLS

Importance of medicinal plants

Deomali Hills have many important medicinal plants used by local tribal people for health care. Some of the main plants are Vishalyakarani, Gangasiuli, Ashoka, Bisalyakarani, Rutimada, Kochila and Sataparada (*101Reporters, 2025; OdishaTV, 2023*). These plants help treat wounds, fevers, breathing problems and stomach issues. The tribal healers collect parts of the plants like leaves, bark, roots and flowers. They make medicines using methods such as boiling herbs, making pastes, or preparing herbal teas, depending on the illness (*101Reporters, 2025*).

Plant Parts and Medicine Making

Local healers, called disharis, collect the plants carefully. Flowers and fruits are picked when fully grown, and roots are collected in certain seasons so the plants don’t get damaged (*101Reporters, 2025*). They dry the herbs in shade and make powders, mixing them with natural materials like cow dung and urine to keep the medicine strong and last longer. They also make seed balls by mixing seeds with clay and manure to plant more medicinal plants on the hills (*OdishaTV, 2023; VillageSquare, 2025*).

Diseases Treated

The medicinal plants in Deomali are used to treat many health problems. These include common colds, stomach troubles, as well as more serious diseases like paralysis, diabetes, and nerve-related problems (*101Reporters, 2025*). Tribal healers say their herbal medicines and rituals help both the body and mind.

TRADITIONAL HEALING PRACTICES

Role of Traditional Healers (Dishari) in the Community

In the Deomali Hills tribal areas, traditional healers called Dishari or Gunia are very important. They know a lot about healing plants and spiritual healing. These healers keep old medical knowledge that has been

passed down through families for many years. People visit them for small sicknesses like fever or long-lasting health problems. They use both plant medicines and prayers or ceremonies that are believed to help body and soul balance (*Shankar et al., 2012; Das and Misra, 1987*).

Healing Rituals and Beliefs

The healing is complete and includes many actions such as chanting special words ;calling on local gods, and doing symbolic acts. These activities go along with giving herbal medicines. Dishari believe sickness happens when a person is not in harmony with nature or spiritual forces. So, they use cleaning rituals and special diets to help get better. They also collect plants and prepare medicines according to the cycles of the moon and seasons, showing how the community mixes nature and spiritual beliefs closely (*Shankar et al., 2012*).

Methods of Treatment and Herbal Medicine Preparation

Medicinal plants are picked carefully to protect the environment. The healers prepare medicines in many ways: boiling plants, making teas, applying pastes, and powders. These medicines are given by mouth, put on the body, or used in steam treatment. Fresh and clean ingredients are very important, and sometimes the medicine is made outdoors to keep its power strong. Some treatments mix plant medicine with rituals or offerings, showing the spiritual side of healing (*Das and Misra, 1987*).

CONSERVATION AND CHALLENGES

Threats to Medicinal Plant Biodiversity

The medicinal plants of the Deomali Hills are under serious pressure from many factors. Forest loss caused by deforestation, mining and farmland expansion has reduced the number of native plant species. Climate change and careless harvesting further add to the problem; threatening plants that are important not only for local ecosystems but also for tribal health traditions (*Times of India, 2024; VillageSquare, 2025*). At the same time, younger generations are moving away from traditional practices. With fewer traditional healers today, much of the local knowledge about these plants is disappearing (*101Reporters, 2025*).

Efforts in Conservation and Biodiversity Revival

To counter these issues ;several efforts are taking shape. Tribal leaders, villagers and NGOs are working together to protect and reintroduce important plant species. One method is the use of seed balls i.e small mixtures of clay, manure and plant seeds ,scattered on damaged land to help native species grow again (*OdishaTV, 2023*). Local herbal practitioners, such as Hari Pangi, play a key role in these efforts. They not only plant thousands of medicinal trees and herbs but also train young people in sustainable harvesting and the cultural importance of preserving local knowledge (*VillageSquare, 2025*).

Community Participation and Awareness Programs

Community participation is central to the success of conservation. Through awareness drives, local people are being taught about the ecological value of medicinal plants as well as their long-term benefits for health and income. These programs often mix traditional tribal wisdom with modern scientific ideas, promoting joint forest management and alternative livelihoods based on ethnomedicine (*Times of India, 2024*).

DISCUSSION

Blending Indigenous Knowledge with Modern Healthcare

This study shows that traditional medical practices from the Deomali Hills can play an important role when combined with modern healthcare. Local knowledge about medicinal plants when tested and supported by scientific research; can create treatments that are both effective and respectful of cultural traditions. Such a blend not only safeguards valuable tribal knowledge but also provides new treatment options; especially for communities that have limited access to formal health facilities. In this way, health services can become more holistic and sensitive to social and cultural needs (*Patra & Nayak, 2024*).

Social and Economic Contributions of Traditional Healing

Traditional healing systems in the Deomali Hills offer affordable and easily available care; reducing reliance on expensive outside medical services. They also help local families earn income through the careful and sustainable use of native medicinal plants. Beyond health and economics, healing practices also strengthen community ties by keeping cultural

traditions alive through shared ceremonies. Nonetheless, if these practices are overly commercialized, there is a risk of exploiting both natural resources and tribal communities. To avoid this, benefit-sharing systems and conservation strategies need to be in place to protect both the environment and indigenous rights (*VillageSquare, 2025; Times of India, 2024*).

Safeguarding Indigenous Knowledge for the Future
Maintaining traditional medical knowledge requires careful documentation, educational programs and legal protections for the intellectual rights of tribal healers. Encouraging younger generations to learn about these practices through schools, cultural programs and conservation work is essential to prevent this knowledge from fading away with modernization. At the same time, it is important to value and respect the wisdom of tribal knowledge keepers so that their practices can continue to exist alongside advancements in modern science (*101Reporters, 2025*).

CONCLUSION AND RECOMMENDATIONS

Summary of Key Findings

This research on the tribal groups living in the Deomali Hills of Koraput District, Odisha, highlights how important Indigenous knowledge and medicinal plants are for both health care and cultural identity. The study shows that traditional healers use a wide variety of plants, combining herbal remedies with spiritual practices to maintain well-being. However, factors such as deforestation, loss of biodiversity and changes in culture put serious pressure on both the natural resources and the survival of these traditions.

Policy Recommendations

- **Community-led plant conservation:** Empower local communities to lead initiatives like seed sowing, agroforestry and herbal gardens to protect and restore medicinal plants.
- **Legal recognition and protection:** Introducing policies that value and safeguard tribal knowledge systems; ensuring healers' intellectual property rights are respected.
- **Healthcare integration:** Build stronger cooperation between traditional healers and

formal healthcare providers to offer culturally respectful and inclusive health services.

- **Awareness and education:** Design programs for tribal youth to encourage learning and respect for traditional medicine, while involving them actively in biodiversity conservation.

SUGGESTIONS FOR FUTURE RESEARCH

Further research should focus on testing and confirming the healing properties of these plants, creating eco-friendly harvesting practices, and studying the social and cultural role of traditional healing. It would also be valuable to explore how the trade of medicinal plants affects the local economy and whether community-based eco-tourism could support both livelihoods and conservation.

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