



Traditional Health Care Practices Among Raji Tribe of Uttarakhand

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Abstract

The *Raji* tribe is one of the five tribes of Uttarakhand. Among all the tribes of Uttarakhand, *Raji* Tribe is the most under developed and the smallest tribe of Uttarakhand. Their population is distributed in two districts of *Uttarakhand* namely *Pithoragarh* and *Champavat*. Historically, they have been considered as one of the oldest communities in the region, with roots that trace back centuries. They have been called names such as Banraji, Banravat, Ban-Manush, and cave dwellers, reflecting their connection with nature and the forests where they have traditionally lived. As they have a long history of living in caves and being forest dwellers, The *Raji* tribe is well acquainted with plants. Due to their direct contact with nature, they have a vast knowledge of forest resources and various plant species hence they make full use of all of the forest resources and plant in the form of medicines and food. Different type of plant species are used for different types of health concerns. People of *Raji* tribe have their own ways of curing different kinds of disease. This study is an attempt to understand and document the traditional use of different plant and forest species as medicine in order to conserve the indigenous medicinal knowledge of *Raji* Tribe.

Keywords: Schedule Tribe, Medicinal knowledge, Traditional practices, PVTGs, Plant species, Diseases.

Introduction

India is a country with the largest population in the world which was estimated to be around 143.81 crores (2023). Tribal population also constitute a significant portion of the country's population with the Scheduled Tribe (ST) population recorded at 10.45 crore, or 8.6% of the total population, according to the 2011 Census. These communities, comprising over 705 distinct groups, are spread across the country, often living in remote and inaccessible areas (<https://www.pib.gov.in/PressNoteDetails.aspx?NoteId=153230&ModuleId=3>). Out of the 650 Scheduled Tribal groups found in India, 75 population groups have been identified as Particularly Vulnerable Tribal Groups (PVTGs) (Alam & Jha, 2018). In modern literature, Scheduled Tribes is used as an official term for Adivasis. Officially Uttarakhand is home to as many as five tribes which have been scheduled in the Constitution of India, more than four decades back in 1967 (Farswan, 2017). Tribes of Uttarakhand represent the ethnic groups residing in the state. The *Raji* people are classified as a Schedule tribe under the list of the government of India in 1967 (Rana, 2024). Every district of Uttarakhand has more or less a moderate percentage of tribal population. It is said that officially Uttarakhand is the home of around five tribes namely Jaunsari tribe, Tharu tribe, *Raji* tribe, Buksa tribe and Bhotiyas. These tribes of Uttarakhand have been scheduled in the Constitution of India. Historical records suggest that the tribes of Uttarakhand are earliest settlers of this region of North India.

In the past, their main concentrations were confined to remote hilly and forested areas. The tribes of Uttarakhand have retained their age old traditional ways of living. It is believed that numerically Uttarakhand has only 0.16 percent of the total tribal population of India. Tribes of Uttarakhand are found in almost all parts of the state. Among all the tribes of Uttarakhand, *Raji* Tribe is the most under developed and the smallest tribe of Uttarakhand (Sarkar, 2016). Some of these primitive tribes inhabit mid to high-altitude regions in the Himalayas. One such tribe is the *Raji* tribe. According to 2011 census, the maximum population of *Raji* tribe lives in Kimkhola village of Dharchula Block of Uttarakhand. In the state of Uttarakhand, the main concentration of tribal population is in the rural areas. As per records, around 94.50 percent of total tribal population resides in rural areas and the remaining percentage of tribal population lives in urban centres (Farswan, 2017). The *Raji* tribe is a numerically, educationally, and economically backward community of Central Himalayan region of Pithoragarh and Champavat districts of Uttarakhand. It is the smallest tribal group of Uttarakhand (Alam & Jha, 2018). Historically, they have been considered as one of the oldest communities in the region, with roots that trace back centuries. They have been called names such as Vanraji, Vanravat, Van-Manush, and cave dwellers, reflecting their connection with nature and the forests where they have traditionally lived. Both the terms Vanravat and Van-manush are used for people who are closely associated with the forest and live in the forest. These names are proof of their dependency on the natural environment for survival and a distinctive way of life. They are hunters and gatherers and follow a nomadic lifestyle (Rana, 2024).

