Local Health Traditional Practices of Koppal District, Karnataka, India

Nagayya Shiddamallayya, Rama R Vendrapati, Sanjay K Gir, Shashidhar H Doddamani, Malalur N Shubhashree, Sulochana Bhat, Chinmay Rath, Bonthu Susmitha, Ashish K Tripathi, Anupam K Mangal, Narayanam Srikanth, Kartar S Dhiman

ABSTRACT

Aim: The present study is to document the information on local health traditions used for various human and animal diseases by traditional healers of Koppal district, Karnataka, India.

Materials and methods: Seasonal ethnobotanical (EMB) Survey has been conducted in Koppal district Karnataka during 2013 to 2014 to document the local health traditions (LHTs) knowledge related to human and animal.

Results: The EMB survey team documented 24 LHTs claims in Koppal district, Karnataka, which were related to joint pains, bone fracture, psychiatry, gastrointestinal disorders, skin disease, hemorrhoids, diabetes, aphrodisiac, infections, eye disease, neurological disorders, gynecological disorders, jaundice, migraine, and inducing of vomiting in human beings and few veterinary practices such as diarrhea, loss of appetite, stomatitis, and bone fracture.

Conclusion: Traditional healers are sheltered in the remote rural and tribal pockets. This is the time to identify effective formulations to manage or treat human ailments and spread the awareness in public for use. Scientific society has to work to introduce modern techniques in traditional system, identify unique properties that are playing very important role in the treatment of health issues, and validate scientifically and recommend the formulations for large-scale production by pharmaceutical industry for the benefit of the common people.

Keywords: Ethnobotanical survey, Folk healers, Koppal, Medicinal plants, Traditional healing.

Journal of Drug Research in Ayurvedic Sciences (2020): 10.5005/jdras-10059-0063

INTRODUCTION

Karnataka is a state with a unique geography and flora. Koppal district is housing about 11.82% of the tribal population. Major tribal population is from Dubia, Talav, and Halpati. Gamit, Gama, Gavit, Mavchi, Padv, and Valvi population are also noticed in other districts of Karnataka. Malikundi and Maleru tribes are basically from Chikamangaluru but live in Koppal. The tribe Varlis is considered to be an adivasi group in Kodagu, Koppal and also scattered in many districts of Karnataka. Vitolia, Kotwalia, and Barodia are small groups of tribes who reside in Koppal. Apart from these, many rural populations living below poverty line is working under the landlords of paddy field to earn their daily bread for their dependents. All these populace are unauthorized hut dwellers. Government introduced a special backward status as 371J for this region and is helping in merely getting them government jobs to a limited extent. Depending on the job opportunity in agriculture, this population keeps moving most of the time. Their earnings are very limited and hence they find it difficult to afford modern facilities for their daily life and also to treat their ailments. Elder person in the community will have a limited traditional knowledge transpired from their age-old generation for treatment of various health disorders and plays a crucial role in the management of health of tribal and rural population by using locally available plants and certain spices. Apart from this, the tribal population depends on minor forest products for their livelihood, such as resin, fruit, seeds, timbers, fuel wood, and other forest products, which they sell and earn money.

The tribal pockets of rural area celebrate a unique style of festivals that are organized in the name of village god or goddess. During these festival celebrations, all their relatives are invited and they get together and exchange information between the community and other things as ruled by the senior priest of the community god or goddess. It may also be of help to form new relation, support the other family to overcome/resolve the family issues, etc. With the traditional knowledge, some people will setup a small shop during such festival occasions to sell raw drugs and medicines for various health-related issues.

Research work on EMB is limited in the study area of Koppal district. Till date, 13 folk claims have been documented from Gangavati and Kustagi taluk of Koppal and Kumarswamy hills of Sandur taluk, Bellari district. Similarly in North Karnataka, traditional medicinal plants are used to overcome kidney stones and urinary tract infection and in Hyderabad Karnataka region, skin diseases are treated using medicinal plants. Only limited work is available on the documentation of medicinal plants in the region. Hence, the documentation of LHTs practices in Koppal district,
Karnataka, has been undertaken by Survey of Medicinal Plant Unit (SMPU), Regional Ayurveda Research Institute for Metabolic Disorders (RARIMD), Bengaluru, Karnataka, India.

