

Research Article

Ethnomedicinal Practices among Adis in Two Villages of Upper Siang District, Arunachal Pradesh

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Abstract: The current study reports on the indigenous ethnomedicinal knowledge and practises of the Adis in two villages of the Upper Siang district of Arunachal Pradesh. Extensive personal interviews, concrete case studies, and participant observation were used to collect data in the year 2021. Herbal medicine, as well as magico–religious–spiritual practises, are part of the Adi ethnomedicinal system. A variety of medicinal plants grown locally are used to treat a wide range of ailments. The use of more than one medicinal plant species for remedy preparations is more common than the use of a single species. Plant species are identified using relevant and standard literature and presented with their scientific names, family names, English and vernacular names, part or parts used, and modes of administration in the target disease. The current study was carried out to better understand floral resources, as well as their use as ethnomedicine by the Adis in their indigenous knowledge system.

Keywords: Adi, Ethnomedicine, Healthcare, Indigenous knowledge system, Upper Siang.

I. Introduction

Disease and illness have been the fundamental concerns of human beings. Every society has developed its responses and methods for dealing with illness and disease. Tribal communities have developed their medical system based on their ecological settings, natural resources, and cultural practices. They have their systems of diagnosis and treatment, which include magico-religious practices and herbal medicine, as well as culturally perceived ideas and theories. As a result, understanding health and disease in traditional communities has caught the interest of not only natural scientists, but also social scientists, and has become one of their most fascinating subjects.

The nature and experience of affliction, as well as its causes and consequences, differ from culture to culture and over time within a culture. Cultures have developed more or less organised approaches to

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understanding and treating afflictions, as well as identifying the agents, forces, or conditions believed to be responsible. Ethnomedicine is the branch of medical anthropology that studies these systems across cultures.

Ethnomedicine refers to the use of natural flora and fauna as medicines by a specific ethnic group in the treatment and prevention of various ailments and diseases (Ali and Ghosh, 2006). According to Foster and Anderson (1978), ethnomedicine denotes the totality of health knowledge, values, beliefs, skills and practices of indigenous people, including all the clinical and non-clinical activities that relate to their health needs. It is those beliefs and practices relating to disease which are the products of indigenous cultural development and are not explicitly derived from the conceptual framework of modern medicines (Hughes, 1968). It is the study and translation of health-related knowledge and theories that people inherit and learn as a result of their cultural upbringing. Each community has its own medical culture or ethnomedicine, which serves as the basis for the culture's medicinal common sense or logic (Quinlan, 2011; Panor et al., 2020). It is also known as folk medicine or indigenous medicine.

Therefore, ethnomedicine is the comparative study of cultural ideas about wellness, illness, and healing. For the majority of our existence, human beings have depended on the resources of the natural environment and health and healing techniques closely associated with spiritual beliefs. Ethnomedicine thus defines cultural concepts of health, illness, and healing. Ethnomedicine plays an important role in describing concepts of health and illness, remedies, and healers as they are interpreted by the people themselves. This knowledge can be extremely beneficial in modern health planning and programme implementation.

Since time immemorial, indigenous peoples from all over the world have been gathering knowledge about various types of medicine and medication, which has been passed down through generations based solely on oral tradition. Plants have been used as medicines in tribal societies since the dawn of time. They use the roots, stems, leaves, bark, and other parts of plants to treat different ailments (Mibang and Chaudhuri, 2003). Traditional healthcare practices constitute a major component in every society (Sonowal and Shabnam, 2017). As such, the medical system prevalent in Adi society is a combination of traditions, beliefs, and ecological adaptation. This art is no longer as compact today due to the allopathic form of modern medicine, which is neither cost-effective nor easily accessible in remote Adi villages of Arunachal Pradesh, instead of governing the traditional way of medication to its people.

