Available Online at http://www.journalajst.com

ASIAN JOURNAL OF SCIENCE AND TECHNOLOGY

ISSN: 0976-3376

Asian Journal of Science and Technology
Vol. 12, Issue, 02, pp.11494-11497, February, 2021

RESEARCH ARTICLE

ETHNO-MEDICINAL PLANT SPECIES USED TO TREAT SNAKEBITES (ANTIDOTE) OF VIJAYAPUR (BIJAPUR) DISTRICT OF KARNATAKA, INDIA

***Arati Laddimath**

Karnataka State Akkamhadevi Women's University, Department of Botany,Vijayapur, Karnataka, India

ARTICLE INFO

Article History:
Received 28th November, 2020
Received in revised form
09th December, 2020
Accepted 27th January, 2021
Published online 28th February, 2021

Key words:

Ethno-medicinal plant species,
Snakebite, Vijayapur, Karnataka.

ABSTRACT

An ethno-medicinal plant species survey of Vijayapur district of Karnataka comprising 13 tehsil was conducted during March 2018 to November 2019. The purpose of this survey was to document the Ethno- medicinal plant species to treat snakebite. The present study was initiated with an aim to identify Ethno-medicinal plant species resources from traditional practitioners of Vijayapur district. There are about 13 species of angiosperms belonging to 13 genera and 12 families were found to be used treat snakebite.

Citation: Arati Laddimath. 2021. "Ethno-medicinal plant species used to treat snakebites (antidote) of Vijayapur (Bijapur) District of Karnataka, India", *Asian Journal of Science and Technology*, 12, (02), 11494-11497.

INTRODUCTION

Antidote means a remedy against poison. Snake bite is serious effect in rural community. Use of traditional medicines is generally preferred against snakebites rather than anti-venoms. Medicinal herbal constituents have immense global importance and are recognized as local heritage [7]. Venom of the snake is most complex mixture containing enzymatic and non-enzymatic toxins, non-toxic proteins, also metals. This mixture is stored in the poison glands of snakes. Numerous enzymes are present in venom, some of which are haemorrhagins, cytolytic, necrotic toxins, pre-synaptic and post-synaptic neurotoxins, phospholipases, proteases, nucleosidases, phosphodiesterases. Snake Venom also contains non-protein anticonvulsant cardio toxin [5]. People of rural area unable to reach city hospital as early as possible. Traditional herbal medicines are and easily available. Ethno medicine deal with traditional health care which encompasses the knowledge, skill and methods practices concerning healthcare. The present study was initiated with an aim to identify Ethno- medicinal plants resources from traditional practitioners of Vijayapur district to treat snakebite.

MATERIAL AND METHODS

Ethnobotanical Data collection: Ethno- medicinal plants survey conducted on March 2018 to November 2019 in Vijayapur district.

For this, frequent field trips were made to 30 villages belonging to all 13 tehsil was of the district. Thirty-two traditional practitioners (30 men and 2 women) Data and information recorded in the standard questionnaire. Prior Informed Consent (PIC).

Voucher specimen collection and identification: Collected data and information include, Vernacular name of traditionally used medicinal plants, part used, method of preparation and dosage. Medicinal plant species were photographed in the field. Plant specimens were identified consulting with experts, by referring Flora of Gulbarga District [6], three volumes of the Flora of Presidency of Madras [1]. The voucher specimens were stored at the herbarium centre, Department of post graduate studies and Research in Botany, Akkamahadevi Womens University, Vijayapur.

Data Analysis: The collected data were organized and relative frequencies citation(RFC=FC/N) N is the total informant, FC is the Number of informants suggested same plant species for same medication is summarised in table and percentage were calculated for different plant parts were used to snakebite treatment.