Study Area
Koppal district consists of a geographical area of 5559 sq km and is located in the northern maiden part of the state with four taluks, namely, Koppal, Kushtagi, Gangavati, and Yelaburga. It lies at 15°09’16”01’ North latitude and 75°46’76”48’ East longitude. The district is located on a plateau with an average elevation of 600 m and has a range of hills with altitudes up to 900 m from the mean sea level (Fig. 1). Koppal district is surrounded by the Bagalkot district in the North, Raichur in the East, Ballari in the South, and Gadag in the Wests.

The people in the district live in house built of mud with mud roofing. In the eastern parts of the district, palm leaves and stems are used for roofing, which are found to be quite useful. Houses in the rural areas are built with scant respect for sanitation and hygiene; more of them are ill-ventilated and often lack elementary amenities such as drains for waste water. Cattle live in enclosures very near to the house and add to the insanitation of the houses. Fields round the village are used for calls of nature; and many houses do not have latrines. The tribal people live in a separate area called “Keri”. Their literacy rate is very low. Valmiki, Thoti, Koya, Bhil, and Sudugadu Siddha are the recognized tribes.

Land holding in Koppal is very unequally distributed, and also small land holdings are large in number, which cannot serve the livelihood of the poor farmers. The staple food of people is jowar which is ground into flour and made into bread (roti). Rotis are consumed with condiments (uppinkai) and vegetables (palya). The poor sections of the community, who cannot afford vegetables, eat the jowar bread with “chutney”. They prepare special dishes such as holige, kadubu, sajjakke, etc., on festivals and special days such as jayantis, jatras, etc.

Materials and Methods
Medicinal plant unit conducted seasonal EMB Survey during 2013 to 2014 in forests and documented that in the Koppal district of Karnataka, LHTs were used in the treatment of human and animal ailments. The study has been carried out by interviewing the age-old tribes and village people about the techniques of treatment and the use of medicinal plants and other ingredients available in home and local markets. This study recorded the local name of the disease, ingredients used in the formulation, and procedure for preparing of medicine and its application.

Followed by the visit to the nearby forest where folk healer collects crude drugs along with LHTs healer and forest staff collect specimens and digital photography for identification. The collected plant specimens were processed, mounted on herbarium sheets, and identified by using regional floras. Nomenclature of species is updated per the International Code of Botanical Nomenclature (ICBN) principles and rules.

Results
In the Koppal district, a total of 24 LHTs were documented during the seasonal EMB Survey. Of these, three formulations were used in joint pains/bone fracture, and psychiatry, two in gastrointestinal disorders, one each in skin disease, hemorrhoids, diabetes, aphrodisiac, infections, eye diseases, neurological disorders, gynecological disorders, jaundice, migraine, and inducing vomiting. Similarly in veterinary, five formulations were recorded, of these two
for diarrhea and one each for loss of appetite, stomatitis, and bone fracture. Documented data are presented as indication, ingredients, local name, botanical name, Sanskrit name, part used, preparation, dose, and duration in Table 1. A graphical representation about the ingredients used in various ailments and presented in Figure 2. Digital images of medicinal plants used in LHTs are presented in Figure 3. Photographs of glimpses of interview with local healers and the storage and preparation of medicines are presented in Figure 4.

**Discussion**

Documentation of local health traditions of Koppal is unique in nature. Most of the plant ingredients are available in the nearby forest, local market, and as spices at home. In Koppal district, single or compound formulations are used to treat diseases. A total of 19 folk claims related to human beings and 5 related to veterinary have been documented.

In human beings, three folk claims were used to treat bone fracture and joint pains by using plants such as *Sesamum orientale* L., *Brassica nigra* (L.) G. Koch, *Datura metel L.* *Blepharis maderaspatensis* (L.) Heyne ex Roth, *Acorus calamus L.*, *Clerodendrum phlomidis* L. f., *Momordica charantia* L., *Datura metel* L., *Brassica campestris* L. var. rapa L., *Agave cantala* Roxb., and *Dodonaea viscosa* (L.) Jacq. It has been observed that many plants of the formulation, such as *Sesamum orientale* L., *Brassica nigra* (L.) G. Koch, *Datura metel* L., *Clerodendrum phlomidis* L. f., *Brassica campestris* L. var. rapa L., and *Dodonaea viscosa* (L.) Jacq. are listed in the classical text. The use of *Sesamum orientale* L. and *Blepharis maderaspatensis* (L.) Heyne ex Roth oil are also noticed in Gadag and *Clerodendrum phlomidis* L.f. in Bagalkot districts of the Karnataka state.