Literature review

The Raji

The *Raji* is little known tribal community that was brought to light for the first time in 1823 by the commissioner of Kumaun, C. W. Traill. *Raji* is one of the five tribes in Uttarakhand and one of the two PTGs in Uttarakhand. Their population is distributed in two districts of Uttarakhand namely Pithoragarh and Champawat. Until a few decades ago

they lived a life typical of the Neolithic age, as cave dwellers and food gatherers – subsisting on hunting, fishing and jungle product. Their traditional occupation was to collect the woods from jungles and giving different shapes to the woods and then sold out to the people of the same village. By nature they were very shy and aloof in past and did not like to talk the people other than their society. They left their selling things at the door of the people in evening and in very early morning they collected their earnings from the homestead. But condition have changed in the last several decades now they sell collected wood in the market directly without giving any shape to the woods, wage laborer, practice agriculture or raise livestock to earn their livelihood (Pandey & Sharma, 2015). The *Rajis* are multilingual. They speak a language which belongs to the Himalayan group of the Tibeto-Burman family of languages. However, they communicate with other neighboring community with Indo-Aryan language, Kumauni and Hindi. They use the Devanagari script (Pandey, 2011). It has been observed that the measures of mortality like crude death rate (CDR) 47.6, infant death rate (IDR) 344.8, under five mortality rate 724.1, neonatal mortality rate 137.9, post neonatal mortality rate 206.9, pre neonatal mortality rate 212.1 and child mortality rate 379.3 among the *Rajis* have been found to be very high when compared with the tribal and non- tribal population groups from various parts of India and specially the Himalayan region (Patra and Kapoor, 2006).

Traditional Medicine

The Indian Himalayan region, characterized by its diverse flora and fauna and has always been a home for many medicinal plant species. The traditional knowledge of medical systems of northern India (such as Ayurveda and Tibetan) is a part of time tested culture (Prakash, 2015). Medicinal plants have strong acceptance in religious activities and ritual & belief system of north Indian native communities, who worshiped the plants in the form of god, goddesses, and minor deities. The used of plants as medicines date back to prehistoric period. In India the references to the healing properties of some herbs in the Rig-veda seems to be the earliest account of use of plants in medicines (Nair et. al., 2022). The tribes of the Indian Himalayan region are highly dependent on traditional medicine. Some tribes who live in very interior village use traditional medicine for many different kinds of disease. The knowledge and practice of traditional medicine is deeply rooted in the indigenous knowledge system and have been evolved from generation to generation through the word of mouth (Prakash, 2014). But nowadays, due to the popularity of allelopathic medicines and quick cure, theses type of traditional practices are decreasing. But there are still some tribes who are still maintaining these indigenous practices and one of them is *Raji* tribe. As they have a long history of living in caves and being forest dwellers (Pandey & Sharma, 2015). The *Raji* tribe is well acquainted with plants. Due to their direct contact with nature, they make full use of plants as medicines. Umar (*Ficus racemosa* L.), Dhajya (*Toxicodendron succedaneum*), Malu (*Bauhinia vahlii*) are some of the tree species which are used for medicinal purpose and some plant species like Genth (*Dioscorea bulbifera* L.), Taud (*Dioscorea belophylla*), Koiral (*Bauhinia purpurea*) and other wild greens are the main part of their food (Figure 1). Therefore, they are also well versed with plant medicines.