Study Area: The Vijayapur district of Karnataka state is located between north latitude 16°.01', 17°.45', and east longitude 75°.03', 76°.29'. The district has its border with Belgaum, Bagalkot, Raichur, Gulbarga district and to north, Sholapur district of Maharashtra state. Vijyapur district is plain Deccan plateau, which is from 365-610 met height above

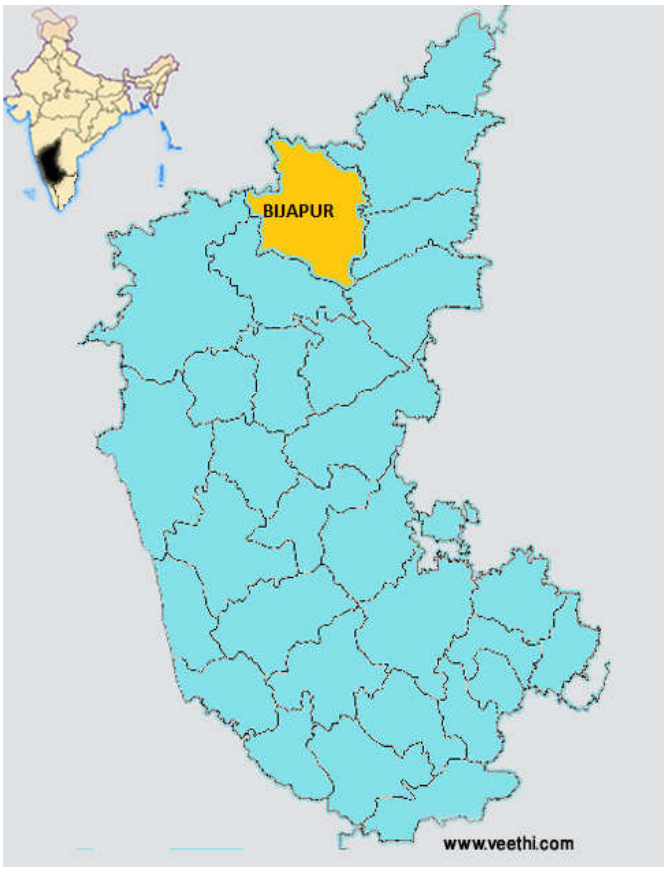


Fig. 1. Map of the study area

sea level. This region is slope towards west to east. The river Doni, Krishna, Bheema, and their tributaries are flows according to the slope. The total area of Vijayapur district is 10,541 sq kms. There are thirteen talukas of Vijayapur district i.e., Vijayapur, Muddebihaal, Sindagi, Basavanbagevaadi, Indi, Talikote, Devara Hipparagi, Chadchan, Tikota, Babaleshwar, Kolhar, Nidagundi, . Almel. Bordered by the Bheema River in the north and the River Krishna in the south. The district consists of the dry and arid tract of the Deccan Plateau.

The temperature varies between 42°c during summer and 15°c during winter season respectively. In May mean maximum temperature is 40°c. The climate of this region is arid, tropical and steppe type. The soil of Vijayapur district area is rich in content of basalt rock, magnetite, magnesium, aluminium and iron oxide. The Vijayapur district receives normal rainfall 578.0 mm and the vegetation of this region is mainly dry and deciduous and may broadly as vegetation on plains. The natural vegetation near Alamatti Dam area is like dry and hot having rich flora. Many local traditional practitioners collect the plants from this area to cure the diseases.