Similarly three formulations used for psychiatry are obtained from plants such as *Triandema portulacastrum* L., *Allium sativum* L., *Piper nigrum* L., *Piper longum* L., *Apium graveolens* L., *Phoenix dactylifera* L., *Withania somnifera* (L.) Dunal, *Cuminum cyminum* L., *Senna alexandrina* Mill., *Sapindus marginatus* Vahl, *Terminalia chebula* Retz., and *Aegle marmelos* (L.) Corrêa. Many of the listed plants viz: *Allium sativum* L., *Piper nigrum* L., *Piper longum* L., *Phoenix dactylifera* L., *Withania somnifera* (L.) Dunal, *Sapindus marginatus* Vahl, and *Terminalia chebula* Retz. are recorded in the Ayurveda text. Gastrointestinal disorders such as abdominal pain and hyper-acidity are treated with two formulations obtained from plants such as *Achyranthes aspera* L., *Papaver somniferum* L., *Glossocardia bosvallae* (L.f.) DC., and *Eclipta prostrata* (L.) L. Of the listed, *Achyranthes aspera* L. and *Eclipta prostrata* (L.) L. are noted in the classical literature.

Skin disease is treated by using plants such as *Kirkangelia reticulata* (Poir.) Baill., *Boswellia serrata* Roxb. ex Colebr., and *Cocos nucifera* L. Hemorrhoids are treated with *Sida cordata* (Burm. f) Bosss. *Walk.* Diabetes mellitus is an endocrinology problem treated by using *Momordica charantia* L., *Tinospora sinensis* (Lour.) Merr., *Syzygium cumini* (L.) Skeels, and *Senna auriculata* (L.) Roxb., and these plants are referred in the ancient texts. The use of *Tinospora sinensis* (Lour.) Merr. is also noticed in the Gadag district. Aphrodisiac problem can be overcome by treating with *Phyllanthus amarus* Schumach. and Thonn., *Acacia nilotica* (L.) Willd. ex Delille, and *Papaver somniferum* L. of the listed, *Acacia nilotica* (L.) Willd. ex Delille and *Papaver somniferum* L. are observed in classical books. HIV infections can be treated by developing the immune system of the body by using plants *Tinospora sinensis* (Lour.) Merr. and *Gymnema sylvestre* (Retz.) R. Br. ex Schultes. The use of *Tinospora sinensis* (Lour.) Merr. is also recorded in Bagalkot.

Eye diseases such as conjunctivitis is treated with *Eucostemma axillare* (Lam.) Raynal. Paralysis is a neurological disorder treated by using blood and meat of wild pigeon (*Columba livia* Gmelin) and it is a common treatment that is followed throughout the Karnataka state. A gynecological problem, leucorrhoea is treated with *Phyllanthus amarus* Schumach. and Thonn. Jaundice is treated with *Balantiaegyptiaca* (L.) Delille and the use of similar formulation was also observed in Haveri district of the state. Migraine is cured by using a plant *Acalypha indica* L. Inducing of vomiting for removal of poison from the body by treating with *Tylophora indica* (Burm.f.) Merrill.

Few LHTs were used for treating illnesses in domestic animals, such as diarrhea is treated with two formulations made using *Hibiscus ovalifolius* (Forsk) Vahl. and similar formulation was used in Raichur district and another formulations prepared from *Triumfetta rhomboidea* Jacq., and this formulation is also used for human beings. Loss of appetite is treated with *Aloe vera* (L.) Burm.f. and it is also used in humans. Stomatitis or ulceration of mouth treated by using *Tylophora indica* (N.Burm) Merr., and bone fracture treated is with *Senna auriculata* (L.) Roxb.

It is unique to note that in compound formulations, few plants are not having any classical literature and modern research references. Few of the veterinary treatments are similar to that of human beings and remaining are not having any scientific evidence. Most of the formulations are practiced since time immemorial. This is the time to validate these practices/formulations scientifically and introduce in the mainstream so that these can be used to treat diseases in human and animals effectively.

