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RESEARCH ARTICLE

Ethno Medicinal Plants Used by Tribal of Jawadu Hills in Tamil Nadu

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ABSTRACT

Jawadhu Hills are a range of hills. One of the largest in the Eastern Ghats in Thiruvannamalai District, in the northern part of the state of Tamil Nadu. About 80 Km wide and 32 Km long and they are bisected into Eastern and Western sections by the Cheyyar and Agaram rivers tributaries of the palar. Several medicinal plants are rich in Jawadhu hills. The herital medicines to cure a disease used by various tribes are tribal medicines. These medicines are safe, eco-friendly and bio-friendly plants based products for various diseases of tribals. The results of present study revealed that there is a wide usage of plants by tribes of jawadhu hills. The tribal knowledge of medicinal use of plant is still an unexploited area. At present tribal depend more on trained doctors of town which give them immediate relief from pain. Tribals have no ideas about the active principles of their drugs. Many medicinal plants are no longer used because of the knowledge had been passed to the present generation through the words of mouth. The role of tribals in the plant conservation is must for preserving plants for future generation.

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INTRODUCTION

India is a megadiversity country in the world. The country is represented by 400 different tribes and other ethnic groups with about 67.8 million total population. Tamilnadu is situated on the eastern side of the Indian peninsula and has 37 tribal communities. They are distributed in various districts (Ganesan, 2008). Nearly 80% of the world population depends upon traditional system of health care. Herbal medicine is widely practiced throughout the world from time immemorable (Rajadurai *et al.*, 2009). There are three ways in which plants have been found useful in medicine. First, they may be used directly as teas or in other extracted forms for their natural chemical constituents. Secondly, they may be used as agents in the synthesis of drugs. Finally, the organic molecules found in plants may be used as models for synthetic drugs. Other than medicinal plants many other plants also takes plays an important role in tribals life. Most of the tribals in India had learnt to use bamboos and palms to build their houses long past. The people of a tribe are tribals. The tribal and rural population is highly dependent on natural, cure for their healthcare needs. Tribe is an ethnic group that has a common cultural tradition, living in deep forest or on hills. The herital medicines to cure a disease used by various tribes are tribal medicines. These medicines are safe, eco-friendly and bio-friendly plant based products for various diseases of tribals in jawadu hills. Tribals generally obtained the medicine from a single species of plants. The indigenous traditional knowledge of medicinal plants of various ethnic communities, where it has been transmitted orally for centuries is fast disappearing from the face of the earth due to the advent of modern technology and transformation of traditional culture (Ganesan *et al.*, 2004). Awareness among the local community is one the most important task.

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MATERIALS AND METHODS

Jawadu hills are a range of hills, one of the largest in the Eastern Ghats, in Thiruvannamalai District, in the northern part of the state of Tamilnadu in southeastern India. About 80 Km wide and 32 Km long, they are bisected into eastern and western sections by the cheyyar and Agaram rivers, tributaries of the palar. The hills lie between East 78° 41' longitude and 12° 40' North latitude above mean sea level. It is an altitude of from 300 to 1000 mts. Jamunamaruthur is the main village in jawadu hills. The hills are famous for the sandal wood and fruit bearing trees. The hills had the history of tribal life and it helps us to understand the utilization of native plants as medicine to the tribes. For the awareness of medicinal potential of plants used by tribes in jawadu hills is presented in this paper. The history of jawadu hills reveals that inhabitants were dated back to the period of late stone age. Jawadu hills had the history of tribal life while witnessing the polished stones, the axes and other hunting materials. Their steep southeastern flanks are forested with sandal wood. In jawadu hills collection various medicinal nuts are labour intensive.

In the 1780s an employee of the British East India company convinced botanists in England to establish a network of naturalists in India reporting to the kew garden (British imperial Institute), (Grove, 1995). The hills are sparsely populated, grains, legumes and oil seeds are the chief crops. The eastern ghat comprising a line of hills, the Jawadis, shevroys, kalrayans, pachamalais and kollimalai between the palar and cauvery rivers and beyond and linked with the tail of cuddapah in the Nagari hills. Tribals make their life in Jawadu hills especially Malayali tribe. Evidences regarding the movement of Malayali tribal to the jawadu hills were from Kanchipuram during the Pallava period. The Myths connected to the migration of Malayali

tribe into jawadu hills have been described by Thurston (1909). Most of the Non-Timber forest products found in jawadu hills used for medicinal purposes. The forest herbs and leaves in jawadu hills are the best medicines for various diseases including asthma and abortion, etc.

RESULTS

A total of 24 Species of tribal medicinal plants distributed in jawadu hills were observed and their properties were collected and present in Table 1.

