

Ethnobotanical Exploration on PVTG, The Chenchu Tribe of Srisailam Forests in Nallamala Hills of Eastern Ghats in India with Special Reference to Anti Venom Tool, The Herbal Necklace for Snake Bite

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Abstract

The medicinal plants are the local heritage with global importance. The plants are important source in the preparation of ethno medicine and play a significant role in the survival of ethnic people worldwide. Snake bite is a severe medical, social, and economic problem in many parts of the world. In India a range of medicinal plants are used as antidote for snake bite used either singly or in combination with other agents. The present study makes an effort to document the indigenous knowledge regarding herbal remedies for snake bite practiced by the Deva Chenchus of Srisailam forests of Nallamala hills of Eastern Ghats in India. During the ethnobotanical explorations carried out during 2021 to 2022 an interesting cultural practice by the Particularly Vulnerable Tribal Group (PVTG), the Deva Chenchu ethnic tribe was observed for documentation of Indigenous knowledge. The males of native Chenchu tribe sport a herbal necklace as their identity as well as antidote to snakebite. The medicinal plants of herbal necklace are identified. Further studies are required to evaluate efficacy for the anti venom properties of the herbal necklace.

Keywords: Ethnobotany¹, Chenchu tribe², Snake bite³

1. Introduction

The Chenchus are one of the aboriginal tribes and are mostly confined to foot hills of low lying areas of Nallamala hills of South India[1]. About 5.4 million snake bites occur globally each year, resulting in 1.8 to 2.7 million cases of envenoming, there are around 81,410 deaths and three times as many amputations and other permanent disabilities. Snakebites kill more than 64,000 people in India [2]. These numbers are colossal, especially when compared with countries like the USA and Australia, which report 10 to 12 deaths each year [8]. Even though Australia is less populated, it has a larger number of venomous snakes. Almost Half of all global deaths due to snake bite happens in India. ICMR study finds only 20-30% of snakebite victims in rural India reach hospital to seek treatment [3]. Large number of deaths reported in India are from Bengal, Uttar Pradesh, Tamil Nadu, Bihar, and Maharashtra. Big Four Species of venomous snakes in India are Cobra, Russell's Viper, Saw Scaled Viper and Krait. For

more than a century the primary treatment for snakebite has been the administration of anti venoms. They are made by immunizing horse or sheep with snake venom. It is a fact that in spite of heavy morbidity and mortality, very little attention is paid by the clinicians to this occupational hazard. The potential of anti venom treatment in controlling the morbidity, disability and mortality has been limited by a number of factors, poor regulatory frameworks for anti venoms, absence of appropriate reference standards, lack of expertise and capacity within national drug control laboratories; Inadequate investment in research and development [2]. Traditional belief systems that associate snake bite envenoming with supernatural, rather than health-related events.

Ethnobotany is the field of science that deals with the associations between plants and humans. Ethnobotanical investigation of drug discovery has been found to be one of the most reliable approaches toward use of medicinal plants for treatment of various conditions, and even now, there are still many more things for us to discover.

Figure 1. The study area Srisailam forests



2. Methodology

The ethnobotanical explorations were conducted on Chenchu Tribe of Srisailam forests in Nallamala Hills of Eastern Ghats of India, during the years 2021-2022. Before starting field work necessary information about the distribution of ethnic people in the study area was collected from available demographic records. Standard protocols were adopted in the collection of ethnobotanical data [4, 5, 6]. Mainly three basic approaches like Interview approach, Inventory based approach, and Interactive approach were adopted in exploring the ethnobotanical information regarding the anti venom tool, the Herbal Necklace for Snake bite. As the people are highly reserved, soliciting adequate information from them was often very difficult. The plant specimens utilized for the preparation of herbal necklace was identified by comparing and confirming with the voucher specimens of the author. The recipe to prepare the anti venom herbal necklace was documented as per standard protocol.

3. Results

In the present study the anti dote for snake bite in the form of herbal necklace made up of herbs was reported. The plant species used in making the herbal necklace, which the males of Deva Chenchus sport was deciphered as three plant species that belongs to three families. (Plate 3.1: c,d,e,f). The plant parts used for making the herbal necklace were identified and reported as prop roots, stems and fruits (Plate 3.1: a &b). The ethnobotanical data was given in the Table 3.1.

Table 3.1 : Ethnobotanical data of snakebite antidote herbal necklace used by Deva Chenchus the PVTG of Srisailam forests in Nallamala hills of Eastern Ghats in India.

Botanical name	Family	Voucher specimen compared	Plant part used	Vernacular name
1. <i>Tinospora sinensis</i> (Lour.) Merr.	Menispermaceae	PNR 0086	Prop roots	Tippa teega
2. <i>Martynia annua</i> L.	Martyniaceae	PNR 0156	Fruits	Garudamukku
3. <i>Cyanthillium cinereum</i> (L.)	Asteraceae	PNR 0361	Stem	Sahadevi

Plate 3.1: Ethnobotanical Exploration of Anti Venom Tool

	
<p>a. Ethnic Tribe of Study Area - Deva Chenchu Mallikarjun and the Author</p>	<p>b. Deva Chenchu sporting Herbal neck lace as anti venom tool</p>
	
<p>c. <i>Tinospora sinensis</i> (Lour.) Merr.</p>	<p>d. <i>Cyanthillium cinereum</i> (L.)</p>
	
<p>e. <i>Martynia annua</i> L.</p>	<p>f. <i>Martynia annua</i> L. Fruits</p>

4. Discussion

Globally the traditional systems of medicine, together with folklore systems, continue to serve a large portion of inhabitants in health care, despite the advent of modern medicine. India has a rich variety of medicinal plants growing under different geographical and ecological conditions. About 1500 plant species out of 15,000 reported from India have medicinal potential [7]. India is home for different ethnic groups comprising 54 Millions of indigenous people living in various territories, having diverse cultures, religious rites, and food traditions that separate them from each other. These people have awareness of traditional medicine, especially herbal and folk medicine for treatment of various ailments. It should be noted that the knowledge on the use of plants for treatment of snake bites is generally acquired through experience accumulated over years and is transmitted from one generation to another, which is a guarded family secret. From a range of literature sources data have been compiled with emphasis on plants that act as antidotes against snakebites, so far 523 plant species belonging to 122 families reported from all over the world[1]. It is interesting to note that, in the present study an important observation is that 1. *Tinospora sinensis* (Lour.) Merr. 2. *Martynia annua* L. 3. *Cyanthillium cinereum* (L.) are three plant species involved in preparing herbal necklace as an antidote for snake bite which first time reported and documented for snake bite from the ethnobotanical explorations from Srisailam forests in Nallamalahills of eastern ghats. Another observation is that number of deaths occurred in the ethnic community of Chenchus due to snake bite is less compared to the counterparts in the civilized world. Chenchu tribal people wander in the forest for non-timber forest produce, as a result of their occupational requirement they may encounter snakes and snake bites, hence especially males of the community wear herbal necklace for the protection from the snakes. We believe this study of herbal antidotes against snake venom is of substantial significance to society.

5. Conclusion

The snake bite is a neglected occupational health hazard world wide till date. In-depth Pharmacological and Phytochemical studies are required so as to rationalize on the effectiveness of the medicinal plants as well as to provide insights of the compounds responsible for their anti-snake bite activity. Thus the present ethno medicinal investigation can provide a lead for specific venom inhibitory compounds from the reported medicinal plants that could be used in combined therapy with antiserum as antidote for snake bite in future.

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7. References

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