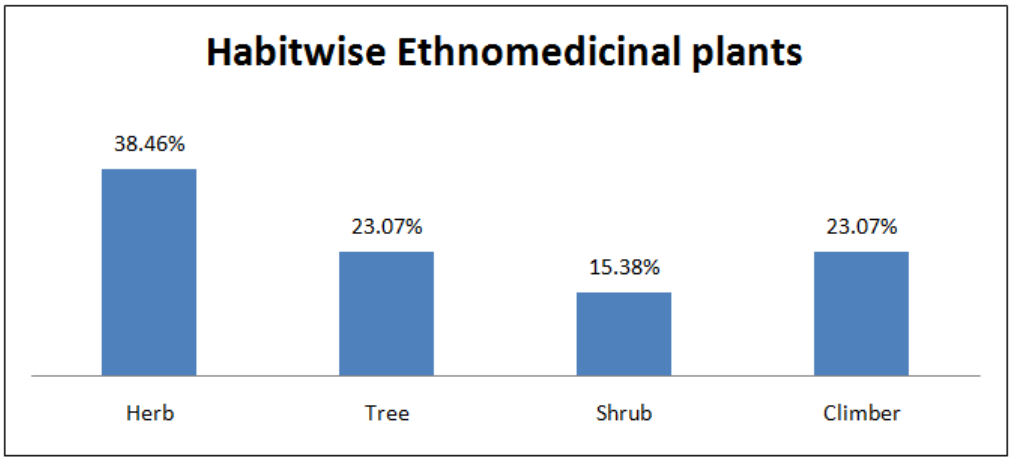
RESULT AND DISCUSSION

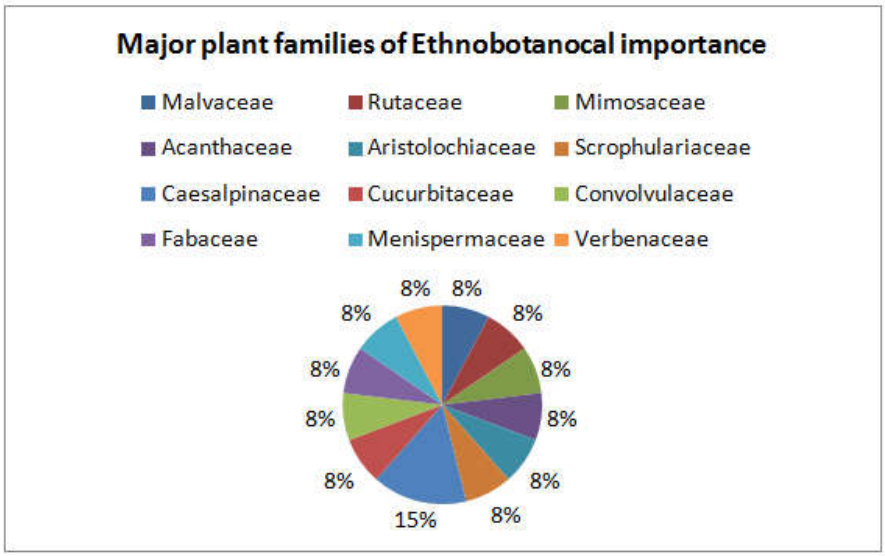
In the present account, 13 species of angiosperms belonging to 13 genera and 12 families were reported for snakebite treatment. The predominant family is Caesalpinaceae_with 2 species. Data obtained from the survey is compiled in Table 1. All plant species scientific name, family, local name, Habit, Part used and mode of administration are provided. Different plant parts were used snakebite treatment. Among these leaves were used (38%), followed by root (15.3%), whole plant (15.3%), fruit (7.6%), seeds (7.6%), stem (7.6%), flower (7.6%) decreasing order. Among the reported plant species for snakebite treatment Relative frequency of citation (RFC) has calculated, the most frequently cited species were *Aristolochia indica* (0.25), *Tinospora cordifolia* (0.12). *Citrullus colosynthis* (0.09), *Albizia lebbeck, Andrographis paniculata, Bacopa monnieri, Caesalpinia bonducella, Senna tora, Vitex negundo (*0.06). Remaining medicinal plant species were reported by less than two informants. In Karnataka, Ethno medicine practice for snakebite studies conducted in Chitradurga[2] districts. *Aristolochia indica* is most using species for snake bite[4]However Ethno-veterinary medicine practice study in Vijayapur(Bijapur)[3] district has been reported, but snakebite studies has not been done still. Most of the people dependent on traditional herbal medicine because availability of effective drug plants. Hence, these plants can be taken up for further pharmacological and clinical studies.

Table 1. Ethno-medicinal plant species used to treat snakebite of vijayapur (Bijapur) district