Table 1. List of medicinal plants used by tribes in jawadu hills

S. No	Name of the Plants	Family	Vernacular Name	Disorder	Part of the Plant used	Method of Preparation
1	<i>Aegle marmelos</i>	Rutaceae	Vilvam	Diabetes	Leaves	Leaves are dried and powdered used for diabetes.
2.	<i>Abrus precatorius</i>	Fabaceae	Kundumani	Eczema	Seeds	seeds of kundumani are crushed into paste used to cure eczema.
3.	<i>Achyranthes aspera</i>	Amaranthaceae	Nayuruvi	Internal piles	Leaf	Leaf of nayuruvi is boiled and consumed to relieve internal piles.
4.	<i>Cassia auriculata</i>	Caesalpiniaceae	Avaram poo	Reducing body heat	Flowers	Flowers are dried ,powdered and it used for cleaning the hair and reducing body heat.
5	<i>Centella asiatica</i>	Apiaceae	Vallarai	Gas trouble	Whole plant	The whole plant is dried,powdered and their powder mixed with hot water take internally to cure gas trouble.
6.	<i>Datura metal</i>	Solanaceae	Oomathai	Ear ache	Leaves	Juice extracted from oomathai leaves and few drops is poured into ear to treat earache.
7.	<i>Discorea oppositifolia</i>	Discoreaceae	vallikizhangu	Reducing body heat	Root tubers	Root tubers of vallikizhangu are boiled and taken orally to reduce body heat.
8.	<i>Leucas aspera</i>	Lamiaceae	Thumbai	Cough and cold	Leaves	Leaves of thumbai are boiled and vapours inhaled to relieve coughing and cold.
9.	<i>Morinda tinctoria</i>	Rubiaceae	Nuna	Dysentery	Leaf	Leaf extract of nuna is taken and used to cure dysentery.
10.	<i>melia azedarach</i>	Meliaceae	Malaiyembu	Stomach pain	Bark	Juice extracted from malaiyembu bark is taken internally to relieve stomach pain.
11.	<i>Prosopis cineria</i>	Mimosaceae	Vannimaram	Safeguard against miscarriage	Flowers	Flowers of vannimaram is pounded,mixed with sugar and used during pregnancy as safeguard.
12.	<i>Sesbania grandiflora</i>	Fabaceae	Agaththi	Peptic ulcer	Leaves	Soup prepared from the leaves of agaththi takes to cure peptic ulcer.
13.	<i>syzygium cumini</i>	Myrtaceae	Naval	Blood sugar level	Seeds	Seeds of naval are dried,powdered,mixed with hot water to reduce blood sugar level.
14.	<i>Tamarindus indica</i>	Caesalpiniaceae	puliamaram	Scorpion bite	Seed coats	Seed coats of puliamaram are crushed into paste and applied to a scorpion bite.
15.	<i>Vitex negundo</i>	Verbenaceae	Notchi	Head ache	Leaves	Leaves of notchi are boiled and inhale the leaves vapour to relieve headache.
16.	<i>Caesalpinia pulcherrima</i>	Caesalpiniaceae	Mailkondrai	Tooth ache	Seeds	The seeds of mailkondrai are ground and paste is applied to cure toothache.
17.	<i>Caesalpinia bonducella</i>	Caesalpiniaceae	Kalakaai	Nutritional	Leaf	A decoction is prepared from the leaf of kalakaai is used as nutritional tonic.
18.	<i>Ficus religiosa</i>	Moraceae	Arasu	Body pain	Leaves	The dried leaves of Arasu is powdered, mixed with water and takes normally to relief from body pain.
19.	<i>Cynodon dactylon</i>	Poaceae	Arugampul	Reduce blood pressure	Whole plant	The juice of the whole plant is used to reduce body heat and to lower the blood pressure
20	<i>Lawsonia inermis</i>	Lythraceae	Maruthani	Feet cracks	Leaf	Leaves are ground and prepared of Maruthani applied to foot cracks to cure it.
21.	<i>Moringa oleifera</i>	Moringaceae	Murungai	Increase fertility	Leaves and flowers	Leaves and flowers of Murungai are boiled and eaten to increase fertility in man.
22.	<i>Mangifera indica</i>	Anacardiaceae	Maamaram	Bleeding during mensus	Seeds	Seeds of Maamaram ground with cow's milk is takes to arrest excess bleeding during mensus.
23.	<i>Murraya kenigii</i>	Rutaceae	Karuveppilai	Vomiting	Tender leaves	Juice of tender leaves of karuveppilai is takes orally to arrest vomiting.
24.	<i>Sida cordata</i>	Malvaceae	Arrival manippundu	Diarrhoea during pregnancy	Leaf	The leaf juice of Arrival manippundu is given to treating diarrhoea during pregnancy.
25.	<i>Jasminum angustifolium</i>	Oleaceae	Malligai	Clot of Breast milk	Leaves and flowers	Leaves and flowers paste of Malligai applied externally to remove the clot of Breast Milk.

1. **Diabetes:** Leaves of vilvam (*Aegle marmelos*) are dried and powdered used for diabetes.
2. **Eczema:** Seeds of Kundumani (*Abrus precatorius*) are crushed into paste used to cure eczema.