Traditional medicinal plant knowledge is important not only for the preservation of traditional cultural practices and biodiversity but also for the creation of novel alternative medications and community healthcare systems (Pei, 2001; Baruah et al., 2013). Plants are important sources of therapeutic drugs and play a significant role in the survival of tribal and ethnic communities (Tangjang et al., 2011; Arya et al., 2020). The practice of ethnomedicine by different ethnic groups to cure diseases and ailments bear testimony to the indigenous

knowledge system which is transmitted orally from generation to generation and is seldom documented (Sonowal and Barua, 2011). The use of medicinal plants by the various tribes of Arunachal Pradesh shows the importance of the local medicinal plants to the people of the state (Khongsai et al., 2011). The study of traditional medicine scientifically is therefore of utmost importance since people are upholding these traditional medical practices for that they must have got benefit out of it (Borah and Sengupta, 2017).

Adi is very rich in plant-based medicinal knowledge among the tribes of Arunachal Pradesh. Their accumulated wealth of plant-based medicinal knowledge has mostly passed from one generation to another accompanied by various magico-religious beliefs and practices. Based on such age-old tradition, Adi may be considered as one of the most knowledgeable communities in the field of herbal medicines in Arunachal Pradesh. Though some information of other tribes on ethnomedicinal studies (Arya et al., 2020; Bhuyan et al., 2017; Ghosh et al., 2014; Danggen et al., 2018) in the Upper Siang district are available, there is hardly any ethnomedicinal record on Adi. As a result, the current work was initiated to explore the Adi community's hidden treasure by documenting the valuable age-old medicinal knowledge to raise awareness among herbal practitioners, product users, and the scientific community so that they could initiate some conservation efforts for sustainable use. This will also be useful for future studies in the same field.

Owing to a lack of information on this subject among Adis of Upper Siang district, the proposed study is likely to be descriptive and exploratory. An attempt has been made to unearth the recipe for ethnomedicine in great detail. Even a cursory examination of the situation in Adi villages will convince anyone that ethnomedicine and other alternative medicinal practices predominate over modern medicine. But why is this the case? People who are affected may turn to them because they have complete faith in them or because they have no other option. It is also possible that the various medical systems are not competitive and are only used in specific situations. These medical systems may have their target populations as well. Age, gender, level of education and income, religion, ethnic affiliation, rural-urban background, and other factors may all be determinants of health-related behaviour.

II. Objective of the Study

The objective of the present study is to evaluate the various medications and therapy methods used by the locals. The knowledge, attitude, and practice of providers and users were investigated in the context of Adi's socio-cultural setting. The study attempted to shed light on why such medical practices have persisted, as well as whether and to what extent they are beneficial to people so that future health planning can be framed more meaningfully.

III. Materials and Methods

Fieldwork was carried out between February and March 2021 in two Adi villages of Bomdo and Migging, located in the Jengging and Migging circles of the Upper Siang district of Arunachal Pradesh, India. Adi people practice jhum cultivation and depend mostly on the forest for their livelihood. Personal interviews with tribal medicinal practitioners, interactions with local people and the ‘Gam’ (the village headman) of the villages, and personal observation were used to collect data. The collected data included the local name, parts of the plant used, and mode of administration. The plant species are listed alphabetically by family, then by vernacular name, and their uses.

IV. Results and Discussion

The concept of health and disease is biological, but it is closely related to a society’s socio-cultural system. Every culture has its understanding of disease and illness, as well as its methods of dealing with it. Traditional societies believe that illness is caused by evil spirits, infringement of taboos, black magic, sorcery, and so on. Explanation of illness and its preventive and curative measures reflect the knowledge, cultural value and tradition of a society (Medhi, 1995). According to the residents of Bomdo and Migging villages, good health does not imply having a beautiful body. They believe that carrying out one’s normal daily routine is a sign of good health and that if one is unable to carry out one’s normal daily routine, one may be considered ill and unhealthy. However, these concepts are gradually changing at the moment, and in general, a person is considered healthy if a person does not have a serious disease that would interfere with his or her day-to-day work. Diseases and illnesses, according to the villagers, are caused by both natural and supernatural phenomena. It is also widely believed that some patients who have been afflicted with cancer or leprosy for an extended period are suffering as a result of past wrongdoings. The villagers appear to believe in supernatural powers. They have a strong belief in malevolent spirits that possess people and make them sick. They believe that the forests, rivers, ponds, and other physical surroundings of their habitats are full of malevolent spirits who are responsible for various diseases, death, destruction, and misfortunes. Some other diseases are thought to be caused by poor food or unclean drinking water, or by bad weather.