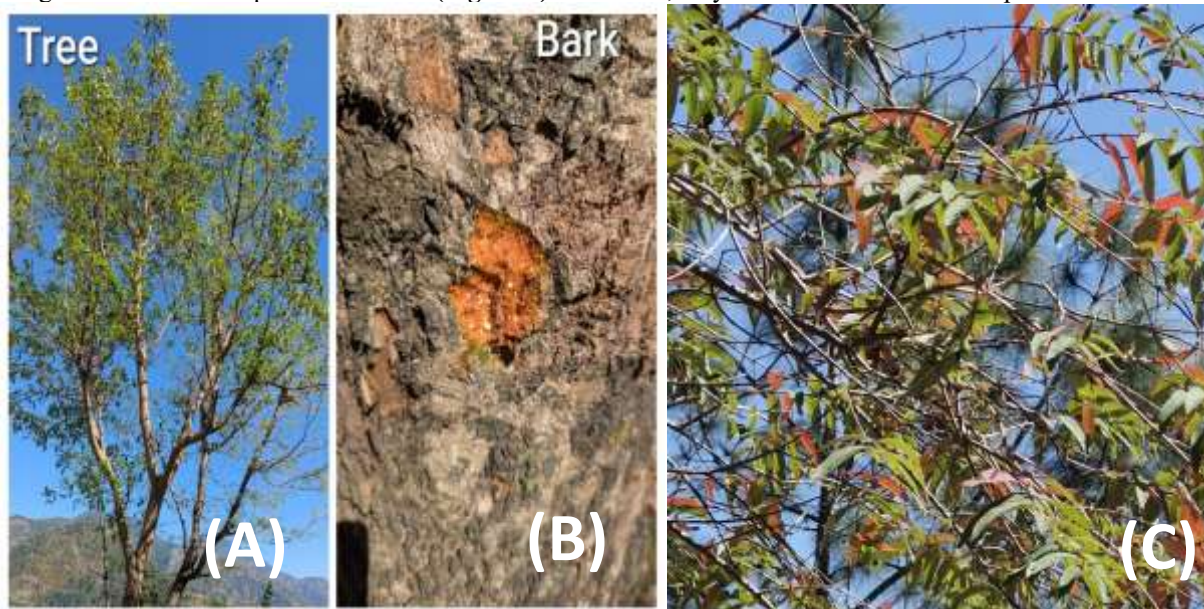




Figure1. (A) Umar (*Ficus racemosa* L.) (B) Bark of Umar (*Ficus racemosa* L.)
(C) Dhैया (*Toxicodendron succedaneum*) (D) Koiral (*Bauhinia variegata* (L.) Benth.) (E) Taud (*Dioscorea belophylla*)

Methodology

A study was conducted in Five different villages (*Kimkhola, Jamtadi(Kantoli), Bhaktairwa, Ganagaon and Kulekh*) of *Pithoragarh* district. During study, data was collected through direct interviews and questionnaire by the people of different age groups. A well-structured questionnaire was designed to gather detailed information about the use of medicinal plants, their preparation methods, part used and traditional practices. The Questionnaire comprised of 20 questions divided into 3 different sections:

1. General Information: This section include question related to personal details such as name, age, gender and family members.
2. Socio-Economic Background: Participants were asked about their educational qualifications, occupation, and primary source of income.
3. Indigenous Medicinal Knowledge: This section focused on the participant's familiarity with the use of medicinal plants. It includes questions regarding their ability to prepare traditional medicines, knowledge of plant species used, and detailed descriptions of preparation methods and applications.

The primary objective of the study was to assess the traditional medicinal knowledge among the *Raji* tribes, especially to determine whether they still depend on the medicinal plants for their primary healthcare needs. The study also aimed to understand how these plants are used, whether they are cultivated by the community, and to what extent this traditional knowledge persists in the modern context. A total of 119 Villagers participated in the study, including 52 (44%) men and 67 (56%) women (**Figure2**). Out of these, 79 (94.01%) participants provided substantive information regarding their indigenous medicinal knowledge and the use of medicinal plants (**Figure 3**).