3. **Internal piles:** Leaf of Nayuruvi (*Achyranthes aspera*) is boiled and consumed to relieve internal piles.
4. **Cleaning the hair:** Flowers of Avaram poo (*cassia auriculata*) are dried, powdered and it used for cleaning the hair and reducing body heat.
5. **Gas trouble:** The whole plant of Vallarai (*Centella asiatica*) is dried,powdered and their powder mixed with hot water take internally to cure gas trouble.
6. **Earache:** Juice extracted from Oomathai (*Datura metal*) leaves and few droups is poured into ear to treat earache.
7. **Reducing body heat:** Root tubers of Vallikizhangu (*Dioscorea oppositifolia*) are boiled and taken orally to reduce body heat.

- Juice take from Arugampul (*Cynodon dactylon*) is used to reduce body heat,and to lower the blood pressure.
8. **Cough and Cold:** Leaves of Thumbai (*Leucas aspera*) are boiled and vapours inhaled to relieve coughing and cold.

9. *Dysentery*: leaf extract of nuna (*Morinda tinctoria*) is taken and used to cure dysentery.
10. *Stomach pain*: Juice extracted from Malaivembu (*Melia azedarach*) bark is taken internally to relieve stomach pain.
11. *Safeguard against miscarriage*: Flowers of Vannimaram (*Prosopis cineraria*) is pounded, mixed with sugar and used during pregnancy as safeguard.
12. *Peptic ulcer*: Soup prepared from the leaves of Agaththi (*Sesbania grandiflora*) are taken to cure peptic ulcer.
13. *Blood sugar level*: Seeds of Naval (*Syzygium cumini*) are dried, powdered, mixed with hot water to reduce blood sugar level.
14. *Scorpion bite*: Seed coats of Puliymaram (*Tamarindus indica*) are crushed into paste and applied to a scorpion bite.
15. *Head ache*: Leaves of Notchi (*Vitex negundo*) are boiled and inhale the leaves vapour to relieve headache.
16. *Tooth ache*: The seeds of Mailkondrai (*caesalpinia pulcherrima*) are ground and paste is applied to cure toothache.
17. *Nutritional Tonic*: A decoction is prepared from the leaf of Kalakaai (*Caesalpinia bonducella*) is used as nutritional tonic.
18. *Body pain*: The dried leaves of Arasu (*Ficus religiosa*) is powdered, mixed with water and takes normally to relief from body pain.
19. *Feet cracks*: A leaf paste of Maruthani (*Lawsonia inermis*) applied to food cracks to cure it.
20. *Increase fertility*: Leaves and flowers of Murungai (*Moringa oleifera*) are boiled and eaten to increase fertility in man.
21. *Bleeding during mensus*: Seeds of Maamaram (*Mangifera indica*) ground with cow's milk is taken to arrest excess bleeding during mensus.
22. *Vomiting*: Juice of tender leaves of Karuveppilai (*Murraya koenigii*) is taken orally to arrest vomiting.
23. *Diarrhoea during pregnancy*: The leaf juice of Arrival Manippundu (*Sida cordata*) is given to treating diarrhoea during pregnancy.
24. *Clot of Breast milk*: Paste of Leaves and flowers of Malligai (*Jasminum angustifolium*) applied externally to remove the clot of Breast Milk.

DISCUSSION

Medicinal plants are plants used as natural medicines. This practice of existed since prehistoric times. The therapeutic properties of medicinal plants are conditional by the presence in their organs of active substance, such as alkaloids, flavonoids, glycosides, vitamins, Tannis and coumarin compounds, which physiologically affect the bodies of human and animals or which biologically active in relative to the causative agents or various diseases. A special group of medicinal plants are antibiotics.

The tribal and rural population of India in general and Tamil Nadu in particular is highly independent on natural cure for meeting their healthcare needs. Traditional healers, use their eyes, ear, nose and hands to diagnose the diseases, this way of diagnose is interesting because they live in interior areas and lake the use of modern scientific equipment for treatment, they however treat diseases using medicinal plants (Santhya et al., 2006). The forests of Jawadhu hills are rich in medicinal plants. Over use of plants affect the flora it will leads to harmful for future ancestors. The ancestors of tribes had acquired some knowledge about medicinal plants by their experiences. Otherwise technically advanced people need to understand the problems of destruction before conserving the plants. The results of present study revealed that a wide usage of plants by tribes of jawadu hills. Many medicinal use of plants are endemic to certain tribes. Recently, considerable attention has been given to utilize eco-friendly plant based products for the prevention and cure of different diseases. The tribal knowledge of medicinal use of plants is still an unexploited area. A majority of Non-Timber forest products in jawadu hills is for medicinal use. At present tribal depend more on trained doctors of town which give them immediate relief from pain. Tribals have no ideas about the active principles of their drugs. Several medicinal plants rich in jawadu hills. Many medicinal plants are no longer used, because of the unawareness of the people about the medicinal values of plants. The ancestors of tribes had acquired some knowledge about plants by their experiences. The knowledge had been passed to the present generation through the words of mouth. The role of tribals in the plant conservation is must for preserving plants for future generation 24 species of commonly available medicinal valuable plants recorded here for the awarness of future generation.

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