The villagers have reported a variety of diseases and illnesses, the most noticeable of which are cold and cough, dysentery, malaria, and diarrhoea. Other diseases in the area include jaundice, ringworms, roundworms, gastric distress, and headache. Traditional Adi healthcare practices are divided into two categories: traditional herbal treatment and supernatural treatment. The villagers have a strong belief in supernatural treatment for various diseases. A special magico-religious practitioner of the village known as *Mibu* performs supernatural treatments. The *Mibu* holds a respectable position in the village, and he is the only one who can communicate with the spirits and appease them. Herbal medicine, on the other hand, is commonly used to treat common ailments. The villagers have extensive knowledge of medicinal plants that dates back centuries. Ethnomedicines

are made from a variety of medicinal herbs obtained from local jungles and kitchen gardens, as well as a few other ingredients.

Ethnomedicine and Healthcare Practices among the People

Ethnomedicine is an essential component of primary healthcare for the Adis of Bomdo and Migging villages. Therapies, charms, and rituals are some of the practices used in treatment. Therapies or prescriptions made from plants, animals, or minerals are also used; for certain ailments, therapies may be accompanied by charms before being administered to the patient. For certain ailments, a blood-sacrifice ritual is performed to aid the patient's recovery. Traditional medicine is not only a source of healing for the people, but it is also an essential facet of their culture.

Traditional knowledge is defined as a body of information and a set of skills developed over time by a group of people based on necessity, observation, and change (Singh, 2017). Information about folk medicine Adi is still not collected systematically or documented; instead, it is generally passed down orally. To consider the preservation of traditional knowledge, perhaps it is necessary to document, as well as to investigate the nature of this system, how it evolves, and identify some of the forces involved in its decline. The documentation of traditional knowledge is useful to address the intellectual property rights issues and for evidence-based research work. Multidisciplinary research and development work using the traditional folk medicinal plants based upon their traditional knowledge can provide deep motivation for the identification of new pharmacophores. A multidisciplinary approach in combination with established traditional health principles may be useful in understanding health culture as well as improving community health. Traditional healthcare practices of the Adis are based on religious beliefs and therefore, are an important driver for the continuation of their culture.

The Adis has a long tradition of using plants for medicinal purposes and are well-versed in locally available medicinal plants. They rely on ethnomedicinal plants naturally grown in the forest to treat the majority of their common ailments and diseases. They also consume some wild plant varieties regularly as vegetables and medicine. The medicinal uses of plants have been passed down from generation to generation through oral tradition. Many medicinal plants have been identified in Adi habitats, and they continue to practise the indigenous healthcare system using these plants. Many medicinal plants are becoming endangered in their natural habitats as a result of over-exploitation. However, efforts are being made to preserve and expand the locally available medicinal plants, which may also aid in the provision of primary healthcare to the community.

The safety and efficacy of natural medicines, as well as the regulatory environment, should be considered as part of the integration of traditional healthcare systems into the national healthcare system (Bodekar, 1994).

Common Health Problems and their Ethnomedicinal Treatments

The villagers rely heavily on ethnomedicines found in the nearby forest to treat common health problems. If the traditional treatment fails to cure the disease, the villagers seek the assistance of healthcare workers. The following section discusses some of the most common ailments and their ethnomedicinal treatments in the study villages.