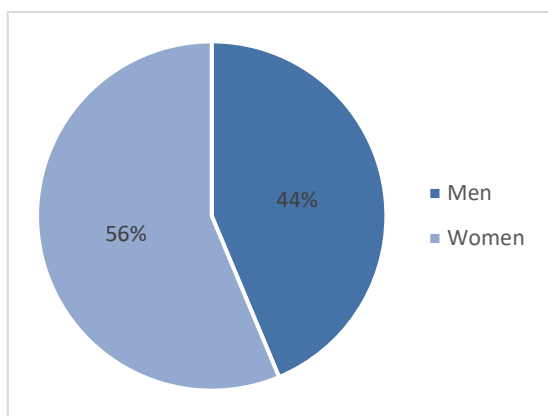


Figure 2. Percentage distributed by Gender

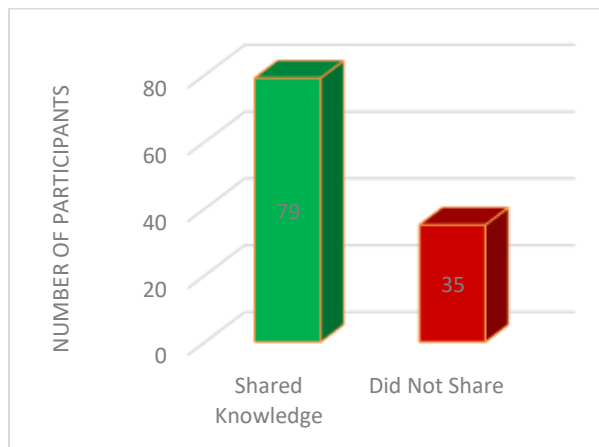


Figure 3. Participants Sharing Knowledge

Result and Discussion

From this study, it was found that the people of *Raji* Tribe still depends on plants for their basic needs and healthcare. It was also found that this indigenous knowledge is now limited to the elder generation only (above 35 years old). Due to the climate change and other adverse environmental impacts there is a decline in the population of medicinal plants, they are not much available now and so the younger generations does not show any interest to learn about those traditional practices. The list of medicinal plants and their ethnomedicinal uses along with common name have been summarized in (Table 1).

Table 1: List of medicinal plant species and their uses

S.No.	Scientific Name	Local Name	Family and Type	Phytochemical Compound	Part Used	Uses	Preparation Methods	References
1.	<i>Aesculus indica</i> (Colebr.Ex .Camb.) Hk.	Paagar	Hippocastanaceae (T)	Aescin, aesculuside A and B, along with aliphatic esters	Seed	Wounds and cuts	Paste is applied on cuts and wounds.	Anand, et. al., 2024; Bhatt, et. al., 2013
2.	<i>Bauhinia vahlii</i>	Malu	Caesalpiniaaceae (S)	Tannic acid	Bark	Skin irritation	Paste was applied on skin eruption .	Bhatt, et. al., 2013; Sushma, et. al., 2023
3.	<i>Bauhinia variegata</i> (L.) Benth.	Koiral	Caesalpiniaaceae (T)	Flavonoids and phenols	Leaf or Whole Plant	Indigestion	Eaten in the form of Pickle and vegetable	Nair et. al., 2022
4.	<i>Berberis asiatica</i> Roxb. ex. DC.	Kilmora	Berberidaceae (S)	Tannins, flavonoids, alkaloids, steroids, saponins, phenols, carbohydrates, proteins and free amino acids	Root	Eye Redness	Root Juice mixed with Water.	Bhatt, et. al., 2013; Swati et. al., 2012.
5.	<i>Bergnia ciliata</i>	Silfoda	Saxifragaceae (H)	Bergenin	Rhizome	Fever	Roots were washed then grinded	Bisht, & Adhikar2018; Singh, et al., 2007.

