



## Anti-diabetic activity of medicinal plants in sarguja region of (C.G.) India

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### Abstract

The tribal people depend on forests for their livelihood and most of the rural people still depend on traditional medicine as a primary healthcare source. The paper highlights the rich plant resources and the vast wealth of ethnobotanical information available with the various tribes of the region. In this paper, some new and less known Anti Diabetic uses of plants of tribes of Sarguja Region C.G. in different ailments have been reported. The main objective of present work is to give the information and documentation of medicinal plant used by tribal of the study sites. The ethnomedicinal information was gathered from interviews with living elders belonging to Madiya, Muriya, Gond and Bhatra tribes of the study area. The present work on Anti Diabetic plants, used in the healthcare systems of tribes in 15 villages, was carried out Sarguja district C.G. We conducted an ethnobotanical survey to identify the traditional medicinal plants being used to treat diabetes in Sarguja district and to critically assess their anti-diabetic potentials with focus on evidence-based criteria.

**Keywords:** ethnobotany, antidiabetes, medicinal plants

### Introduction

Chhattisgarh, the 26th state of the country, has ample variation in physical and cultural features. It has about 44% of its total geographical area covered with forests. It receives an annual average rainfall of 60 inches. Rice is the principal crop of the State. A predominantly tribal State endowed with rich mineral and forest wealth, the climate of Chhattisgarh is mainly tropical, Humid and sub-humid. The climate is hot because of its position on the tropic of cancer. May is the hottest month and December and January are the coldest ones. The State is completely dependent on the monsoons for rains. The Mahanadi is the principal river of the State. Chhattisgarh state is divided geographically in to three regions, namely Northern hills, Chhattisgarh plain and Bastar plateau. Northern hill zone of Chhattisgarh comprises Surguja, Korea, Jashpur and Raigarh districts of Chhattisgarh which possesses a huge wealth of biodiversity of plants, especially in tribal habitats, where several naturally established herbal species are used as traditional and effective medication. Sal forest provides comparatively more congenial habitat condition for the growth of diverse medicinal plant species.

Medicinal plants have been available in human societies since time immemorial. Indeed, the uses of plants were discovered by ancient people by the method of trial and error. The system of traditional medicine had their root in the uses of plants by these people and survived only by the oral communications from generation to generation. The forest and remote rural places have been the traditional sources of herbs. During the past decade, a dramatic increase in exports of valuable plants attests the worldwide interest in traditional health system. Most of these plants being taken from the wild species Since past decade there has been a considerable interest towards the uses of herbal medicine. Tribal and rural communities use a

number of plants for the treatment of various human diseases and disorders.

The ethnic communities in the state rely, to a large extent, on native plant species for sustenance of their traditional healthcare system, both logistically as well as economically (Dhar *et al.*, 2002). Presently, markets for medicinal plants are not in optimally ideal conditions due to an awkwardly longer value chain entangled with many constraints and weaknesses. Special emphasis should be given on production and management through an industry-community partnership approach that can improve the existing medicinal plant value chain, and the use and cultivation of medicinal plants (Joshi and Joshi, 2014).

### Methodology

Ethno botanical field work was conducted in several tribal rich villages of Surguja district. Data on uses were recorded in the field from experienced people. The Anti Diabetic medicinal information was obtained from knowledgeable person, experienced people, medicine men, and heads and local inhabitants of the village, who have knowledge of plants for health and livelihood security. The First hand information was recorded during the field visits to the study area. Field work was done as per planned schedule of field visit. Information collected through questionnaire and personal interview on the spot was the basic source of the knowledge in the present study.

### Results & discussion

Locally available plants are used by the people as their household remedies. The data has been accrued from the tribal and rural people of the Surguja districts which still find place in their traditional therapy. However, isolation of active

principles, phytochemical and pharmacological investigations are desired to validate the claims of the traditional healers. This may provide new sources of herbal drugs. The formulation of these effective phytomedicines should be encouraged for their sustainable uses. Statistically, information for treating a particular ailment from different informants certainly reflects the accuracy and authenticity of the folk drugs employed. This area provides an enormous range of indigenous medicinal plants that are used by the tribal and local communities in the treatment of Diabetic diseases and disorders. Most of the tribal groups do not have modern health facilities. However, they use the traditional knowledge of locally available plants for medicinal purpose. Due to industrialization and over-exploitation and unscientific exploitation of natural resources, the valuable traditional knowledge is depleting very fast.

