



ISSN NO. 2320-5407

Journal Homepage: - www.journalijar.com

INTERNATIONAL JOURNAL OF ADVANCED RESEARCH (IJAR)

Article DOI: 10.21474/IJAR01/12138
DOI URL: <http://dx.doi.org/10.21474/IJAR01/12138>



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ADVANCED RESEARCH (IJAR)
ISSN 2320-5407
Journal Homepage: <http://www.journalijar.com>
Journal DOI: 10.21474/IJAR01

RESEARCH ARTICLE

MEDICINAL PLANT USED FOR THE TREATMENT OF MUSCULAR SPRAIN BY THE TANGKHUL TRIBE OF UKHRUL DISTRICT, MANIPUR, INDIA

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Manuscript Info

Manuscript History

Received: 05 October 2020

Final Accepted: 10 November 2020

Published: December 2020

Key words:-

Tangkhum, Muscular Sprain,
Conservation, Ukhrul, Manipur

Abstract

Ukhrul district of Manipur is a hilly region predominantly inhabited by the Tangkhul tribe. The Tangkhul people of this hilly region are mainly dependent on the forest and are quiet familiar with local herbs found in the village surroundings and forest areas not only for their food but also provide a major part of the medicine for the treatment of various diseases and ailments especially for the poor people living in the district. Recent ethnomedicinal survey (2016 – 2017) among the Tangkhul community revealed the use of 35 species of angiosperms, covering 34 genera and 25 families which they use to treat muscular sprain. The present study was carried out through structured questionnaires in consultations with the elders and Tangkhul practitioners. Some significant medicinal plants which are used by the Tangkhul tribe for the treatment of muscular sprain are *Argyrea nervosa*, *Cyperus rotundus*, *Equisetum ramosissimum*, *Homskioldia sanguine*, *Mikania cordata*, *Xylosma longifolia*, etc. Plantation of medicinal plant species in home gardens and farm areas has shown its commercial potential and steps for conserving economically significant diverse plants of this hilly region.

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Introduction:-

Ukhrul, the homeland of Tangkhul Naga tribe lies between 23°13'N and 25°68' N Latitudes and 94°20'E and 94°25' E Longitudes, having an area of 4,544 km² of which 2,600 km² area is forest covered. It is a hilly region, surrounded by Myanmar in the east, Nagaland state in the north, Chandel and Senapati districts of Manipur in the south and west respectively. The region enjoys tropical, sub-tropical and temperate climate. The temperate climate of the district is health promoting with a minimum and maximum degree of 3⁰ C to 33⁰ C. As per 2011 census, total population of Ukhrul district is 1, 83,115 (Anonymous 2011). The whole district is divided into five sub-division or blocks. They are Ukhrul, Chingai, Kamjong, Phungyar and Kasom khullen. Agriculture is the mainstay of the people of Ukhrul district, Manipur. Ukhrul is rich in floral diversity, most of which possesses medicinal properties. The Tangkhul's are familiar with local herbs found in the village surroundings and forest areas, and thus this local herbs provide a major part of the medicine for the treatment of various diseases and ailments especially for the poor people living in the district. They are largely dependent on their traditional healing system for their healthcare and the information is passed on from generation to generation through the word of mouth. This paper is an outcome of an attempt to collect and document information about ethnomedicinal plant species used in muscular sprain by the Tangkhul community.

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Significant contribution has been made by some workers on various aspect of ethnobotanical and ethnomedicinal plants in Manipur state (Sinha1987, 1990; Singh, 1991; Jamir, 1990, 1991; Singh and Singh, 1996; Singh *et al.*, 2003; Khan, 2005; Salam *et al* 2009; Peihong *et al* 2016; Mohamad *et al* 2019; Robert *et al* 2019).

Methodology:-

Field survey was conducted during 2016-2017 in several villages in Ukhrul district, Manipur, with the objective of gathering information about the medicinal plants that are traditionally used by the *Tangkhal* healers for the treatment of muscular sprain. Ethnobotanical data were collected using semi-structure questionnaire, interviews and discussion in their local dialect. Information regarding vernacular name, plant parts used and methods of preparation were also documented by interacting with them as well as through direct observations. Based on the information provided by local healers plant specimens were collected, and their classification and identification were done by referring to various literatures (Bentham & Hooker, 1862-83; Deb, 1961a,1961b; Jain & Rao 1977; Kanjilalet al., 1934-1940; Parabia & Reddy (2002) etc. For the correct nomenclature and family delimitation www.theplantlist.org has been consulted for all the recorded plants. Herbarium specimens were prepared and have been deposited in the herbarium of the Department of Botany, Nagaland University Headquarters, Lumami and in the Life Sciences Department of Manipur University, Manipur.

Result:-

Table:- Etnomedicinal plants used in muscular sprain by the TangkhalNaga tribe of Ukhrul District of Manipur.