(i) Cold and Cough (*Sagut-Sare*): Cough and cold are one of the most common ailments found in all ages. During the winter season, this type of disease is found at a high rate among aged people and children in the villages. The leaves and juice of *Rori* (*Piper peepuloides* Roxb.) are taken for a week to get relief from the cold and cough. Rhizome and Juice of *Takeng* (*Zingiber officinale*) are consumed as a relief for cough.

(ii) Headache (*Duppong Kinon*): Headache is a common problem among the villagers. In case of extreme headache, a Leaf juice and paste of *Mitsi-lali* (*Artemisia nilagirica*) is applied to get quick relief. Another herbal medicine *Dirgi-dorgo* (*Drymaria cordata* L.) is used in headaches.

(iii) Gastric (*Aki Kinon*): Gastric is an acute health problem among the villagers. The symptoms of gastric are constipation, loss of appetite, vomiting, and pain in the abdomen. The locally available herb *Kipum-naryum* (*Centella asiatica* L.) is consumed on an empty stomach to cure acidity. This dosage is continued till a person is get rid of gastric and even consume it anytime.

(iv) Fever (*Randon*): To cure fever, a paste of dried leaves mixed with water made from *Rori* (*Piper peepuloides* Roxb.) and roots of *Tasir-gamir* (*Coptis teeta* Wall) is given to get relief from fever.

(v) Dysentery (*Ikang Ene*): The common symptoms of dysentery are loose motion and abdominal pain. The quick remedy for dysentery is the fruits of *Tabing-api* (*Garcinia cowa*). The villagers use to preserve these fruits for a long time to cure dysentery. Other ethnomedicines used by villagers for dysentery are the roots of *Kipum-naryum* (*Centella asiatica* L.) and leaves, stem, and roots of *Loren* (*Houttuynia cordata*).

(vi) Malaria (*Randon*): Malaria is one of the serious health problems found in the Adi villages. Leaves, seeds, and roots of *Gomnik* (*Bidens pilosa*) root is consumed by malaria patients to get relief from it. Besides, roots of *Tasir-gamir* (*Coptis teeta* Wall) and roots and barks of *Tambeng* (*Zanthoxylum hamiltonianum*) are also consumed as medicine for malaria.

(vii) Diarrhoea (*Esur*): Leaves of *Kepu-neru* (*Blumea fistulosa*) are used as a medicine for diarrhoea. Sometimes, the villagers also consume raw leaves of *Aying-ili* (*Oxalis corniculata* L.) as a reliever for diarrhoea.

(viii) Tonsillitis (*Longgung Kinon*): Tonsillitis is also one of the health problems faced by the villagers. Crushed fruits of *Iki-bangko* (*Solanum torvum* Sw.) are consumed as a remedy for tonsillitis.

(ix) Toothache (*Epang Kinon*): Toothache is a common health problem prevailing in the villages, especially among children and aged people. This ailment is cured by consuming roots of *Janbo-bangko* (*Solanum aculeatissimum*), crushed fruits of *Iki-bangko* (*Solanum torvum* Sw.), and flower or fruits of *Marsang* (*Spilanthes paniculata*). Besides, a decoction of dry seeds of *Hokum* (*Zanthoxylum armatum* DC.) mixed with a little amount of salt is given to gargle for relief from toothache.

(x) Jaundice: Jaundice is another acute health problem prevailing in Adi villages. The basic symptom of jaundice is a yellowish pigmentation of the skin. The juice extracted from the fruits of *Kadung/Kordoi* (*Averrhoa carambola*) and leaves of *Onyer* (*Zanthoxylum rhetsa*) is regarded as good medicine for jaundice.

(xi) Diabetes and Blood Pressure: Diabetes and blood pressure are two health problems of people, especially among young adults. The leaves of *Siri-atne* (*Cinnamomum tamala*) are consumed as an ethnomedicine for diabetes. For blood pressure, the herb *Kipum-naryum* (*Centella asiatica* L.) and leaves of *Papo-sunsun* (*Clerodendrum colebrookianum*) are consumed by the patients.