**Conclusion**

Most of the age-old traditional healers are living in the rural and tribal pockets. This is the time to identify effective formulations for specific diseases and spread awareness in public regarding their use for the benefit of humankind. This will play an important role in improving the socioeconomic status of the traditional healer and community. It also encourages other folk healers to involve in developing healthy society and nation. Scientific society has to work to introduce modern techniques in traditional system and identify unique properties, which are playing a crucial role.
Table 1: Documentation of local health tradition/folk claims of single and compound formulations of Koppal district of Karnataka

| Indication (modern/ayurvedic) | Ingredients | Botanical name with accession number | Sanskrit name | Part used | Preparation | Dose | Duration |
|------------------------------|-------------|-------------------------------------|---------------|----------|-------------|------|----------|
| Knee joint pain/Jaanu sandhi shoola | Plant | Ellu | Sesamum orientale L. | Tila | Oil | 10 mL oil + 10 g powder, applied on affected area fomentation with Datura leaf | 21 days |
| Arthralgia/ Sandhi vaata | Plant | Sasive | Brassica nigra (L.) G. Koch | Sarshapa | Oil | | |
| | Plant | Unmatta | Datura metel L. (RRCBI-14072) | Dhattura | Leaf | | |
| | Plant | Kodali soppu | Blepharis maderaspatensis (L.) Heyne ex Roth (RRCBI-16842) | Utthangana | Leaf | | |
| | Plant | Baje | Acorus calamus L. | Vacha | Rhizome | | |
| | Plant | Taggi gida | Clerodendrum philomidis f. (RRCBI-16402) | Agnimantha | Leaf | | |
| | Plant | Hagalakayi | Momordica charantia L. (RRCBI-13870) | Karavelaka | Leaf | | |
| | Plant | Unmatta | Datura metel L. (RRCBI-14072) | Dhattura | Leaf | | |
| | Plant | Baje | Acorus calamus L. | Vacha | Rhizome | | |
| | Plant | Sasivey | Brassica campestris L. var. rapa L. | Sarsapa | Seed | | |
| Bone fracture/ Asthibhagna | Plant | Kathhaala | Agave cantula Roxb. | – | Flower | | |
| Psychiatric complaints/ Unmada | Plant | Bandaru | Dodonaea viscosa (L.) Jacq. (RRCBI-16602) | – | Leaf | | |
| | Plant | Belluli | Allium sativum L. | Lasuna | Bulb | 12 g of each drug crushed and made into juice with water | 3 days |
| | Plant | Karmenasu | Piper nigrum L. | Maricha | Fruit | 5 mL of juice instilled in the nostrils once in a day | |
| | Plant | Kandan Lippili | Piper longum L. | Pippali | Fruit | 1 g of powder with honey twice a day till gets relief | |
| | Plant | Ajamoda oma | Apium graveolens L. | Ajamoda | Fruit | | |
| | Plant | Khajura | Phoenix dactylifera L. | Khajura | Fruit | 12 g of all drugs are dried and powdered | |
| | Plant | Kanchuki | Withania somnifera (L.) Dunal (RRCBI-17124) | Aswagandha | Root | | |
| | Plant | Jeerige | Cuminum cyminum L. | Jeeraka | Fruit | | |
| | Plant | Nelatangadi | Cassia angustifolia Vahl (RRCBI-14795) | Sonamukhi | Leaf | 1 g of powder with honey twice a day till gets relief | |
| | Plant | Kookatakayi | Sapium emarginatus Vahl (RRCBI-16502) | Arishatakabhedha | Fruit | Prepare the paste using water | |
| | Plant | Halle | TeminAtia chebula Retz. (RRCBI-16513) | Haritaki | Fruit | Apply paste over head wash with lemon juice after dry | |
| | | | | | | Contd… | |
| Indication (modern/ | Ingredients | Local name | Botanical name with accession number | Sanskrit name | Part used | Preparation | Dose | Duration |
|-------------------|------------|------------|---------------------------------------|---------------|----------|-------------|------|----------|
| Abdomen pain/Udana shoola | Plant | Vilvamaram | Aegle marmelos L. (RRCBI-16547) | Bilva | Fruit | Equal amount of ingredients are used to prepare small tablets | One tablet twice daily | 21 days |
| Mineral | Kalluppu | Sodium chloride | Saindhava | Resin | | | | |
| Plant | Biligasgase | Papaver somniferum L. (RRCBI-16700) | Ahifena | Seed | | | | |
| Plant | Olegari | Borassus flabellifer L. | Tala | Jaggery | | | | |
| Hyperacidity/Amlapitta | Plant | Parpataka | Glossocardia boswellia (L.f.) DC. (RRCBI-16962) | – | Leaf | 2 leaves of both added with rock salt (1g) | Oral administration before food | 7 days |
| Plant | Garagada soppu | Eclipta prostata (L.) L. (RRCBI-16885) | Bhrunga raja | Leaf | | | | |
| Mineral | Kalluppu | Sodium chloride | Saindhava | Rock salt | | | | |
| Skin disease/Twak roga | Plant | Anamsule | Kirganelia reticulata (Poir.) Baill. (RRCBI-16551) | Krishna kamboji | Leaf | Resin and alum are mixed with leaf juice and boiled to get paste and mix with coconut oil | 10 mL of paste with oil | 15 days |