Scientific name	Family	Local/ Vern name	Habit	Part used	RFC	Mode of administration
Abutilon indicum (L.)Sweet	Malvaceae	Thurubigida	Herb	Leaves	0.03	Handful of leaves eaten. Soon after omitting occurs. Suggest take meal after one hour
Aegle marmelos (L.)corr	Rutaceae	Patri gida	Tree	Root	0.03	Fist of roots, Fist of *Limonia acidissima* root and *Amaranthus* root ground and given to drink.
Albizia lebbeck (L.)Willd	Mimosaceae	Shirasalgida	Tree	Flowers	0.06	Ten flowers, five pepper ground and sieved stored in bottle. Slap seven times per day.
Andrographis paniculata (Burm.f.) Wall.	Acanthaceae	Nelabevu	Herb	Whole plant	0.06	Ten ml decoction of plant is taken orally five times per day with two hour interval
Aristolochia indica L.	Aristolochiaceae	Eshwari balli	Shrub	Leaves	0.25	2-3 leaves eaten
Bacopa monnieri (L.)penn	Scrophulariaceae	Brahmi	Herb	Whole plant	0.06	Handful of plant ground and taken orally three times per day
Caesalpinia bonducella (Linn.) Roxb.	Caesalpinaceae	Gajaga	Shrub	fruit	0.09	Rubbed the fruit and apply on bite
Citrullus colosynthis (L.)Schrad	Cucurbitaceae	Kaadu kavadi	Climber	Root	0.09	Eat 2 gm of root and rub the root apply on eyes
Evolvulus alsinoids (L.) L.	Convolvulaceae	Shanka pushpi	Herb	Leaves	0.03	Handful of plant ground and administered to take orally
Mucuna pruriens(L.)DC	Fabaceae	Nasagunni	Climber	Seeds	0.03	Rubbed ten gms of seeds and drink for three times
Senna tora	Caesalpinaceae	Avarehoo	Herb	Leaves	0.06	Leaves boiled, sieved and mixed with cow milk administered to take orally
Tinospora cordifolia(willd.)Hk.f. and Th	Menispermaceae	Amrutha balli	Climber	Stem	0.12	Old stem boiled in milk,dried and stored. Rubbed the stem with cold water and (antawala kaayi) rubbed given one spoonful with milk.
Vitex negundo L.	Verbenaceae	Lakki gida	Tree	Leaves	0.06	Fist of plant ground and applied on snakebite

		
Abutilon indicum (L.)Sweet	*Aegle marmelos* (L.)corr	*Albizia lebbeck* (L.)Willd
		
Bacopa monnieri (L.) penn	*Caesalpinia bonducella* (Linn.) Roxb.	*Evolvulus alsinoids (L.) L.*





Conclusions

Ethno- medicinal plants survey conducted on March 2018 to November 2019 in Vijayapur district. The main purpose of this survey was to document the traditional use of medicinal plants for snakebite treatment in vijayapur district. 13 species belonging to 13 genera and 12 families were found to be used. The scientific name, family, local name, habit along with part used and mode of their administration are provided. This traditional knowledge can transfer from one generation to generation. The study also suggested that the present

information on medicinal plant species used for snakebite treatment by the traditional practitioners of Vijayapur district may be used for phytochemical and pharmacological research in future for the development of new sources of drugs.

Acknowledgements

Authors are thankful to traditional practitioners of Vijayapur district, who cordially co-operated in sharing their knowledge and in helping collection of plant material pertaining to the research.

REFERENCES

Gamble J.S. and Fischer C.E.C. Flora of the Presidency of Madras. (1984). Vol. I-III, BSI.

Hiremath V.T. and Taranath T.C**.** Traditional Phytotherapy for Snake bites by Tribes of Chitradurga District, Karnataka, India. *Ethnobotanical Leaflets* 14:120-25.2010

Laddimath Arati. Ethno-veterinary medicinal plant species of Vijayapur (Bijapur) district of Karnataka, India. *Indian Journal of Medicinal Plants Studies* 2019; 7(6): 06-09

Lakshmana, Sreenath K.P. Phyto-antidotes of tumkur district, karnataka, india. Global Journal of Biology, *Agriculture and Health Sciences*. 2014;Vol.3(4):122-130

Saha A, Gomes A, Giri B, Biswas AK, Dasgupta SC. On occurrence of non-protein low mol. wt cardiotoxin in Indian King Cobra (Ophiophagus hannah); 1836, Venom. *Indian journal of Experimental Biology*. 2006; 44:279

Seetharam Y.N., Kotresha K. and Uplaonkar S.B. Flora of Gulbarga district, Gulbarga University, Gulbarga. (2000)

Sumedh M Vaidya, Amar R Singh, Vraj G Patel, Nilofar A Khan, Rupali P Yewale and Dr. Mohan K Kale. A review on herbs against snake venom. *Journal of Pharmacognosy and Phytochemistry* 2018; SP6: 05-09

****