							and juice were made out of it.	
6.	<i>Bergenia ligulata</i> Engl.	Pasher Bhed	Saxifragaceae (H)	Bergenin	Rhizome	Kidney Stone	Roots were first peeled then grinded and drink after boiling.	Balkrishna, et al., 2024; Singh, et al., 2007.
7.	<i>Cannabis sativa</i>	Atriya/Bhang	Cannabaceae (H)	Cannabinoids	Leaf	Stomach ache	Leaves were added with water and green paste were formed and applied in stomach.	Siracusa, et al., 2023.
8.	<i>Citrus medica</i>	Chuk	Rutaceae (S)	Tetranortriterpenoids as limonin, limonol and nomilinic acid	Seed	Intestine Worm	Juice was directly used as Medicine.	Rani & Gill, 2020.
9.	<i>Colebrookia oppositifolia</i> Sm.	Bhaarmyola	Lamiaceae (S)	5,6,7-trimethoxy flavone	Leaf	Cough	Leaves were boiled in water and directly drank it	Bisht & Adhikar, 2018; Yadav, 2019.
10.	<i>Curcuma longa</i> L.	Ban Hald	Zingiberaceae (H)	Curcuminoids	Stem	Ear ache	Paste is applied to the outer ear and surrounding skin.	Chanda & Ramachandra, 2019.
11.	<i>Cyathocline purpurea</i>	Bedhniya	Asteraceae (H)	Guaianolide	Root	Flatulence (Gas in stomach)	Roots were washed then grinded and juice were made out of it.	Negi, 2025; Salve et al., 2021.

12.	<i>Dalbergia sissoo</i>	Sheesham	Fabaceae (T)	Dalberginone, dalbergin methyl dalbergin and dalberichromene	Stem/bark	Bodyache	Bark was grinded with turmeric and applied on skin.	Bhattacharya, et. al., 2014.
13.	<i>Dioscorea belophylla</i>	Taud	Dioscoreaceae (Tu)	Diosgenin	Root	To Improve Immunity	Eaten as vegetable.	Sheikh, et. al., 2013.
14.	<i>Dioscorea bulbifera</i> L.	Gethi	Dioscoreaceae (C)	Saponin and Diosgenin	Tuber	Cough	Eaten as vegetable mixed with fire ash.	Bisht & Adhikari, 2018; Sheikh, et. al., 2013.
15.	<i>Diploknema butyracea</i>	Cheura	Sapotaceae (T)	Alkaloid, tannin, glycosides, fixed oils, fats, flavonoids, sterols, phenol, terpenoids and saponins	Seeds	Skin irritation, ulcers	Oil extracted from seeds are used.	Tyagi, 2015.
16.	<i>Ficus palmata</i> Forsk.	Bedu	Moraceae (T)	β -sitosterol and a new tetracyclic triterpene-glaunol acetic acid derivation	Bark and leaf	Wound	A paste made from bark or leaves were directly applied.	Khan, 2021.
17.	<i>Ficus racemosa</i> L.	Umar	Moraceae (T)	Bergenin (flavonoid), β -sitosterol, kaempferol and coumarin	Tree Trunk	Cuts and Wounds	By slightly Cutting the tree, a milky substance comes out and is applied to cuts and wounds	Bisht & Adhikari, 2018; Yadav et. al., 2015.
18.	<i>Ficus religiosa</i> L.	Peepal	Moraceae (T)	Steroids, flavonoids, alkaloids, phenol content, glycosides, tannins, saponins, polyphenolic compounds, sterols	Bark	Skin Disease	Bark was grinded with turmeric and applied on skin.	Kumar et. al. 2018.
19.	<i>Hordeum vulgare</i> L.	Jau	Poaceae (H)	Sterols, alkaloids, saponins, tannins,	Seed	Headache	Leaves were boiled in water	Bisht & Adhikari, 2018; Mahajan