| Plant | Madi | Boswellia serrata Roxb. ex Colebr. (RRCBI-17466) | Shallaki | Resin | | | | |
| Mineral | Spatika | Potassium aluminium sulphate | Spatika (alum) | Alum | | | | |
| Hemorrhoids/Arshas | Plant | Kobbari | Cocos nucifera L. | Narikela | Oil | Leaf juice is mixed with salt to prepare paste | Local application at night | 5 days |
| Plant | Bekkinathale gida | Sida cordata (Burm.f) Borss. Waal. (RRCBI-16631) | Balabhedha | Leaf | | | | |
| Mineral | Kalluppu | Sodium chloride | Saindhava | Rock salt | | | | |
| Diabetes mellitus/ Madhumeha | Plant | Hagalakayi | Morinda charantia L. (RRCBI-13870) | Karavelaka | Leaf | Equal quantity of ingredients are dried and powdered | 3-5 g of powder twice daily | 1 month |
| Plant | Amrutha balli | Tinospora cordifolia (Willd.) Hook.f. and Thomson. (RRCBI-16995) | Guduchi | Leaf | | | | |
| Plant | Dodda nerale | Syzygium cumini (L.) Skeels | Jambu | Seed | | | | |
| Plant | Tangadi | Cassia auriculata L. (RRCBI-17070) | Dadrughna | Leaf | | | | |
| Aphrodisiac/Shukrala | Plant | Bhoo nelli | Phyllanthus amarus Schumach. and Thonn. (RRCBI-17221) | Bhoomyam laki | Leaf | 3 g of gum and 5 g of crushed leaf are mixed with 200 mL milk obtained from opium seed | To be taken early morning in empty stomach | 21 days |
| Plant | | | | | | | | |
| Plant | | | | | | | | |
| Indication (modern/ayurvedic) | Ingredients | Local name | Botanical name with accession number | Sanskrit name | Part used | Preparation | Dose | Duration |
|-------------------------------|-------------|------------|--------------------------------------|---------------|-----------|-------------|------|----------|
| Local Health Traditional Practices of Koppal District, Karnataka, India | | | | | | | | |
| HIV infection | Plant | Babli | Acacia nilotica (L.) Willd. ex Delile (RRCBI-18077) | Babbula | Resin | 100 g of Tinospora and 10 g of Gymnema leaves juice prepared | Take fresh juice empty stomach till relief | SOS |
| | Plant | Biligasgase | Papaver somniferum L. | Aliphena | Seed | | | |
| | Plant | Amrutha bali | Tinospora cordifolia (Willd.) Miers (RRCBI-16995) | Guduchi/Amrutha | Leaf | | | |
| | Plant | Madhunashini | Gymnema sylvestre (Retz.) R. Br. ex Schultes (RRCBI-17150) | Madhunashini | Leaf | | | |
| | Plant | Chikka chiraayuta | Enicostemma axillare (Lam.) A. Raynal (RRCBI-17196) | Naagojhva | Leaf | Fresh leaves crushed into juice | 1–2 drops instilled in eye thrice a day | 5–7 days |
| | Animal | paarivaala | Columba livia | – | Blood and meat of wild pigeon | Apply on affected area | 1 month |
| | Plant | Bhoo nelli | Phylanthus amarus Schumach. and Thonn. (RRCBI-17221) | Bhoomyam-laki | Leaf | Leaf juice boiled till it solidifies to prepare tablets | A tablet twice daily | 21 days |
| | Plant | Ingudee | Balanites aegyptiaca (L.) Delile (RRCBI-16809) | Tapasadruma | Leaf | | 1 g tablet given orally twice a day | 7 days |
| | Plant | Kuppi | Acalypha indica L. (RRCBI-16865) | Harita manjari | Leaf | The leaf paste is rolled into a tablet form and dried | 1 g tablet orally twice a day | 21 days |
| | Plant | Adumut-tadagida | Tylophora indica (Burm.f.) Merrill (RRCBI-17208) | Arkapami | Leaf | Fresh leaves are made in to paste | Take 500 mL goat milk (empty stomach) followed by 20 g leaf paste | SOS |
| | Plant | Lopale | Hibiscus ovalifolius (Forsskal) Vahl. (RRCBI-16362) | – | Leaf | Juice extracted from leaf | Intake leaf juice + butter milk twice daily | SOS |
| | Plant | Jattoate | Triumfetta rhomboidea Jacq. (RRCBI-16709) | – | Whole plant | Juice extracted from plant | 50–100 mL orally twice till symptom subsides | SOS |
| | Plant | Lolisara | Aloe vera (L.) Burman (RRCBI-16719) | Kumari | Leaf pulp | Pulp juice is extracted | Intake juice with salt once in a day | 7 days |
| | Plant | Adumut-tadagida | Tylophora indica (N.Burman) Merr. (RRCBI-17208) | Arkapami | Whole plant | Fresh whole plant | Whole plant used to tie around the neck | 5 days |
| | Plant | Tangadi, | Cassia auriculata L. (RRCBI-17070) | Dadrughna | Leaf | Leaf paste is prepared | Apply leaf paste on the affected area, tie with bamboo sticks | 7 days |
Contd…
Fig. 3: Digital images of medicinal plants used local health traditions in Koppal district.
role in the treatment of health issues. It is necessary to validate scientifically and recommend the formulations for large-scale production by pharmaceutical industry for the benefit of the common people.

