



Ethno medicinal Uses of Plants By Indigenous Tribal Medicine Practitioners of Sepahijala District of Tripura and Improvement of Tribal Health Status

KEYWORDS

Jampuijala, ethno-medicine, kaviraj, medicinal plants, questionnaires, health status

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ABSTRACT

Tripura is one of the seven states in the north eastern part of India with a geographical area of 10,491.69 sq. Km. It is bounded on the north, west, south and south-east by Bangladesh whereas in the east it has a common boundary with Assam and Mizoram. The total population of this state is about 36,71,032 as per 2011 census report and about 11,66,813 persons i.e. 31.78% of the total population of the state belonged to tribal community. The study area is situated in Jampuijala RD Block under Sepahijala district of Tripura State. Total tribal population in the study area is about 75,027 out of 79,564. The health service position in this area has not satisfactory. As a result tradition of ethno-medicine practice has been continued in the study area since ancient time with the help of indigenous tribal practitioners (Kavirajes). The objective of the study is to explore and enumerate the medicinal plants used by indigenous tribal patients and indigenous tribal medicine practitioners (Kavirajes). Kavirajes generally work with different plants, particular parts of plants, plant extracts or use extract in different combination for the treatment of various ailments of tribal people. In spite of its acceptance, the knowledge of kavirajes on ethno medicine are not properly documented and preserved. Data was collected through scheduled questionnaires and personal observations made during the field visit and deals with kaviraj and 100 number of patients. A total of 30 different medicinal plants were recorded along with their vernacular names, parts used and mode of utilization by indigenous tribal practitioners (Kavirajes) and tribal people of that area. In the present survey, it was observed that rural patients are more dependent on traditional ethno medicinal treatment used by indigenous medicine practitioners (Kavirajes). It is also revealed that 43% people of that area are fully depend upon kavirajes and 33% people depend on allopathy and 24% people are dependent on both allopathy and kavirajes. The use of ethno medicinal information has contributed significantly in drug discovery efforts and thus mass screening of plants will provide immense scope in finding new drugs and lead compounds. The present study revealed that tribals are primarily dependent on medicinal plants for the treatment of different diseases at minimum cost and have to improve their health status.

Introduction

Tripura is one of the seven states in the north eastern part of India with a geographical area of 10,491.69 sq. Km. It is bounded on the north, west, south and south-east by Bangladesh whereas in the east it has a common boundary with Assam and Mizoram. The total population of this state is about 36,71,032 as per 2011 census report and about 11,66,813 persons i.e. 31.78% of the total population of the state belonged to tribal community. The study area is situated in Jampuijala RD Block under Sepahijala district of Tripura State. Total tribal population in the study area is about 75,027 out of 79,564. The health service position in this area have not satisfactory. As a result tradition of ethno-medicine practice has been continued in the study area since ancient time with the help of indigenous tribal practitioners (Kavirajes). Kavirajes generally work with different plants, particular parts of plants, plant extracts or use extract in different combination for the treatment of various ailments of tribal people and others. In spite of its acceptance, the knowledge of kavirajes on ethnomedicine are not properly documented and preserved. A total of 30 different medicinal plants were recorded along with their vernacular names, parts used and mode of utilization by indigenous tribal practitioners (Kavirajes) and tribal people of that area. The present study revealed that tribals are primarily dependent on medicinal plants for the treatment of different diseases at minimum cost and have to improve their health status.

Back ground:

Botanical and forest plants have been used in traditional medicine for several thousand years. The knowledge of medicinal plants has been accumulated in the course many

centuries based on different medicinal systems such as Ayurveda, Unani and Siddha. In India, it is reported that traditional healers use 2500 plants species and 100 species of plants serve as regular sources of medicines. During the last few decades there has been increasing interest in the study of medicinal plant and their traditional use in different parts of the world. Documenting the indigenous knowledge through ethno-botanical and ethno-medicinal studies is important for the conservation and utilization of biological resources. Today according to the World Health Organization, as many as 80% of the world's people depend on traditional medicine for their primary healthcare needs. There are considerable economic benefits in the development of indigenous medicines and in the use of medicinal plants for the treatment of various diseases. Due to less communication means, poverty, ignorance and unavailability of modern health facilities, most people especially rural people are still forced to practice tradition medicines for their common day ailments. A vast knowledge of how to use the plants against different illness may be expected to have accumulated in areas where the use of plants is still of great importance and significance.