				flavonoids, carbohydrates, sugars, glycosides, proteins, and amino acids			and directly drank it.	et. al., 2023.
20.	<i>Mentha arvensis</i> L.	Podina	Lamiaceae (H)	Types of flavonoids, polyphenols, essential oil	Leaf	Vomiting	Directly eating the leaves with water.	Thawkar, et al., 2016.
21.	<i>Pine roxburgii</i>	Salla	Pinaceae (T)	Isopimaric acid, Longifolene, Pincarvone	Resin	Wounds	Applied directly on the wound.	Bisht & Adhikari, 2018; Kumari et al., 2017.
22.	<i>Rumex nepalensis</i>	Jungli Palak	Polygonaceae (H)	Phenols, flavonoids, anthraquinones	Leaf	Antidote	Young leaves are crushed and applied on nettle sting for immediate relief.	Shaikh et al., 2018.
23.	<i>Senecio nudicaulis</i> Buch.-Ham. ex D.Don	Turkiya	Asteraceae (H)	Terpenoid, alkaloid, phenol, quinone	Root	Cough and Sore throat	Roots were grinded and drink with Warm water	Bisht & Adhikari, 2018; Pant et.al., 2023.
24.	<i>Terminalia chebula</i> Retz.	Harad /Hariya	Combretaceae (T)	Tannins, flavonoids, alkaloids, terpenoids, saponins, glycosides, phenol, steroids, amino acids, and proteins	Fruit	Cough, Cold	Eaten directly after drying.	Bisht & Adhikari, 2018; Elsadek & Al-Numair 2024.
25.	<i>Tinospora cordifolia</i> (Thunb.) Miers	Gurjya bel	Menispermaceae (C)	Inositol	Stem	Diarrhoea	Made into a paste and then made into a soup and drink.	Bisht & Adhikari, 2018; Modi et al., 2021.
26.	<i>Toxicodendron succedaneum</i>	Dhaiya	Anacardiaceae (S)	Steroids, triterpenes, alkaloids, and flavonoids	Resin	Cough, Fever	Directly applied	Gurav et al., 2022.
27.	<i>Urtica dioica</i>	Bichu/Sinna	Urticaceae (H)	Selenium	Whole plant	Muscle ache	Directly applied on skin.	Krystofova, et. al., 2010.

28.	<i>Zanthoxylum armatum</i>	Timoor/ Tambur	Rutaceae (S)	Methyl cinnamate, Terpenoids	Seed/ fruit	Cough and Cold	Mixed with Vegetab les.	Barua, et. al., 2018; Bhatt, et. al., 2013.
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: H- Herb, S- Shrub, T-Tree, C- Climber, Tu-Tuber

In the study, we have documented around 28 different plant species belonging to 20 different families used by the people of *Raji* tribe for different health concerns, out of which there are 10herbs, 2climber, 1tuber, 9trees, 6shrubs (Figure 4). And as for the part used, Leaf (14%), Tree trunk (4%), Bark (14%), Stem (7%), Fruit (7%), Tuber (4%), Resin (4%), Whole Plant (7%), Seed (18%), Rhizome (7%), Root (14%) (Figure 5).