Acknowledgments

The authors are thankful to the Central Council for Research in Ayurvedic Sciences, New Delhi for financial support and encouragement. Thanks are also due to RARI MD Bengaluru for administrative support during the study. A special thanks to the Forest Department of Koppal district and Aranya Bhavan Bengaluru, Karnataka. Heartfelt thanks to the traditional healers of Koppal District for their service rendered to the common people and for sharing valuable information for documentation.

References

1. Nidagundi R, Shoba H, Hosamani V, et al. Ethnomedicinal plants and their utilization by villagers in Koppal district of Karnataka. J Pharmacogn Phytochem 2018;3:450–452.
2. Ghatapanadi SR, Johnson N, Rajasab AH. Medicinal plants of north Karnataka used in treatment of kidney stones and urinary tract infections. Int J Ethno and Soc Sci 2010;2(3–4):23–24.
3. Shivakumar SP, Vidyasagar GM. Ethno medical plants used in the treatment of skin diseases in Hyderabad Karnataka region, Karnataka, India. Asian Pacifica J Trop Biomed 2013;3(11):882–886. DOI: 10.1016/S2221-1691(13)60173-2.
4. Rekha S, Vidyasagar GM. Documentation of traditional knowledge on medicinal plants used in treating candidiasis in Hyderabad Karnataka region, India. W J Pharm and Pharmac Sci 2014;3(7):739–751.
5. Ramaswamy SV, Razi BA. Flora of Bangalore District. Prasaranga: University of Mysore; 1973. p. 739.
6. Rao R, Razi BA. A Synoptic Flora of Mysore District: With an appendix of Unani, Ayurvedic, and trade names of drugs. Today and Tomorrow’s Printers and Publishers; 1981. p. 694.
7. Sharma BD, Singh NP, Raghavan RS, et al. Flora of India Series-2, Flora of Karnataka analysis. Calcutta: Botanical Survey of India; 1984. p. 394.
8. Saldanha CJ. Flora of Karnata. Vol-I, Magnoliaceae to Fabaceae. New Delhi: Oxford and IBH Publishing Co; 1984. p. 535.
9. Saldanha CJ. Flora of Karnataka. Vol-II, Podostemaceae to Apiaceae., New Delhi: Oxford and IBH Publishing Co; 1996. p. 304.
10. Singh NP. Flora of Eastern Karnataka. Delhi: Mittal Publications; 1988. 1st ed., vol. I and II. p. 794.
11. Seetharam YN, Kotresha K, Uplaonkar SB. Flora of Gulbarga District. Gulbarga, Prasaranga: Gulbarga University; 2000. p. 160.
12. Bennet SSR. Name changes in flowering plants of India and adjacent regions. Triseas Publications; 1987. p. 722.
13. Sharma PV. Classical Uses of Medicinal Plants. Varanasi: Chaukhambha Visvabharati; 2018. p. 848.
14. Kirtikar KR, Basu BD. Indian Medicinal Plant plants. Dehra Dun: Bishen Singh Mahendar Pal Singh; 1980. p. 838.
15. Sharma PV. DravyagunaVigyan. Part II. Varanasi: Chaukhambha Sanskrit Sansthan; 1978. p. 873.
16. Sharma SK. Medicinal plants used in Ayurveda. Rashtriya Ayurveda Vidyapeeth (National Academy of Ayurveda); 1998. p. 238.
17. Chopra RN, Nayar SL, Chopra IC. Glossary of India Medicinal Plants. New Delhi, India: Council of Scientific and Industrial Research; 1980. p. 329.
18. http://www.asia-medicinalplants.info/sida-cordata-burm-f-borss-waak/.
19. Pichamuthu A, Muthiah G, Rajaram P. Preliminary study on the antimicrobial activity of Enicostemma littorale using different solvents. Asian Pac J Trop Med 2012; 552–555.
20. Jagatheeswari J, Deepa J, Jahabar Ali SH, et al. Acalypha indica L. – an important medicinal plant: a review of its traditional uses, and pharmacological properties. Int J Res Bot 2013;3(1):19–22.
हिंदी सारांश