Objectives:

The objective of the study is to explore and enumerate the medicinal plants used by indigenous tribal patients and indigenous tribal medicine practitioners (Kavirajes) in Jampuijala RD Block under Sepahijala district of Tripura State in the treatment of various ailments and recorded it properly.

Materials and Methods :

Data was collected through scheduled questionnaires and per-

sonal observations made during the field visit and deals with kavirajs . A total of 30 different medicinal plants were recorded along with their vernacular names, parts used and mode of utilization by indigenous tribal practitioners (Kavirajes) and tribal people of that area. The Kavirajes were interviewed on day time guided field-walks through areas from where they usually collect their medicinal plants, pointed out the plants, local name and described their uses. Each of the indigenous tribal medicine practitioners (Kavirajes) in Jampuijala RD Block under Sepahijala district of Tripura was selected based on their previous experience of using medicinal plants in treatment and the data obtained from one tribal practitioners (Kavirajes) was crossed verified with the other. Data also collected and recorded from 100 number of patients who use plants as a medicine.

Results and Discussion :

The ethno medicinal aspect of indigenous tribal practitioners (Kavirajes) and tribal people of that area has been thor-

oughly studied for the first time. The present study reveals 30 different medicinal plants belonging to 26 families of angiosperms (Table 1) were reported to be used by indigenous tribal practitioners (Kavirajes) and tribal people of that area for the treatment of various ailments which includes Skin infections, Constipation, Kidney stone, Dysentery, Pregnancy Control, Catarrh and Cough, Rheumatism, Blood dysentery, Hematemesis, Abdominal pain, Spermatorrhoea, Hysteria, Muscle pain, Joint pain, Jaundice, Sexual power, Diabetes, Insomnia, Pain in vagina, Ring-worm, Gonorrhoea, Urinary, Menstrual pain, Mouth ulcer, Bone fracture etc. The results are summarized in table 1. Fabaceae contributed the largest number of plant species (3), followed by Lamiaceae (2), Piperaceae (2), Anacardiaceae (2) and others. In many cases, Kavirajes combined several species against a particular ailment.

Table No. 1 A total of 30 different medicinal plants were recorded along with their vernacular names, parts used and mode of utilization by indigenous tribal practitioners (Kavirajes) and tribal people of Jampuijala RD Block under Sepahijala district of Tripura.

Sl. No	Scientific Name	Family	Vernacular name	Parts used	Disease and mode of use
1.	<i>Asparagus racemosus</i> L.	Liliaceae	Shatomuli	Root	Hematemesis: 3-4 teaspoons juice of <i>Asparagus racemosus</i> root are mixed with 1 cup of milk and 1 cup of water and then boiled to concentrate. It is taken daily at morning until cure. Blood dysentery: 4 teaspoons juice of <i>Asparagus racemosus</i> root are mixed with 9-10 teaspoons of milk. It is taken twice daily for 2-3 days.
2.	<i>Abroma augusta</i>	Sterculiaceae	Ulot kombol	Stem	Dysentery: 1 inch size stem of <i>Abroma augusta</i> are cut into 2-3 pieces and soaked in water for one night. The water is taken daily in the morning for 5 days.
3.	<i>Calotropis procera</i> (Aiton)	Asclepiadaceae	Akondo mudar	Leaf	Digestive disorders with abdominal pain: Oil obtained from seeds of <i>Brassica campestris</i> is put on the straight part of <i>Calotropis procera</i> leaf and rubbed. The leaf is applied to painful areas. This process is repeated 3-4 times daily till cure.
4.	<i>Kalanchoe pinnata</i> L.	Crassulaceae	Pathor kuchi	Leaf	Jaundice: 6-7 leaves of <i>Kalanchoe pinnata</i> is washed and macerated to obtain juice. The juice is mixed with 1 banana and yogurt (coagulated milk). 125 ml of the mixture is to be taken twice daily for a week. Joint and muscle pain: Paste obtained from macerated leaves of <i>kalanchoe pinnata</i> is heated slightly. The warm paste is applied to painful areas and bandaged.
5.	<i>Mucuna pruriens</i> L.	Fabaceae	Alkushi	Seed, Root	Pain in vagina and enlargement of vagina due to parturition: Root of <i>Mucuna pruriens</i> is boiled in water. A sterile cloth soaked in the solution is applied on the vagina. This fomentation is repeated each day for 7 days. Spermatorrhoea: Seeds of <i>Macuna pruriens</i> are soaked in water or hot milk for 1 night. The seed pulp is then boiled in water and macerated to form paste. The paste is fried in small amount of clarified butter or ghee and mixed with sugar. 2 spoons of the mixture is taken twice daily for 7 days. 1 cup of milk is to be taken after eating it.
6.	<i>Ocimum sanctum</i> L. <i>Ocimum Basilicum</i> L.	Lamiaceae	Tulshi	Leaf, Root, Seed	Cough and throat infections: Equal volume crude juice of <i>Ocimum sanctum</i> leaves and honey are mixed. 1 teaspoon is taken daily 3-4 times till cure. Ring-warm: Equal volume of <i>Ocimum sanctum</i> leaf juice and lime (<i>Citrus aurantifolia</i>) juice are mixed. It is rubbed at the infected area. Spermatorrhoea: 10 gm seed pulp of <i>Caesalpinia bonducella</i> , 10 gm seeds of <i>Ocimum sanctum</i> and 10 gm leaves of <i>Ficus religiosa</i> are mixed and crushed. The powder of the mixture is macerated. Pills are prepared from the mixture. 1 pill is to be taken with 1 cup of cow milk twice a day. Insect bite: Juice of <i>Ocimum sanctum</i> leaf is rubbed at the infected area. It works as antiseptic.

