ejpmr, 2017,4(11), 602-609

SJIF Impact Factor 4.161

EUROPEAN JOURNAL OF PHARMACEUTICAL AND MEDICAL RESEARCH
www.ejpmr.com

Research Article
ISSN 2394-3211
EJPMR

THERAPEUTIC PLANTS USED BY THE NATIVE VILLAGERS OF NORTHEAST KERALA PART OF WESTERN GHATS

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Article Received on 20/08/2017 **Article Revised on 10/09/2017** **Article Accepted on 30/09/2017**

ABSTRACT

Background: Folk society tradition that include farming, livestock supervision to make the agro-products to establish the agro forest environment. It has been found that traditional plants hold therapeutic components that have adequate potential to battle against both communicable and non communicable diseases. Malayan ethnic people residing in Palakkad and Thrissur districts are supplies many herbs to Ayurvedic industries from Western Ghats part of Kerala; nevertheless, themselves they are treating their diseases with herbal medicine. Hence, the current study had documented aboriginal traditional medicinal knowledge of them in the study area. **Materials and Methods:** The ethnomedicinal survey was carried out in the ethnic folk villages around north east Kerala part of Western Ghats. The survey has been conducted from August 2015 to August 2017. With the help of Questionnaire form interviews and discussions were taking place in between researcher and the folk people according to the methodology suggested by Jain. **Results:** The present study has documented ethnomedicinal usages of 36 plants belonging to 27 families were used by aboriginal peoples towards the treatment of diseases by using different herbal formulations such as decoction, juice, paste and infusion in the study area. Quite fascinatingly the seed powder of *Bixa orellana* L. Bixaceae and fruit paste of *Nephelium lappaceum* L., Sapindaceae used to remove dark spot around the eye and cheek was surprised to know. Other plants also used in cosmetic purposes like aloe juice, *Pterocarpus santalinus*, Blanco, Leguminosae and *Curcuma aromatica* Salisb., Zingiberaceae widely used in the study area as natural cosmetic products. **Conclusion:** Many of the plants listed here have been supplied to herbal drug industries in Kerala by ethnic people; at the same time themselves they are using plant sources for treating diseases. Government authorities have to take necessary steps to promote the cultivation of highest use value therapeutic plants in the forest wastelands through ethnic peoples of Kerala to make their lifestyle getting improved. The current study paves the way for researchers towards developing new drug molecules from the listed plants here.

KEYWORDS: Herbal cosmetic, Ethnomedicine, Kerala, Agro forest, Malayan, Western Ghats.

INTRODUCTION

Medicinally used foliages are highly imperative, current usage of plant-sources, references came from ancient texts that were available in the form of science of life. Natural medicine not only popularizes in one region, universally it was accepted and practiced throughout the earth in two forms suchlike traditionally used category and modernized medicine sectors. Alternative medicine further grouped into Ayurveda, Siddha, Unani these are well-organized Indian system of medicines other is the folk system of an unorganized section of medical systems.[1]

After emergence of the humanities in globe, vegetation barely functioned as foodstuff other than it exhausted as medication of humankind, those who inhabited resided in the diverse macroclimatic area. Times past makes known, an ancient person has suffered many ailments in the form of epidemics and endemics. Those who want to stay alive; they must possess immunity to tolerate infectious syndromes or else they had taken herbaceous remedial. Currently, humanness suffered several contagious or non-transmissible afflictions. Many illnesses are not curable,[2] it needs instant consideration of alternative complementary therapies towards saving the patient's life.

To battle towards the disease organisms, synthetic drugs employed for managing illness, even so, many drugs created numerous unsympathetic responses to humans. In addition, most of the pathogens developed resistance against the antibiotics. The plant-based medicine makes persons healthful together with ailments liberated from population, natural products and ancient medicines efficiently heal the sick-peoples. There is proof in the great religious manuscript that earliest human civilization identified as herbs are cultural medicaments, it's confirmed through village society's utilized herb-

products in favour of medicinal purposes. Folk medicinal practices which include gardening, livestock supervision to do the things to establish the agro forest environment. It has been found that traditional plants hold therapeutic components that have adequate potential to battle towards diseases.[2] Current studies have done the survey of documented ethnomedicinal information on the folk villages of Kerala part of the Western Ghats in Palakkad and Thrissur forest circles.