(x) Other Health Problems: Apart from the common health problems listed above, the Adi people also face many other health problems such as cuts and wounds, nose bleeding, intoxication, ulcers, ear and eye problems, skin inflammation, hepatitis, urinary tract infection, dry scalp and dandruff, constipation, insomnia, food poisoning, measles, bronchitis, bone fracture, and wart.

Medicinal Plants Used by the People

The ethnomedicinal uses of 36 plant species recorded from two Adi villages are reported in the table below (Table 1). According to the findings, Adi as a community is skilled in plant-based ethnomedicine. Four of the 36 plants studied are used to treat malaria and fever, five to treat cuts and wounds, six to treat dysentery and diarrhoea, three to treat diabetes and blood pressure, two each to treat the bone fracture, cold and cough, snakebite, and jaundice, and the remaining plants are used to treat various ailments, either singly or in combination. Preparation and administration of dosage for various ailments are typically crude and subject to approximation during the treatment procedure.

Table 1: Medicinal Plants Used by the People of Bomdo and Migging Villages

Sl. No.	Scientific Name (Family)	Vernacular Name	Part Used	Mode of Administration
1.	<i>Ageratum conyzoides</i> (Asteraceae)	<i>Bonggar</i>	Leaves	Leaves are used in cuts and wounds.
2.	<i>Artemisia nilagirica</i> (Asteraceae)	<i>Mitsi-lali</i>	Leaves	Leaf juice and paste is used in cough, headache, sores, wound and nose bleeding.
3.	<i>Averrhoa carambola</i> (Oxalidaceae)	<i>Kadung/Kordoi</i>	Fruit	Juice of the fruits is used in Jaundice.
4.	Bamboo (Gramineae)	<i>Panggit</i>	Poultice from stem/trunk of the Bamboos.	Used for bleeding from fresh cuts and wounds and healing infections.
5.	<i>Begonia roxburghii</i> (Begoniaceae)	<i>Rabebaying/Dumbo Lapang</i>	Leaves and stem	Reliever for wine intoxication.
6.	<i>Bidens pilosa</i> (Asteraceae)	<i>Gomnik</i>	Leaves, seeds, and roots	Used in cuts and wounds, ulcers, ear and eye problems, skin inflammation, hepatitis, urinary tract infection, and malaria.
7.	<i>Blumea fistulosa</i> (Asteraceae)	<i>Kepu-neru</i>	Leaves	Diarrhoea
8.	<i>Centella asiatica L.</i> (Apiaceae)	<i>Kipum-naryum</i>	Whole Part	Dysentery, gastric, and blood pressure.
9.	<i>Chromolaena odorata</i> (Asteraceae)	<i>Okong-petlong</i>	Leaves	The paste is used on fresh wounds to stop bleeding.
10.	<i>Cinnamomum tamala</i> (Lauraceae)	<i>Siri-atne</i>	Leaves	Used for treatment of diabetes.
11.	<i>Citrus medica L.</i> (Rutaceae)	<i>Kembo-yere</i>	Fruits and Leaves	Used for dry scalp and dandruff.
12.	<i>Clerodendrum colebrookianum</i> (Lamiaceae)	<i>Papo-sunsun</i>	Leaves	Used for a stomach disorder and blood pressure.
13.	<i>Colocasia antiquorum</i> (Araceae)	<i>Ruksam</i>	Edible Part (tuber)	Pain reliever for insect bite.
14.	<i>Coptis teeta Wall</i> (Ranunculaceae)	<i>Tasir-gamir</i>	Roots	Malaria, fever, and stomach disorder.
15.	<i>Crassocephalum crepidioides</i> (Asteraceae)	<i>Oli</i>	Leaves and stem	Leaves and tender shoots are boiled and consumed as a vegetable during constipation. The cooked leaf is also used for insomnia.
16.	<i>Diplazium esculentum</i> (Athyriaceae)	<i>Rodo</i>	Roots	Used to cure food poisoning.
17.	<i>Drymaria cordata L.</i> (Caryophyllaceae)	<i>Dirgi-dorgo</i>	Whole Part	Headache
18.	<i>Ficus sp.</i>	<i>Bachi-api</i>	Roots	Dysentery