7.	<i>Polygonum hydropiper</i> L.	Polygonaceae	Bishkatali	Leaf	Menstrual pain: Paste obtained from leaves of <i>Polygonum hydropiper</i> is mixed with 1 powdered fruit of <i>Piper nigrum</i> . Pills are prepared from the mixture. It is taken thrice daily for 2-3 days. Abortion: 1 cup of juice obtained from macerated leaves of <i>Polygonum hydropiper</i> is to be taken.
8.	<i>Tagetes patula</i> L.	Asteraceae	Gada	Leaf	External bleeding: Paste of <i>Tagetes patula</i> leaves is applied to cuts and wounds. Note that the paste is to be used as soon as possible after preparation.

Sl. No	Scientific Name	Family	Vernacular name	Parts used	Disease and mode of use
9.	<i>Vitis quadrangularis</i> L.	Vitaceae	Harvanga	Whole plant	Bone fracture: <i>Vitis quadrangularis</i> plant is macerated to form paste. The paste is applied thickly over the fractured area and bandaged with leaves of <i>Musa sapientum</i> or <i>Alocasia indica</i> . If there is too much fracture, the area is ribbed with mixed paste of <i>Vitis quadrangularis</i> cord, <i>Paederia foetida</i> leaf, <i>Vitex negundo</i> leaf and <i>Datura metal</i> leaf in a ratio of 2:2:2:1. This procedure is repeated with 24 hours interval.
10.	<i>Terminalia arjuna</i> (Roxb)	Combretaceae	Arjun	Bark	Heart problem: 5-6 gm bark of <i>Terminalia arjuna</i> is powdered. The powder is boiled in 1 cup of cow milk and ½ liter water to make 1 cup. The mixture is filtered and taken daily in the afternoon for 1 month.
11.	<i>Adhatoda vasica</i> Ness	Acanthaceae	Basak	Leaves	Cough and cold: Equal volume juice of <i>Adhatoda vasica</i> leaves and honey are mixed along with juice of <i>Zingiber officinale</i> Roscoe. 2 teaspoon of mixture are taken orally to cure severe cough problems.
12.	<i>Trichosanthes dioica</i> (Roxb.)	Cucurbitaceae	Potol	Fruit, Leaves	Acidity with constipation: 4-5 gm leaves of <i>Trichosanthes dioica</i> are boiled with ½ cup of water. 1 seed pulp of <i>Terminalia chebula</i> and 2-1 gm <i>Coriandrum sativum</i> are added into the boiled mixture. The mixture is filtered and taken daily in the morning in the empty stomach. The procedure is done for 5-7 days.
13.	<i>Piper longum</i> L.	Piperaceae	Pipul	Root	Catarrh with cough: Root of <i>Piper longum</i> is macerated to obtain juice. A red hot iron rod is immersed in the juice. 2 teaspoons are taken orally while still in a warm condition. This procedure is to be done thrice daily for 2-3 days.
14.	<i>Azadirachta indica</i> Juss	Meliaceae	Neem	Leaves	Skin infections: The crude extract of the leaves is applied locally for 4-5 days to cure skin infections and skin disease.
15.	<i>Lasia spinosa</i> (Linn.)	Araceae	Kantha	Rhizome	Arthritis and Rheumatic pains: The rhizome is boiled with water and garlic, applied locally to get relief from arthritis and rheumatic pains.
16.	<i>Leucas aspera</i> Link.	Lamiaceae	Ghal ghase / Dronful	Leaves	Wound and skin infections: The crushed leaves is applied locally and bandaged to cure to cure wounds.
17.	<i>Litsea monopetala</i> (Roxb.)	Lauraceae	Bara Kukurchita	Leaves	Jaundice: The aqueous extracts of leaves is taken orally for 5-7 days to cure jaundice.
18.	<i>Clitoria ternatea</i> L.	Fabaceae	Aparajita/ Nilkantha	Root Leaves	Hysteria: 1 teaspoon juice of <i>Clitoria ternatea</i> root and leaves is to be taken immediately in the acute condition.
19.	<i>Holarrhena antidysenterica</i> L.	Apocynaceae	Kurochi	Bark	Blood dysentery: 1 cupful of <i>Holarrhena antidysenterica</i> is boiled with 4 cup water to make 1 cup. 1.5 gm solution with trace amount of honey is licked 3-4 times daily till cure.
20.	<i>Diospyros peregrine</i>	Ebenaceae	Gaab	Fruit	Excessive bleeding during menstruation: 6-7 gm of young fruit of <i>Diospyros peregrine</i> is macerated to obtain juice. It is taken orally twice a day for 3 days. Note that it should not be taken during first 3 days of menstruation.