2. MATERIALS AND METHODS

2.1. Study area

Malayan tribes residing in a small village settlement in Chelakode, Manakulambu, Povanchira, Kombazha, Karadikundu, Mayannur, Thiruvilwamala, Chulanur and Pazhambalacode of Palakkad and Thrissur districts, Kerala.[3] Many of the folk peoples residing in separate area namely Adhivasi colony. Most of the people were doing laborious work; In addition, they collected herbs, honey and gummy resin like Kungiliyam in their surrounding forest areas. Most of the families residing in the government aided tiny homes. Both male and females knew many therapeutically used plants. The current study had documented ethnomedicinal knowledge of folk villagers residing around forest circles of Kerala part of Western Ghats.

2.2. Interviews with folk village people

The ethnomedicinal survey had been carried out from August 2015 to August 2017 in the ethnic villages of Palakkad and Thrissur forest circles. During the field survey, interviews had conducted with folk peoples about the usage of plants with semi structured questionnaire, interviews and discussions had been taking place in between researcher and the folk people in their local language according to the methodology suggested by Jain (1995).[4] The question form arranged in both Malayalam and English languages, has given to the informants of the folk village. The study documented the information relevant to demographic profiles of informants and their ethnomedicinal knowledge that includes the name of the plant in local language, part of the plant used for medicinal purpose and mode of preparations, mode of administration, Indications and dosage have been compiled.[5,6]

2.3. Ethical Consideration

Informants had well informed about the aim and outcome of the study, after getting their oral consent, the interview had been carried out.

2.4. Data analysis

All the data were collected from folk peoples were computed by using the MS Excel spreadsheet for the percentage calculation.

3. RESULTS

3.1. Sociodemographic profile of Informants in the study area.

Totally 255 knowledgeable informants have been interviewed for this study among these 126 males and 129 females were interviewed and all belong to a folk village around Palakkad and Thrissur forest circles. Most of the informants have interviewed were in the age range between 25 to 85 years. Relevant to level of education, most of the informants have studied school education. The current study has found women are more knowledgeable than men.

3.2. Plant families

The present study had compiled information related to the use of 36 plants belonging to 27 families were used by people in the study area. Each 3 families in Apocynaceae and Leguminosae and each 2 families in Lamiaceae, Fabaceae, Rubiaceae, Euphorbiaceae, Malvaceae. Each one family in Acanthaceae, Anacardiaceae, Asteraceae, Asparagaceae, Asclepiadaceae, Bixaceae, Burseraceae, Cucurbitaceae, Convolvulaceae, Flacourtiaceae, Meliaceae, Myrsinaceae, Menispermaceae, Piperaceae, Phytolaccaceae, Passifloraceae, Poaceae, Solanaceae, Sapindaceae, Trichopodaceae.

3.3 Part of the plant used categories

Totally 53 plant parts have been used by folk villagers in the study area to make the variety of formulations, towards the treatment of illness. The plant parts were leaf 14 (26.41%), root 14 (26.41%), Fruit 8 (15.09%), Bark 4 (7.54%), Seed 2 (3.77%), Whole Plant 5 (9.49%), Tuber 1 (1.88%), Flower 2 (3.77%), Stem 1 (1.88%), Wood 1 (1.88%), Rhizome 1 (1.88%).

3.4. Route of administration of crude drugs

The highest numbers of herbal formulations have given via oral route most of them are decoction, juice and infusion. Totally 50 preparations were taken in the study area, among this oral administration is estimated as (34) 68% and 16 herbal preparations were applied outwardly estimated as 32%.

3.5. Formulation categories

Solo vegetation helped to make formulations in variety, sometimes only a few preparations taken as poly herbal formulations. Totally 43 plant products were consumed in different form in the study area is as follows Decoction (15) 34.88%, Juice (14) 32.55%, Paste (4) 9.30%, Oily preparation (4) 9.30%, Infusion (4) 9.30%, Volatile oil (1) 2.35% and milk preparatrion (1) 2.32%. The therapeutic plants used by folk villagers in Chelakode, Manakulambu, Povanchira, Kombazha, Karadikundu, Mayannur of Palakkad and Thrissur districts of Kerala are listed in the table 1.

Table 1: List of medicinal plants utilized by the villagers in Thrissur and Palakkad forest tract, Western Ghats, South India.