	(Moraceae)			
19.	<i>Garcinia cowa</i> (Clusiaceae)	<i>Tabing-api</i>	Fruits	Fruits are used as medicine for curing dysentery.
20.	<i>Houttuynia cordata</i> (Saururaceae)	<i>Loren</i>	Leaves, stem, and roots	Measles and dysentery
21.	<i>Oxalis corniculata</i> L. (Oxalidaceae)	<i>Aying-ili</i>	Leaves	Reliever for intoxication from wine and diarrhoea.
	<i>Paederia foetida</i> L. (Rubiaceae)	<i>Eppe-nere</i>	Leaves	Use as medicine for a stomach problem and to relieve body pain.
22.	<i>Paris polyphylla</i> Sm. (Melanthiaceae)	<i>Minong/Opo-poi</i>	Rhizomes/fruit s	A rhizome is used to cure piles and as a remedy for constipation.
23.	<i>Piper peepuloides</i> Roxb. (Piperaceae)	<i>Rori</i>	Leaves and Fruits	Dried leaves are made into a paste with water and given to get relief from fever. Fruits are used for cough and bronchitis.
24.	<i>Pothos scandens</i> L. (Araceae)	<i>Loset-lomang</i>	Leaves and stem	Used to heal the bone fracture.
25.	<i>Pouzolzia viminalis</i> Gaudich. (Urticaceae)	<i>Loset-lomang</i>	Leaves and stem	Used to heal the bone fracture.
26.	<i>Solanum aculeatissimum</i> (Solanaceae)	<i>Janbo-bangko/Koli</i>	Roots	Toothache
27.	<i>Solanum indicum</i> (Solanaceae)	<i>Adi-bangko</i>	Fruits and Leaves	Stomach Pain/ Boosting energy.
28.	<i>Solanum nigrum</i> L. (Solanaceae)	<i>Oang-oj</i>	Whole Part	Consumed for digestion and to cure the liver problem.
29.	<i>Solanum torvum</i> Sw. (Solanaceae)	<i>Iki-bangko/Koper</i>	Fruits	Crushed fruits are applied to gums to get relief from gum infection and toothache. It is also used for the treatment of tonsillitis.
30.	<i>Spilanthes paniculata</i> (Asteraceae)	<i>Marsang</i>	Flower or fruits	Use for treatment of sore tongue and Toothache
31.	<i>Tacca integrifolia</i> Ker-Gawl. (Taccaceae)	<i>Mami</i>	Rhizomes	Rhizomes are considered effective against stomach pain.
32.	<i>Valeriana jatamansi</i> (Caprifoliaceae)	<i>Okung</i>	Roots	The paste is used in boils and wounds.
33.	<i>Zanthoxylum armatum</i> DC. (Rutaceae)	<i>Hokum</i>	Fruits	Decoction of dry seeds mixed with a little amount of salt is given as gargle to get relief from toothache. Bark extract is considered a general health tonic. Fruits are used as a spice.
34.	<i>Zanthoxylum hamiltonianum</i> (Rutaceae)	<i>Tambeng</i>	Roots and Barks	Consumed to cure malaria.
35.	<i>Zanthoxylum rhetsa</i> (Rutaceae)	<i>Onyer</i>	Leaves	Used for hair cleaning, jaundice, and wart.
36.	<i>Zingiber officinale</i> Rosc.	<i>Takeng/Takey</i>	Rhizome	Consumed as a remedy for sore

				throat and cough relief.
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Source: *Field Study, 2021.*

Local cultivation, as well as the use of such medicinal plants, must also be studied scientifically. Understanding indigenous knowledge and practices regarding natural resource utilisation and management are one of the key issues for achieving sustainable development communities in the region. There is a need to strengthen forest conservation measures that are based on traditional knowledge and value systems.