The villages of the region are rich in ethnomedicinal knowledge owing to their close affinity with the surrounding plant cover. They obtain a variety of plant products from wild plants to fulfil their own needs as they are economically weaker sections of the society. In the tribal areas the rules and regulations by which the tribal people have been traditionally governed are now being gradually abolished by the young literate generations. Another crucial factor responsible for such change is the migration of youth from tribal areas to urban areas. This gap is further widened the adoption of modern medicine. Therefore, the importance of recording indigenous knowledge base related technology as described here become essential in view of rapid socio-economic and cultural changes and for high tech low cost solution. Elavarasiand S,K.Saravanan (2012) [4] was conducted in the Kolli hills, Tamil Nadu through an oral interview to investigate the medicinal plants used in the treatment of Diabetes, totally 16 species of plants belonging to 14 families

## Anti Diabetic

**Table 1:** Plants used by tribe of Surguja district of Chhattisgarh for the treatment of Diabetes

S.No.	Botanical Name	Local Name	Family	Parts Used
1.	<i>Aegle marmelos</i>	Beal	Rutaceae	Bark, Fruits,
2.	<i>Allium cepa</i>	Orian	Liliaceae	Bulb
3.	<i>Barleria prionitis</i>	Vajradanti	Acanthaceae	Root, Leave
4.	<i>Cassia fistula</i>	Amaltas	Ceasalpinaceae	Fruit, Flower,
5.	<i>Cassia tora</i>	Chakoda	Ceasalpinaceae	-
6.	<i>Embellica officinalis</i>	Avola	Euphorbiaceae	Fruit
7.	<i>Eugenia jambolana</i>	Jamun	Myrtaceae	Fruits
8.	<i>Ficus bengalensis</i>	Bar	Moraceae	Bark,Seeds, Leaves
9.	<i>Gymnema sylvestris</i>	Gurmar	Asclepidaceae	Root,Plant, leave
10	<i>Holostema annulare</i>	Arka Pusphi	Asclepidaceae	Plant
11	<i>Helicteres isora</i>	Arti awartin	Sterculiaceae	Fruits, Root,
12	<i>Lagerstroemia indica</i>	Phurush	Lythraceae	Leaes, Root, Seeds
13	<i>Madhuca indica</i>	mahuwa	Sapotaceae	Entire plant
14	<i>Momordica dioica</i>	Bank karela	Eucusbitaceae	Fruit, Root
15	<i>Musa paradisiaca</i>	Kela	Musaceae	Frits
16	<i>Pterocarpus marsupium</i>	Indian Kino	Papilionatae	Plant
17	<i>Strychnos potatorum</i>	Nirmili	Loganiaceae	Bark, Seed
18	<i>Tinospora cordifolia</i>	Guruch	Menispermaceae	Stem, Root

were encountered. The present ethno-botanic study enables proper transfer of knowledge of plant-based treatments to future generations. Swati Shrivastava & V.K. Kanungo (2013) [8] they concluded that 15plant species belonging to 11 families were recorded, found to be used by Uraon tribe in Surguja district for the treatment of diabetes. The method of drug preparation, drug administration and cost per episode was also recorded during the survey. Romila *et al.* (2010) [7] They was Concluded that Medicinal plants play an important role in the management of diabetes especially in developing countries This review presents the profile of plants with the hypoglycemic properties used by the people of Manipur, reported in different literature and survey. Choubey *et al.* (2010) [3] the large number of plants described in this review clearly demonstrated the importance of herbal plants in the treatment of diabetes and also to consider one of the good sources for a new drug or a lead to make a new drug.

## Conclusions

The Surguja district people have a close relationship with nature. They are fully dependent upon forest for food, fruits, fodder, and medicinal plants for their healthcare. Local people in this region, especially older age people, tribal people and women heavily use these traditionally available medicinal plants for health and believe that these are easily available, less expensive and have no side effects as compare to modern medicine The present situation of traditional knowledge regarding to medicinal plants everywhere is an issue of deep anxiety as the traditional knowledge is gradually declining and disappearing from the countryside. Due to the deforestation, impact of tourism on natural vegetation of this region, population explosion & heavily construction of this region for development and changing of climate and many more to responsible for its.

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