Sr. No.	Genus species	Local name	Part used	Dosage form	Indications	Route
1.	*Amherstia nobilis* Wall., Leguminosae	Shimshipa-vriksham /Tree	Lf.	Decoction	Anti-diabetic	Oral
2.	*Abrus precatorius* L., Fabaceae	Kunni / Climber	Lf. Rt. Lf.	Juice Decoction Juice in oil	Tonsillitis, Sinusitis, Anti-inflammatory Anti-diabetic Oedema absorbent	Oral Oral External
3.	*Asparagus racemosus*. Wild. Asparagaceae	Sathavari/ Climber	Rh.	Juice	Nutritive, Galactagogue Leucorrhoea	Oral
4.	*Bixa orellana* L. Bixaceae	Kunku makai Tree	Fr. Sd.	Paste mix in milk	Remove black spot on the skin, natural dye	External
5.	*Canarium strictum* Roxb. Burseraceae	Kundirik kam / Thelli /Tree	Bk.	Resin gum in oil	Analgesic	External
6.	*Coscinium fenestratum* (Gaertn.) Colebr. Menispermaceae	Maramanjal Climber	Rt. Wd.	Decoction	Appetizer, Anti-diabetic, Anti-haemorrhage, Anti-pyrexia, Anti-microbial, Aphrodisiac, Antacid, Dyspepsia	Oral Oral
7.	*Coccinia grandia* (L.) Voigt Cucurbitaceae	Kovakka/ Climber	Fr. Rt.	Juice Decoction	Stomach ulcer Anti-diabetic	Oral Oral
8.	*Croton tiglium* L. *Euphorbiaceae*	Neervallam/ shrub to small tree	Sd.	Decoction	Anti-psychosis, Cure indigestion in elephant	Oral
9.	*Desmodium gangeticum* (L.) DC. Fabaceae	Orila/ Pulladi/ Herb	Rt.	Alcoholic infusion	Nutritive /Dasamoola arista	Oral
10.	*Embelia tsjeriam-cottam* (Roem. &Schult.)A.DC. Myrsinaceae	Ammi muriyan/ Shrub	Fr.& Fl. Bark	Decoction	Anthelmintic Poison	Oral
11.	*Flacourtia jangomas* Steud. Flacourtiaceae	Lavalolikka/ Vayangatha/ tree	Lf. Rt.	Decoction Decoction	Gall bladder stone, Digestive	Oral Oral
12.	*Gmelina arborea*, Roxb., Lamiaceae	Kumizhu/ Tree	Rt.	Alcoholic infusion	Enhance Immunity Nutritive, (Dasamoola arista)	Oral
13.	*Hibiscus rosa-sinensis* L., Malvaceae	Chembarathi/S hrub	Fl.	Decoction	Anti cholesteremic Regulate menstrual cycle	Oral
14.	*Holostemma adakodien* Schult. Asclepiadaceae	Padala kizhangu /climber	Tr. boil in oil	Medicated Oil	To treat Rheumatism	External
15.	*Ichnocarpus frutescens* Naves. Apocynaceae	Palvalli /Climber	Rt.	Decoction	Tonic, Diuretic Diaphoretic, Coolant	Oral
16.	*Ipomoea pes*tigridis L., Convolvulaceae	Pulichuvatu/ Climber	Rt.	Juice	Anti dote -Snake bite & dog bite, Analgesic	Oral
17.	*Minthostachys setosa*(Briq.) Epling. Lamiaceae	Muna/Shrub	Wp. Rt.	Juice Infusion	Anti-diarrhoea Enhance Immunity	Oral Oral
18.	*Morinda pubescens* Sm. Rubiaceae	Manja pavitta/ Tree	Lf.	Juice	GIT ulcer, stomatitis, Gouty arthritis	Oral
19.	*Nephelium lappaceum* L., Sapindaceae	Rambutan /tree	Fr.	Fruit with milk paste	Black spots around eye and face	External