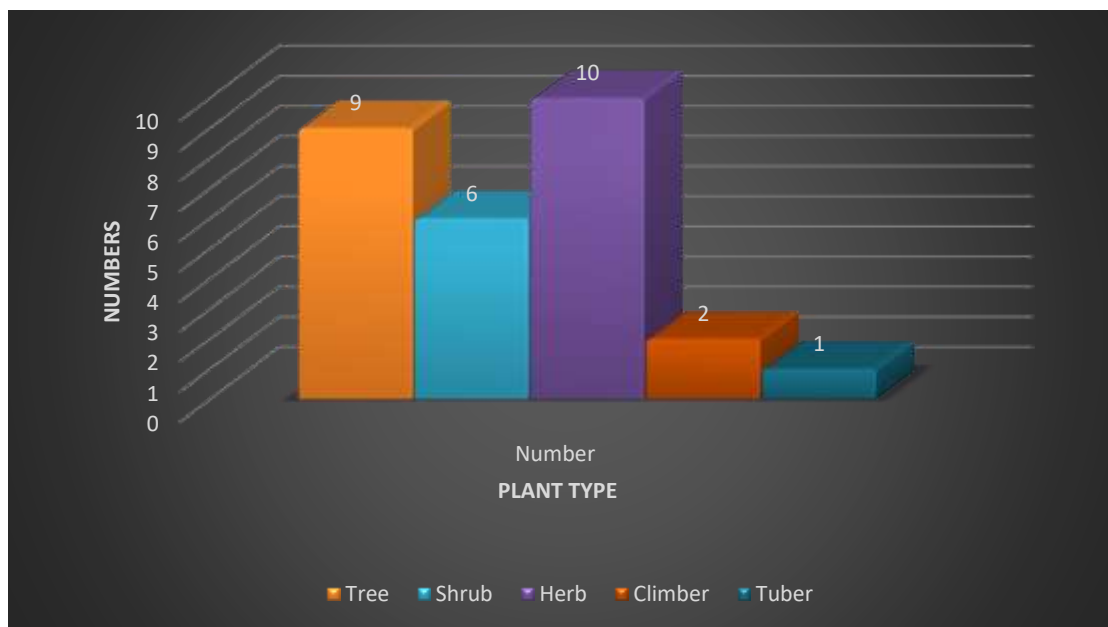


Figure 4. Number of type of Plant Habitat

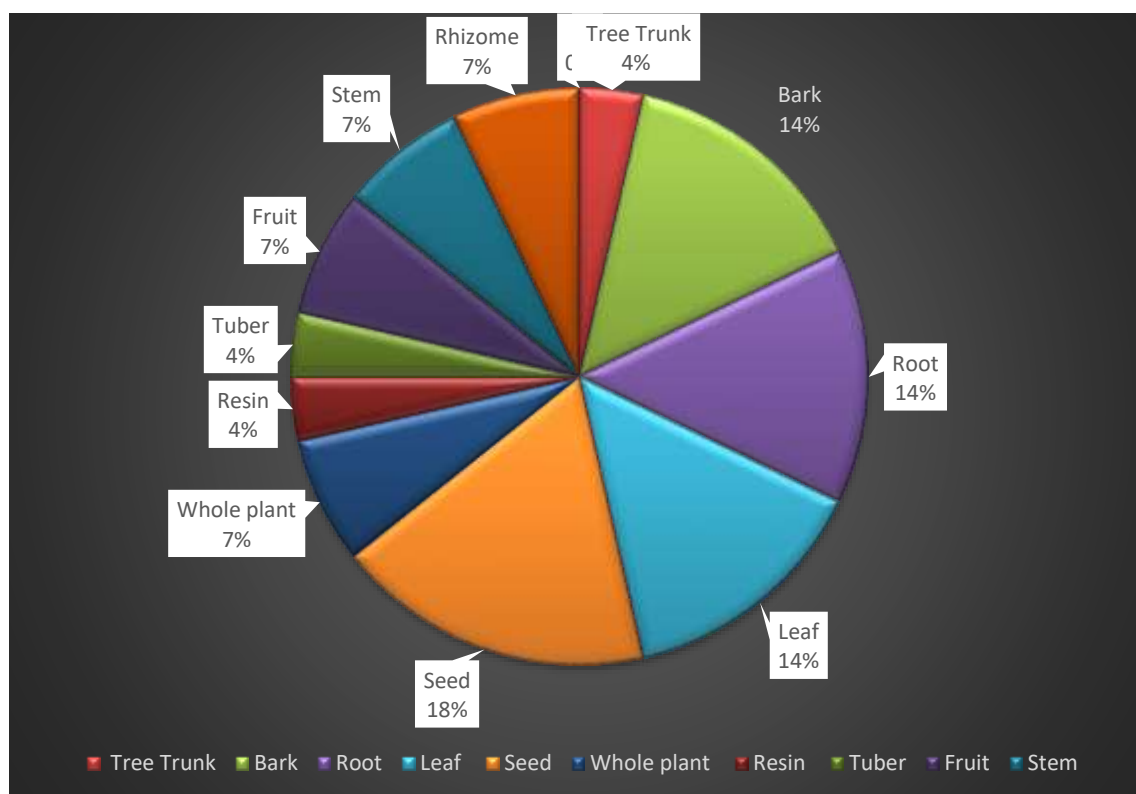


Figure 5. Percentage of Plant Part used

The Family with the highest number of medicinal plant species is Moraceae (3), followed by Saxifragaceae, Asteraceae, Caesalpiniaceae, Rutaceae, Dioscoreaceae, Lamiaceae (2), and Poaceae, Menispermaceae, Hippocastanaceae, Zingiberaceae, Sapotaceae, Anacardiaceae, Combretaceae, Pinaceae, Urticaceae, Polygonaceae, Cannabaceae, Berberidaceae, Fabaceae are in the same order (**Figure 6**).