21.	<i>Datura metel</i> L.	Solanaceae	Kalu dhutura	Leaves Root	Rheumatism: Leaves of <i>Datura metel</i> are macerated to obtain juice. Equal volume of juice and oil obtained from seeds of <i>Brassica campestris</i> are mixed and heated slightly. The warm mixture is applied to places where there is rheumatic pain. This is done 2-3 times daily till cure of the pain.
22.	<i>Piper nigrum</i> L.	Piperaceae	Gol morich	Fruit Leaves	Menstrual pain: Paste obtained from leaves of <i>polygonum hydropiper</i> is mixed with 2 gm powdered fruit of <i>Piper nigrum</i> . Pills are prepared from the mixture. It is taken thrice daily for 2-3 days.
23.	<i>Phyllanthus emblica</i> L.	Euphorbiaceae	Amloki	Fruit	Urinary tract infection: 12 gm juice of <i>Phyllanthus emblica</i> fruit. 1 cup raw cow milk and trace amount of sugar candy are mixed. It is taken every morning for 7 days. Oral ulcers and constipation: The crude extract of the fruit is applied 2-3 times daily for 4-5 days to cure oral ulcers. The raw fruit is taken as laxative.
24.	<i>Syzygium cumini</i> L.	Myrtaceae	Jaam	Young leaves, Seeds	Diabetes: 2-3 gm powder of <i>Syzygium cumini</i> seeds is soaked in 1 cup water for one night. It is taken in the morning for 15 days. Note that this procedure is not applicable for patients with high blood pressure. Blood dysentery: Young leaves of <i>Syzygium cumini</i> are macerated to obtain juice. It is then filtered and heated slightly. 2-3 teaspoons warm juice are taken twice daily for 2-3 days. If possible, it is taken with goat milk.
25.	<i>Solanum sisymbriifolium</i> Lam.	Solanaceae	Kontikari	Leaves Cord	Catarrh with cough: 5 gm leaves and cord of <i>Solanum sisymbriifolium</i> , 12 fruits of <i>Piper nigrum</i> , 12 leaves of <i>Cinnamomum tamala</i> , 2 fruits of <i>Piper longum</i> , 5-6 gm bark of <i>Cinnamomum zeylanicum</i> , 5-6 gm rock salt and 24 gm sugar candy are mixed and boiled in ½ liter water. It is done in a clay pot. When it form 1 cup it is then cooled and filtered. The warm solution is taken once a daily for 7 days.
26.	<i>Punica granatum</i> L.	Lythraceae	Dalim	Bark	Intestinal disease(Otishar) 12 gm young fruit of <i>Aegle marmelos</i> , 12 gm bark of <i>Punica granatum</i> and 12 gm bark of kutraj are boiled in 1 liter water to make 250 ml. The mixture is then filtered. 30 ml is taken thrice a day till cure.
27.	<i>Mangifera indica</i> L.	Anacardiaceae	Aam	Young leaves Seed pulp	Dysentery: Equal amount young leaves of <i>Mangifera indica</i> and <i>Syzygium cumini</i> are macerated to obtain juice. It is heated slightly. 2-3 teaspoonfuls warm juice are taken daily for 2-3 days.
28.	<i>Abrus precatorious</i> L.	Fabaceae	Gunch/ Ratti	Seed pulp	Pregnancy control: The reddish portion of <i>Abrus precatorious</i> seed pulp is grinded. The powder is then entered into banana. It is taken orally before sleeping at night. It can prevent of being pregnant till 3 month. Note that nothing is to be eaten before and after 1 hour during eating it.