कोप्पल जिला, कर्नाटक की स्थानीय स्वास्थ्य पारंपरिक पद्धतियाँ

उद्देश्य: वर्तमान अध्ययन कोप्पल जिला, कर्नाटक के पारंपरिक चिकित्सकों द्वारा विस्मित भावना मानव और पशु रोगों हेतु
प्रयोग की जाने वाली स्थानीय स्वास्थ्य पद्धतियों की जानकारी का प्रलेखन करना है।

सामग्री और विधियाँ: मानव और पशु से संबंधित स्थानीय स्वास्थ्य परंपरागत (एलटीएच) जानकारी का प्रमाण करने
हेतु वर्ष 2013 से 2014 के दौरान कोप्पल जिला, कर्नाटक में इतनी-संबंधी प्रजाति-चिकित्सा वानस्पतिक (ईएमबी)
सर्वेक्षण किया गया।

परिणाम: प्रजाति-चिकित्सा वानस्पतिक (ईएमबी) सर्वेक्षण दल ने कोप्पल जिला, कर्नाटक में 24 एलएचटी दालों जो
मधुमेह, चिकित्सा भ्रस्म, मनोरोग, उदर संबंधी विकार, त्वक रोग, बायरैजन, मधुमेह, एफ्लोडिसिसाइक, संक्रमण,
नेत्र विकार, स्नायु विकार, प्रसूति रोग, पीलिया, माइस्लोन और उद्वी करने तथा कुछ पशु चिकित्सा पद्धतियों जैसे दस्ता,
भूख न लगाना, सेटोमेटिटिस और अस्थि भ्रस्म से संबंधित थे, उन्हें प्रमाण किया।

निष्कर्ष: पारंपरिक चिकित्सक दूर-दराज के गांवों और जनजातीय इलाकों में रहते हैं। यह समय मानव रोगों का प्रबंधन
या उपचार करने के लिए प्रभावी औषधियों की पहचान करने और उनका प्रयोग करने हेतु जन सामान्य के मध्य
जागरूकता फैलाने का है। वैज्ञानिक समाज को पारंपरिक प्रणाली में नई तकनीकी लाने, स्वास्थ्य से संबंधित मामलों के
उपचार में बहुत ही महत्वपूर्ण भूमिका निभाने वाले अद्वितीय गुणों की पहचान करने, उनका वैज्ञानिक रूप से सत्यापन
cरने तथा जन सामान्य के लाभ के लिए मार्केटिंग उद्योग द्वारा औषधियों का बड़े पैमाने पर उत्पादन करने
की सिफारिश करने का कार्य करना चाहिए।

मुख्य शब्द: प्रजाति-चिकित्सा वानस्पतिक सर्वेक्षण, लोक चिकित्सक, कोप्पल, औषधीय पादप, पारंपरिक चिकित्सक।