

ETHNO MEDICINAL KNOWLEDGE OF SPICES AND THEIR USES BY TRIBAL COMMUNITY OF RAJASTHAN, INDIA

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Abstract: A spice is a dried seed, fruit, root, bark or vegetative material used in nutritionally insignificant amount as a food supplement for the reason of flavouring and imparting taste. Spices are defined as "a strongly flavoured or aromatic substance of vegetable origin, obtained from tropical plants, commonly used as a condiment". In ancient times, spices were as valuable as metal gold; and as noteworthy as medicines and perfumes. No country in the world cultivates as a lot of kinds of spices as India with quality spices come from Kerala, an Indian state. Because of the varying climates in India-from tropical to sub-tropical, temperate-almost all spices are grown in this country. In almost all of the 28 states and seven union territories of India, at least one spice is grown in profusion. Spices used by tribe as herbal ethno medicine to treat several common diseases such as fever, indigestion, diarrhoea, dysentery, vomiting, asthma, heart diseases, headache, boils, leucoderma, bold disorders, piles and insect bites etc. were documented. High level of commercial use as ethno medicinal practices adversely affect the physical, social and economic welfare of the tribal community of Chittorgarh, Rajasthan. A survey (December 2012 to December 2013) reported data on four-teen spices belonging to twelve families identified from this region. Brief information about the scientific names with family, common names (English), plant part used, way of application of plant parts and their uses against diseases have been presented. Present study reveals that some species are important in primary healthcare system of tribal communities. This paper deals with the biodiversity of spices and their ethno medicinal uses by the tribal community for conservation and utilisation in Chittorgarh, Rajasthan.

Keywords: Spices, Ethno medicinal uses, TSP (Tribal specific place) Antimicrobial activity

INTRODUCTION

Chittorgarh is located at 24.88°N 74.63°E. It has an average elevation of 394 metres (1292 ft). Chittorgarh is located in the southern part of the state of Rajasthan, in the north western part of India. It is located beside a high hill near the Gambheri River. Chittorgarh is located between 23° 32' and 25° 13' north latitudes and between 74° 12' and 75° 49' east longitudes in the south eastern part of Rajasthan state. The three panchayat samitee encompasses 10,856 square km (3.17 per cent of the Rajasthan State) area of land.

In Chittorgarh contained various tribes like Bheel, Rawat, Meena, Gameti. In four P.S. of Chittorgarh, the tribal population was highest in south side three panchayat samitee. Thus, the tribal community was typically concentrated in the rural areas. The tribe live mostly on hill-tops and on slopes forming small and isolated villages. Most of these villages were located at remote and far away from the towns and therefore, the people mostly depend on the natural resources from the nearby forests for their livelihood including medicinal herbs for treatments of different diseases and ailments. Generally, the traditional knowledge of medicinal herb was confined to local medicine men. How-

ever, some secret of medicinal virtues could be obtained from them through close contact. The medicine men have practiced and developed this knowledge of the use of medicinal herbs through their age long trial and error methods and passed on orally from generation by generation. It is important to save this traditional knowledge of biological heritage and explore new resources. Traditional and ethnic knowledge has played a significant role in the discovery of novel ideas about conservation of natural resources. Spices have good anti-oxidant and preservative properties as well as anti-microbial and antibiotic properties, and therefore, are also used for medicinal purposes. Some of the spices are rich in iron, vitamins, trace metals and potassium. About 60 varieties of spices are grown in India (Babu et al. 2013) which is a well known land of spices from the ancient period onwards (Mathew 2013). Luxuriant forest, abundant in all parts of state and variety of medicinal plants, herbs, shrubs, bamboo and trees growing in the state are rich. There are number of plants whose medicinal values have been recognized but very little effort has been made to develop the ethno medicinal plants in the past. It is essential for the tribal communities to understand the need for sustainable utilization of these plants.

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Plate 1. With Farmer: Ginger and Turmeric field

MATERIALS AND METHODS

Study was conducted in Three panchayat samitee (Bari sadri, Bhadesar, Dungla) of three panchayat samitee Chittorgarh Rajasthan during December 2018-19 to December 2019-20. The survey was done in spring and monsoon seasons when plants bloom and show extensive growth with the view of studying their natural habitat and distribution. The tribal community and the area were selected purposely due to maximum biodiversity of ethno medicinal plants in the area. The information and data were collected from three panchayat samitees

of Chittorgarh. Five tribal places were selected from each of the three panchayat samitees and ten tribal groups between 25 to 75 years were selected. They were local herbalists, healers, farmers, village headman, elders and students of both the sexes. Standard ethno medicinal investigation procedures were followed (Jain 1995, Martin 1995). The data collected during the fieldwork have been entered and analyzed in a database generated with Mi-tract wise. A three panchayat samitee wise list of tribal people was prepared and fifty tribal of each of the three panchayat samitees were selected randomly.