SL. NO.	Name of Plants	Families	Vernacular Name	Parts Used	Mode of Uses
1.	<i>Argyrea nervosa</i> (Burm.f.)Boj.	Convolvulaceae	Pudinguri	Leaf	Paste
2.	<i>Artemisia maritime</i> L.	Asteraceae	Maharua	Leaf	Paste
3.	<i>Calotropis gigantean</i> (L.) W.T. Aiton	Asclepiadaceae	Ankot	Root	Boiled extract
4.	<i>Cannabis sativum</i> L.	Cannabinaceae	Ganja	Leaf	Steam
5.	<i>Canthium parviflora</i> Lam.	Rubiaceae	Lam-heibi	Leaf	Boiled
6.	<i>Caryota urens</i> L.	Aricaceae	Nongkhal	Leaf	Paste
7.	<i>Callicarpa arborea</i> Roxb	Verbenaceae	Chicothing	Leaf	Smashed or rubbed
8.	<i>Clerodendrum indicum</i> (L.) Kuntze	Verbenaceae	Charoiutong	Leaf	Paste
9.	<i>Commelina benghalensis</i> L.	Commelinaceae	Wangdemkhoibi	Whole plant	Paste
10.	<i>Conyza bonariensis</i> (L.) Crong.	Asteraceae	Arirong-	Leaf	Paste
11.	<i>Curcuma aromatica</i> Salisb.	Zingiberaceae	Yaigang	Fresh Rhizome	Paste
12.	<i>Cuscuta reflexa</i> Roxb.	Cuscutaceae	Sangrei	Whole plant	Fresh extract
13.	<i>Cyperus rotundus</i> L.	Cyperaceae	kaho	Root	Paste
14.	<i>Datura stramonium</i> L.	Solanaceae	Sagolhidak	Leaf	Paste
15.	<i>Dioscorea bulbifera</i> L.	Dioscoreaceae	Lam Hapai	Leaf	Boiled warm leaf
16.	<i>Dioscorea pentaphylla</i> L.	Dioscoreaceae	Ok Hapai	Leaf	Boiled warm leaf
17.	<i>Eryngium foetidum</i> L.	Apiaceae	Lam sachikom	Leaf	Fresh extract
18.	<i>Esholtzia blanda</i> Benth..	Lamiaceae	Ngarikna	Whole plant	Fresh extract
19.	<i>Equisetum ramosissimum</i> Desf. Subsp. debile (Roxb.) Hauke.	Equisetaceae	Lai-utong	Whole plant	Paste
20.	<i>Garcinia pedunculata</i> Roxb.	(Clusiaceae	Changneira	Fruit	Paste
21.	<i>Homskioldia sanguine</i> Retz.	Verbenaceae	Kharamleishok	Leaf	Boiled extract
22.	<i>Houttuynia cordata</i> Thunb.	Saururaceae	Ngayung	Leaf	Fresh extract

23.	<i>Impatiens balsamina</i> L.	Balsaminaceae	khuchang	Whole plant	Paste
24.	<i>Mikania cordata</i> (Burm.f.) B.L.Robinson	Asteraceae	Naga-ra	Leaf	Boiled extract
25.	<i>Mimosa pudica</i> L.	Mimosaceae	Kangphal- ikaithabi	Leaf	Boiled extract
26.	<i>Ocimum americanum</i> L.	Lamiaceae	Sari	Leaf	Paste
27.	<i>Oroxylum indicum</i> Vent.	Bignoniaceae	Phong	Root	Paste
28.	<i>Phlogocanthus tubiflorus</i> Nees.	Acanthaceae	SipchangKahunga	Leaf	Boiled extract
29.	<i>Plantago major</i> L.	Plantaginaceae	Havathan	Whole plant	Paste
30.	<i>Scutellaria discolor</i> Colebr.	Lamiaceae	Yenakha	Whole plant	paste
31.	<i>Solanum nigrum</i> L.	Solanaceae	Hantehan	Leaf	Boiled extract
32.	<i>Stachytarpheta cayennensis</i> (Rich.)Vahl	Verbenaceae	Tharoipijup angouba	Leaf	Paste
33.	<i>Tagetes erecta</i> L.	Asteraceae	Sanarei	Leaf	Fresh extract
34.	<i>Terminalia arjuna</i> (Roxb.ex DC) Weight&Arn.	Combretaceae	Mayokpa	Bark	Boiled extract
35.	<i>Xylosma longifolia</i> Clos.	Flacourtiaceae	Nongleisang	Leaf	Fresh extract

Discussion:-

In the present study, a total of 35 plant species belonging to 34 genera and 25 families was collected and recorded for its medicinal values that are used for treating muscular sprain. Different parts of medicinal plant Viz., root, stem, leaf, fruit, seed, rhizome were used as source of medicine by the 'Khanong' (Local healers) of this community. Most of the remedies were obtained from the leaves followed by root, whole plant, bark etc. The plant parts are commonly used as external applicants in the form of paste (prepared by grinding the plant material) and juice extracted from fresh plant material. Most of the remedies used for curing muscular sprain were derived from a single plant. Among the plant *Eryngium foetidum*, *Mikania cordata*, *Ocimum americanum*, *Cyperus rotundus*, *Tagetes patula* are commonly used by the *Tangkhul* healers. Moreover, it was noticed that the same plant species were also used for the treatment of many diseases other than muscular sprain by the *Tangkhul* healers.

This study shows that knowledge and usage of herbal medicine for the treatment of muscular sprain among the *Tangkhul* people still play an important role in the life of this community since they are inexpensive, easy to use, and they have limited side effects compared to modern medicines.

Also, it is clearly evident from the study that the knowledge of plants and its usage is limited to elderly Khanongs. However, with advancement of medical sciences, urbanization, modernization, the younger generation is not interested and do not appreciate the importance of conservation of traditional knowledge as well as their tendency to migrate to cities to discard their traditional life style, there is a high risk of losing this wealth of knowledge as the traditional culture is disappearing. Hence, the author(s) stresses upon the urgent need of conservation and protection of the medicinal plants from the region.

Acknowledgements:-

The authors are greatly indebted to the *Tangkhul* healers and village elders of Ukhrul district for revealing their valuable information.

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