29.	<i>Caesalpinia bonducella</i> L.Roxb.	Caesalpinaceae	Nata karanja	Seed Pulp	Spermatorrhea: 10 gm seed pulp of <i>Caesalpinia bonducella</i> , 10 gm leaves of <i>Ficus religiosa</i> and 10 gm seeds of <i>Ocimum sanctum</i> are mixed and crushed. The powder of the mixture is macerated. pills are prepared from the mixture. 1 pill is to be taken with 1 cup of cow milk twice a day.
30.	<i>Lannea coromandelica</i>	Anacardiaceae	Jeol Bhadi Kamila	Bark	Loss of sexual power: Barks of <i>Lannea coromandelica</i> are mixed with barks of <i>Aegle marmelos</i> , barks of <i>Syzygium cumini</i> and barks of <i>Artocarpus heterophyllus</i> and soaked in water for one night. The solution is filtered and 500 ml is taken orally with 50 ml honey. This procedure is repeated daily in the morning for 3 days.

Table No. 2 : No. of patients had participated in scheduled questionnaires for their mode of treatments.

Sl. No.	Treatment	No. of patients	Percentage
1.	Kavirajes Treatment	43	43%
2.	Allopathic Treatment	33	33%
3.	Both Kavirajes and Allopathic Treatment	24	24%

Source : Primary Data

Conclusion:

The present study reveals 30 different medicinal plants belonging to 26 families of angiosperms (Table 1) were reported to be used by indigenous tribal practitioners (Kavirajes) and tribal people of that area for the treatment of various ailments which includes Skin infections, Constipation, Kidney stone, Dysentery, Pregnancy control, Ccatarrh and Cough, Rheumatism, Blood dysentery, Hematemesis, Abdominal pain, Spermatorrhea, Hysteria, Muscle pain, Joint pain, Jaundice, Sexual power, Diabetes, Insomnia, Pain in vagina, Ringworm, Gonorrhoea, Urinary, Menstrual pain, Mouth ulcer, Bone fracture etc. The results are summarized in table 1. Fabaceae contributed the largest number of plant species (3), followed by Lamiaceae (2), Piperaceae (2), Anacardiaceae (2) and others. In many cases, Kavirajes combined several species against a particular ailment.

In the present survey, it was observed that rural patients are more dependent on traditional ethno medicinal treatment used by indigenous medicine practitioners (Kavirajes). It is also revealed that 43% people of that area are fully depend upon kavirajes and 33% people depend on allopathy and 24% people are dependent on both allopathy and kavirajes. The use of ethnomedicinal information has contributed significantly in drug discovery efforts and thus mass screening of plants will provide immense scope in finding new drugs and lead compounds. The present study revealed that tribals are primarily dependent on medicinal plants for the treatment of different diseases at minimum cost and have to improve their health status.

Suggestions:

The use of ethno medicinal information has contributed significantly in drug discovery efforts and thus mass screening of plants will provide immense scope in finding new drugs and lead compounds.

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