20.	*Naregamia alata* Wight & Arn. Meliaceae	Nila naragam/ herb	St.	Ritual	Funeral customs	External
21.	*Passiflora foetida* L.Passifloraceae	Passion fruit	Lf. Fr.	Juice	Anthelmintic	Oral
22.	*Pachystachys lutea* Nees., Acanthaceae	Njottano diyan/Shrub	Ep.	Juice	Anti-hypertensive	Oral
23.	*Piper longum* Blume Piperaceae	Thippali/ Shrub	Rt. Fr.	Decoction	Tooth pain, Analgesic, Antipyretic, Bronchitis	Oral
24.	*Pterocarpus santalinus* Blanco. Leguminosae	Raktha chandanam/ Tree/	Bk./ pith Wd.	Powder Decoction	Pimples, Diabetes, Anti-cholesteremic	External Oral
25.	*Rivina humilis*, L., Phytolaccaceae	Rakthanelli Herb	Wp.	Decoction	Stomach ailments, balancing tridosa, Anti-Tumour, Cough, Asthma, Inflammation, Skin Diseases	Oral
26.	*Rubia cordifolia* L. Rubiaceae	Manjetti /climber	Rt. Lf. Fr.	Decoction Decoction Juice	Jaundice, Piles, Anti-dysenteric, Anti pyretic, Anthelmintic Anti-tumour, diseases of the spleen and uterus Leucoderma, Stomach ulcer, Urinary discharges	Oral Oral Oral
27.	*Spondias mangifera* Willd. Anacardiaceae	Ambayam / Ambazham Tree	Fr.	Juice	Anti- Psychosis , Digestive, Mouth ulcer, Tonsillitis, Cough	Oral
28.	*Sida rhombifolia* L., Malvaceae	Kurunthotti/ Shrub	Rt. Lf. Lf.	Decoction Juice Juice	Rheumatism Anti –dandruff Hair growth	Oral External External
29.	*Saraca asoca* (Roxb.) Leguminosae	Ashokam/ small-tree	Bk.	Infusion Ashoka arista	Amenorrhoea Menorrhagia Dysmenorrhoea	Oral
30.	*Solanum surattense* Burm.f. Solanaceae	Kandakari chunda/herb	Lf. Wp.	Paste	Sprain, Rheumatism	External message
31.	*Tragia involucrata* L. Euphorbiaceae	Kodithoova/ herb	Rt. Lf.	Juice	Bronchitis	Oral
32.	*Trichopus zeylanicus* Gaertn. Trichopodaceae	Arogyap pacha/herb	Ft. Lf.	Juice	Edible General tonic	Oral
33.	*Vetiveria zizanioides* Nash in small. Poaceae	Ramacham/ herb	Rt. Lf.	Decoction Volatile oil	Febrifuge, Coolant Anti-septic	Oral External
34.	*Vallaris solanacea* K.Schum. Apocynaceae	Vishappala/ Vishamooli /Shrub	Lf.	Juice	Antidote for reptiles	External
35.	*Vernonia cinerea* Less.Asteraceae	Pirina / Puvankurnal /Herb	Wp. Lf.	Decoction Paste	Fever, Cold, Flu Remove dirt in the eye	Bathing external External
36.	*Wrightia tinctoria* R.Br. Apocynaceae	Dhanthappala/ Tree	Lf.	Medicated Oil of leaf	Natural dye/ hair growth, Psoriasis, Pimples, Eczema, Dandruff, Skin Diseases	External External

Abbreviations: plant parts used: Wp – Whole plant, Rt – root, Lf – leaf, Bk- bark, Bb – bulb, Fr – fruit, Rh – rhizome, St – stem, Fl – flower, Lx –Latex, Sd- Seed, Wd-Wood, Tr-Tuber.

DISCUSSION

Nowadays we utilized much of ecological products for running our daily life, so that demand for these commodities increased. Abundant plant based molecular investigations were carried out in the research centre around the world, there are more than 3000 units of plants knew as medicinally functional possessions.

Reports say there were 40% of global peoples chooses alternative medicine as their choice, the reason is it is least cost and provides with protected health care. Highly, frequently used plant based sources are getting red listed since such kinds may not exist for our forthcoming generation, hence global organizations and governmental sectors have taken necessary steps to protect endangered flora faunas.[1]

Speedup modernization of manufacturing sectors went to unimaginable raise of disturbances in the habitation of diverse Organics; quite large members of the endemic class of greeneries facing menace, some of the floras decisively in dangers of extinction were demarcated and kept in red index, those kinds requires war measures protections for its maintenances to keep them alive for future generations. Nativity medications have much curative functionality; in order to assemble all information's on plants, treatment is needed to know about the amount of vegetations used in folk medicines as well as consumption in the herbal drug industry and to monitor the metric tons of import and export trade of a particular plant species. Thus, collecting trade data of potential natural products has given opportunity to statisticians towards computing overall development in the field herbals medicine and its trade enlargement.[1]