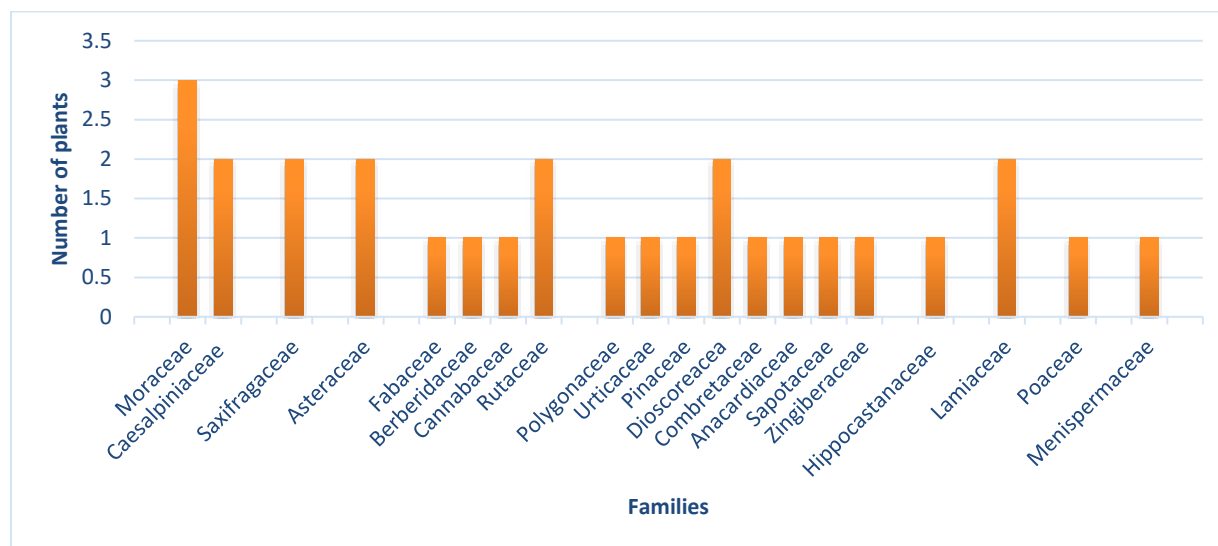


Figure 6. Families of Medicinal Plant species used

We have also noticed that most of the plant species were useful for Cough and Sore throat followed by indigestion, skin irritation, cuts and wounds then fever and other diseases (**Table 2**).

Table 2. Percentage and Number of Plant species used in different types of diseases

Types of diseases	Number of species	Percentage
Cuts & Wounds	4	14.29
Skin irritation	3	10.71
Kidney stone	1	3.57
Cough and Sore throat	5	17.86
Indigestion	3	10.71
Flatulence	1	3.57
Eye redness	1	3.57
Stomach ache	1	3.57
Intestine worm	1	3.57
Fever	2	7.14
Headache	1	3.57
Ear ache	1	3.57
Antidote	1	3.57
Muscle ache	1	3.57
Immunity building	1	3.57

Conclusion

The present study concludes that due to the settlements of *Raji's* away from the main market, they still have to depend on plants and forest resources for their basic healthcare needs and livelihood. As the above mentioned different medicinal plant species mostly belongs to the forest area and agriculture fields and due to the rapidly changing climate and deforestation of forests, *Raji* tribe is facing many problems. And also their indigenous knowledge of traditional medicine is decreasing because it is limited to the elder people only and the younger generation is not interested and giving attention to them. But to protect these kinds of indigenous knowledge, we should encourage and help the people of *Raji* tribe especially the younger generation in order to save their culture, identity and knowledge.

Conflict of Interest

The authors declare no conflict of interest.

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