Observations revealed an intriguing and intricate pattern of people's health behaviours and health communication. It is clear that tribal people have excellent communication skills, and their trust, credibility, and accessibility can go a long way toward designating them as agents of change for health practices. The information collected from the people and presented here shows that a certain richness and diversity of knowledge regarding traditional uses of plants still survives as a part of their cultural heritage.

As a result, it is critical to document this biocultural diversity and preserve it through proper documentation and species identification before it is lost forever. It is also vital to consider the cultural heritage within the context of a sustainable management approach to preserving all aspects of its environmental diversity.

V. Conclusion

This is the first ethnomedicinal study of Adis of Bomdo and Migging villages in the Upper Siang district of Arunachal Pradesh. In comparison to other ethnic communities in Arunachal Pradesh, this study found 36 only plant species in the study villages. This highlights the importance of investing in mechanisms that will allow the Adi community to benefit from the use of their traditional plant-derived culture, thereby supporting the continued conservation and use of these vital plant resources.

The study revealed that the traditional uses of plant species of the Adi in the study area are closely related to their living environment. People pass on their ethnomedicinal knowledge from generation to generation through elders, using oral tradition rather than written documents. Recently, improved market access has provided the younger generation with enough food and medicine, minimising the need for wild plant harvesting. Furthermore, the findings indicate that the increased availability of modern medicines has impacted indigenous knowledge of the people, particularly among the youth, who place a higher value on pharmaceutical company-sold medicines.

Understanding the ethnomedicinal practises of various communities is critical to promoting their health status because healthcare behaviour is an integral part of any culture. Adi, like other communities in Arunachal Pradesh, has extensive traditional knowledge on effective ethnomedicine that has been gained through experience and is typically passed down through oral traditions. Thus, studies on ethnomedicinal potentialities

among tribes of Arunachal Pradesh should be prioritised because they can lead to the discovery of additional and potentially useful chemical compounds. A thorough scientific study is required to document all the rare medicinal plant species, and the preservation of such traditional knowledge and practises will be critical for future research.

Rapid changes in traditional lifestyles and cultural practices as a result of modernisation, globalisation, and reliance on modern medical care have jeopardised this age-old traditional knowledge. This calls for the preservation of knowledge as well as the conservation of medicinal plant and animal biodiversity.

The traditional medical system continues to play an important role in the healthcare system among the Adis. In most cases, the causes of an illness and the healing system are linked to magico-religious beliefs. Along with herbal treatment, magico-religious practices continue to play an important role in their indigenous treatment methods.

Medicinal plants are the embodiment of wisdom from the ancestors and play a significant role in treating various human disorders. With the rapid development of modern medicine, however, the inheritance of this valuable culture is facing enormous threats even though its potential value has not yet been fully explored. Therefore, both *ex-situ* and *in-situ* conservation strategies together with biotechnological techniques have to be taken care of by the upcoming educated younger generations, local inhabitants supported by government and non-government agencies for the future survival of such precious knowledge.

Traditional healing practices seems to influence their healthcare-seeking behaviour and treatment of illness. The linking between tribal healers and the people is strong and well-established, as healers are, for the most part, the only source of health advice and treatment and cure. Modern medicine and the state health service have only recently made inroads into these remote and far-off villages. Effective communication among health providers, health seekers, and traditional healers is essential for the successful implementation of any health programme.

A comprehensive research study is needed to identify, document, and study ethnomedicinal plants to plan for long-term resource management in the Indian state of Arunachal Pradesh. This would help both the conservation of rare plant species and the environment. In addition, there is an urgent need to document the rich ethnomedicinal knowledge of the community and preserve it properly for better utilisation of plant resources. There is a particular need for a detailed study of the ethnomedicinal plants used by tribal communities, as well as a possible investigation into the true value of these plant species so that they can be managed and conserved for the benefit of the local community as well as the welfare of humanity.

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