Amherstia nobilis is a tree of tropical forest, have large, showy flowers. This ornamental plant is usually cultivated for decorative purposes in front of the home and office. The scientific name memorializes Lady Amherst, (as does Lady Amherst's pheasant) and her daughter Sarah.[7] The small quantity of leaf juice has given rarely for the treatment of diabetes in the study area. *Abrus precatorius* (L) is generally called as Indian liquorices illustrated various pharmacological activities. In Unani, seeds are used as an abortifacient. In Ayurveda this plant was well recognized for its anti tumour properties, Abrin-A and B were two toxic antitumour proteins separated from seed.[8] In-contrast, despite of therapeutic value, seeds were capable to produce severe toxicity in humans.[9] Leaf juice of this herbage is sweet taste, given to cure tonsillitis, sinusitis and burning conditions and root decoction for treatment of lowering blood sugar level in the study area. Leaves are mainly used in traditional medical practice to cure skin diseases, menstrual pain and blood cancer, eye inflammation and vitiligo, stomatitis, gonorrhoea and skin wounds.[10] Root preparation given to child for curing cough, goitre and cervical lymph node enlargement, decoction act as diuretic and employed to avoid unwanted pregnancy.[11]

Shatavari (*Asparagus racemosus*) is described in Ayurvedic texts for prevention and management of gastric ulcers, dyspepsia and as a galactogogue. A number of Ayurveda physicians recommended root of this plant for neuro-complaints, inflammation, liver disorder and communicable diseases.[12] The seed powder of *Bixa orellana* L. Bixaceae used to remove dark spot around the eye and cheek was surprised to know. The numbers of studies performed with extracts of *Bixa orellana* L., were antibacterial activity, anti-malarial activity and antifungal activity and mutagenic activity.[13] *Canarium strictum* Roxb. Syn *C.* sikkimense King (Burseraceae) is secreted resin from the wounded trunk of the tree, which is being used in tribal area to treat asthma, coughs, fever, epilepsy, rheumatism, chronic skin diseases and haemorrhage.[14] *Coscinium fenestratum* (Menispermaceae) usually well aware woody-tree, traditionally it has been used to treat eye disorders, inflammation, hypertension, jaundice, diabetes and snake bites, ulcers, skin diseases, hypoglycaemic activities of alcoholic stem extracts of *Coscinium* have been confirmed in rat models.[15] The plant extracts of *Coccinia grandis* have exhibited noteworthy activities in animal models such as nociception blockers, Pyrexia-elevator, antimicrobial and anti-inflammatory activities.[16]

Seeds of *Croton tiglium* L. used in alternative medicine for lots of applications such as wound healing, constipation, a purgative and dyspepsia and dysentery.[17] *Desmodium gangeticum* has high therapeutic value and is used as digestive, anti-catarrhal, bitter tonic, febrifuge, anti-emetic, which are caused by vata disorders.[18] *Eupatorium triplinerve* commonly well known decorative shrub; aroma oil had shown sedation effects, alcoholic-extract illustrated Anthelminitic activity. *Flacourtia jangomas* exhibited anti-inflammatory, Antioxidant, Anti-septic and Anti-diabetic.[19]

Embelin content in *Embelia tsjeriam cottam* has exhibited various pharmacological activities like hepatoprotective, antimicrobial, antidiabetic, wound healing, anticancer, antioxidant, analgesic, anti-inflammatory, anti-proliferative, cardio-protective properties.[20] *Gmelina arborea* Roxb is an important medicinal plant; it is extensively used traditionally as Antimicrobial, Anti-Diabetic, Diuretic, Hepatoprotective, Antihelmintic, and Antiepileptic agent.[21] *Hibiscus rosasinensis* an encircling blossoming shrub, used as Antihypertensive, Anti-diabetic, Anti-oestrogenic and Anti-microbial.[22] *Holostemma adakodien* Schult **(**Asclepiadaceae), is demonstrated various therapeutic properties such as Antidiabetic, Antipyretic, antibacterial, Anti-inflammatory Activity, Antioxidant activity, This plant is having large market potential; more than 150 tonnes are demanded each year in southern Indian pharmaceutical industries.[23]

Ichnocarpus frutescens is a medicinal plant, given various formulations made with this plant given orally to treat dysentery, glossitis, heamaturia, measles, bleeding gums, convulsions, cough, delirium, etc.[24] Ethanol extract of *Ipomoea pes-tigridis* shows greater activity on HEPG2 cell line that means *Ipomoea pestigridis* can be used as an anticancer activity, particularly for liver cancer.[25] *Minthostachys setosa* The researchers conducted larval demolition execution was investigated by dichloromethane extract, a highly effective report

attained on larvicide efficacy; it can helpful for developing a new formulation of the larvicidal natural composition.[26] Tribe of Kongu Malayan used whole Plant *Minthostachys setosa* to drive out mosquitoes.[27]