Fig. 1: Map showing the study area of Rajasthan

Thus, the total sampling consisted of 200 tribal peoples spread over three Panchayat samitees. People to people contact in the form of personal interview was conducted. Thus the primary data were collected with the help of interview schedule

through a questionnaire. Secondary data were obtained from published journals. Our respondents were in a range of age corset Excel 2007 software. Data collected about spices biodiversity, their ethno medicinal uses and related information

about tribal community of Chittorgarh were documented.

RESULTS AND DISCUSSION

The present study revealed 12 spices belonging to 12 families namely Zingiberaceae, Solanaceae, Apiaceae, Piperaceae, Brassicaceae, Leguminosae, Liliaceae, Punicaceae, Rutaceae and Lamiaceae were documented for their ethnomedicinal uses against different diseases (Table 1). Plant parts used for treatment were leaves (05 nos.), bark (01 no.), bulb (01 no.), rhizome (02 nos.), fruits (03 nos.) and seeds (03 nos.) Three different mode

of application of plants parts based on use for treatment of ailments are internal (08 nos.), external (02 nos.) And internal/external (04 nos.) The spices studied were enumerated with their Scientific names, family names, common names (English) plant parts used, way of application and uses in Table 1. The tribal community was unique not only in practice of rituals and customs but also in practice of indigenous medicinal system compared to other tribes of Chittorgarh and rest part of India. Each ethnic group has some unique knowledge of ethnomedicinal plants and the tribal community were not an exception (Bennet 1983, Rai *et al.* 1998).

Table 1. Ethno medicinal uses of Spices by tribal community of Chittorgarh

Scientific name with family	Common name	Plant part use	Uses (ailments treated)
Allium sativum L. Liliaceae	Garlic	Bulb	Bulb is used against skin diseases and bulb paste used against bone fracture.
Amomum subulatum (Roxb.) Zingiberaceae	cardamom Large	Seed	Seed is useful in indigestion, vomiting, disease of rectum, mouth and head.
Brassica juncea L. Czern Brassicaceae	Mustard	Seed	The paste of seeds is externally used on boils and skin allergy.
Capsicum annuum L. Solanaceae	Chilli	Fruit	Fruit used in headache, rheumatism, gastritis and digestive diseases
Coriandrum sativum L. Apiaceae	Coriander	Fruit and Leaf	Fruit used in diuretic, antipyretic, stomachic, stimulant, laxative, and anthelmintics. Leaf paste is applied on allergic affected area for a week.
Curcuma longa L. Zingiberaceae	Turmeric	Rhizome	Rhizome juice mixed with honey is used against anaemia. Paste of fresh turmeric with leaves of neem (<i>Azadirachta indica</i>) and paste of turmeric and bermuda grass (<i>Cynodon dactylon</i>) helps in the healing of itches, boil, rheumatism, urticaria, and ringworm
Mentha piperita L. Lamiaceae	Mint	Leaf	Five to six leaves mixed with 50 ml of water used against indigestion.
Murraya koenigii L. Sprengal Rutaceae	Curry leaf	Leaf and Root	extract useful in leucoderma, bold disorders, piles and stop vomiting. Leaves paste used against bruises and eruption
Piper nigrum L. Piperaceae	Pepper	Seed	Seed used in gastrointestinal and improve digestion.
Punica granatum L. Punicaceae	Pomegranate	Fruit and Bark	Fruit juice is used as tonic for the heart, stopping nose bleeds and toning skin. Fruit and bark used against diarrhea and dysentery.
Tamarindus indica Leguminosae	Tamarind	Bark	A decoction of bark is given in cases of paralysis, ulcers & inflammations.
Zingiber officinale Rose. Zingiberaceae	Ginger	Rhizome	laxative, aphrodisiac, carminative useful in heart diseases, throat and asthma. treatment of ailments are internal

Plant species used by tribe as herbal ethno medicine to treat several diseases like fever, indigestion, diarrhea, dysentery, vomiting, asthma, heart diseases, headache, boils, leucoderma, bold disorders, piles and insect bites are the common ailments among different age groups of people (Table 1). Photographs of some spices used by

tribal community are presented in Plate 1. Documentation of these spices would not only open opportunity to provide new medicines but will also help in their conservation (Rai *et al.* 1998). In hilly areas, traditional cropping is not productive and therefore, in situ conservation and planting high value spices may be a better alternative.

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