The formulation made from root of *Morinda pubescens* has given for constipation, anti- inflammatory, Anti-haemorrhage, dysentery, inflammations, boils and general weakness.[28] *Nephelium lappaceum* the rind of this fruit demonstrated superior antioxidant. Root potion prepared from *Naregamia alata* is used to cure eczema, pruritus and scabies.[29] A passion flower (*Passiflora foetida*), fruition of this plant used to manage asthma.[30] Fruit juice have anti-anxiety property, both leaves and fruits are given orally as an anti-insomnia drug.[31] Leaves and root decoction of this plant used to cure hysteria. In Assam Mishing tribe using *Pachystachys lutea*, root decoction for the treatment Pneumonia.[32]

Generally, the plant *Piper longum* named peppercorn rose, alleviate illness, additionally, it improves bio-accessibility of the variant-pills.[33] *Pterocarpus santalinus* is commonly named as Raktachandan. It has significant curative property, it recommended as one of the ingredient in many of the Ayurveda, Unani and Siddha medicines from the prehistoric time.[34] *Rivina humilis* contains betalains in its berries. Most of the phytochemicals of this plant assist to defend cells towards the oxidative damage mediated by the free radicals.[35] *Rubia cordifolia* (Indian Madder) is a prehistoric, tribal healing plant in India. Ethno-medicinal significance of the root is recommended in Indian conventional drug that cure blood vomiting and blood in urine and other types of inflammations, ulcers and skin ailments.[36]

Leaf and seed of *Solanum nigrum* contains vitamins, berries exhibited antibacterial, antifungal, anti-convulsant, antiulcerogenic actions.[37] Whole plant of *Sida rhombifolia* juice is given orally to human adult to diminish the rheumatic pain. The leaf juice mixed with sesame oil for the management of snake bite.[38] *Saraca asoca* have antimicrobial action, it helps in delays aging-phases, anti-cancer, guard all organs, make themselves-actionable, destroy the worms, have the broadest selection of neuroprotective.[39]

Solanum surattense fruit juice is given in bronchial asthma. Entire plant decoction is very effectual in skin illness. Leaf juice is given orally for arthritis.[40] *Tragia involucrata* preparations prevalently as different sickness, this is primordial medication.[41] Root and leaf juice given for treatment of respiratory tract infections in the study area. *Trichopus zeylanicus* demonstrated hepatoprotective activity, aphrodisiac activity, immune-modulator activity, anti-fatigue, antioxidant, adaptogenic properties.[42] The plant *Vetiveria zizanioides*, is extensively positioned as medication since prehistoric times to care for various medical diseases including epilepsy. The oil extracted from the roots is useful in depression, anxiety, nervousness, insomnia, rheumatism, sprain and headache.[43]

Vallaris solanacea (Roth) Kuntze twiners raised 10m Heights. By tradition, the milky latex of this plant can be spread on the skin to cure ringworm and other skin infection, including sores, cuts and wounds. Cardiac glycosides, fatty acids and triterpenes have been isolated from the leaves and seeds. Leaves and barks of have property of inflammatory suppression, anticancer, antimicrobial, analgesic properties.[44] *Vernonia cinerea* is alternative medicaments. Each segmented helps therapeutically. It cures numerous diseases such as maggot infestation, pulsation malignant cells, inflammation and gastrointestinal illness.[45] In Indian traditional medication, the bark and leaves of *Wrightia tinctoria* are used as a poultice for mumps and herpes in addition to caring for stomach pains, toothache, and dysentery, the oil emulsion of the pods, 777 Oil, is used to treat psoriasis.[46] In the Siddha, plant decoction is prescribed to heal psoriasis and other skin disease.

CONCLUSION

Rural medications followed by the native community as first choices of their therapies, therefore gathering, and dispensation herb-goods have given plenty of jobs in daytime. Many women are edged with collecting and drying process along with male peoples, most of the time gents performing pulverized or wood cutting, shaping work. Many number micro, macro industries depend on villagers for greeneries resources.[1] [78] Likely, folk people rely on traditional medicines production industries for their income vice versa. Numerous plants listed here will be helpful for researchers to extract them to separate the therapeutically potent bioactive molecules in the near future.

ACKNOWLEDGEMENTS

The author grateful to the folk people of Thrissur and Palakkad part of Western Ghats, Kerala without their information and direction this research study would not have been completed, author also thank Mr. Babu, Chulanur Pea Fowl Sanctuary, Kerala forest department for helps the author during the field survey.

Conflict of interest

The Author has not declared any conflict of interest.

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