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An ethnobotanical study of plants used for the treatment of livestock diseases in Tikamgarh District of Bundelkhand, Central India

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PEER REVIEW

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Comments

This is a valuable research work which deals with ethnoveterinary medicinal plants utilized by rural farmers and experience herbal healers of the studied villages of Bundelkhand. The results are interesting and suggested that surrounding flora of any region may play a key role in the management of animal health care and development of new Ayurvedic preparation.
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ABSTRACT

Objective: To explore and document the information regarding usage of ethnoveterinary medicinal plants utilized by rural farmers and traditional herbal healers for livestock healthcare in Tikamgarh District of Bundelkhnad, Central India.

Methods: The remote villages of Tikamgarh district were regularly visited from July 2011 to June 2012. Following the methods of Jain and Goel (1995) information regarding the usage of ethnoveterinary medicinal plants was collected.

Results: A total of 41 plant species in 39 genera and 25 families were used traditionally with various plant parts and their combinations for the treatment of more than 36 diseases in the studied area. Trees (17 species) were found to be the most used Ethnoveterinary medicinal plants followed by herbs (15 species), shrubs (6 species) and grasses (3) in descending order. The most common diseases cough, diarrhoea and fever were treated by 04 ethnoveterinary medicinal plant species.

Conclusions: The present study recommended that the crop and medicinal plant genetic resources cannot be conserved and protected without conserving/managing of the agro-ecosystem or natural habitat of medicinal plants and the socio-cultural organization of the local people. The same may be applied to protect indigenous knowledge, related to the use of medicinal and other wild plants. Introduction of medicinal plants in degraded government and common lands could be another option for promoting the rural economy together with environmental conservation, but has not received attention in the land rehabilitation programs in this region.

KEYWORDS

Ethnoveterinary medicinal plants, Livestock healthcare, Traditional herbal healers, Bundelkhand, Central India

1. Introduction

The rich and diversified flora of India provides valuable storehouse of medicinal plants. The curative properties of herbs have long been known and are documented in ancient manuscripts such as in Rig Veda, Garuda Purana and Agni Purana. These treatises focus on the potential of plants and herbs to cure human ailments and diseases. Scientists are now documenting various ethnoveterinary practices based on plant drugs. The plant wealth of India also offers the people who tend livestock a rich reservoir in treating the diseases and ailments of the animals. Seventy six percent population of India is predominantly rural[1].

In Indian agriculture, livestock plays a key role in the farmers life, they provide farm power, rural transport, manure, fuel, milk and meat, but also a major role in rural economy by providing income and employment to the small hold farmers and other weaker sections of the society. The indigenous knowledge of the veterinary health care system acquired by traditional herbal healers and elderly learned farmers and is orally transformed from one generation to other. It is less systematic and less formalized

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and is usually transferred by word of mouth rather than in writing[2].

Ethnoveterinary medicine, deal with traditional animal health care which encompasses the knowledge, skills, methods, practices and beliefs about animal health care. Ethnoveterinary medicine is developed by farmers in fields and barns, rather than by scientists in laboratories and clinics. Ethnoveterinary medicine often provides cheaper options than comparable western drugs and the products are locally available and more easily accessible. In the face of these and other factors, there is increasing interest in the field of ethnoveterinary research and development[3-8].

The possible benefit of plant derived medications constitutes a rewarding area of research, particularly in countries such as India which have a rich biodiversity of natural plant resources coupled with a high prevalence and variety of infectious diseases. The characteristics, sophistication, and intensity of the ethnoveterinary systems differ greatly among individuals, societies, and regions. Hence, documentation of ethnoveterinary medicine from regions having a rich ethnographic and biodiversity setting would be of great significance. Traditional knowledge of ethnoveterinary medicinal plants and their use by indigenous cultures are not only useful for conservation of cultural traditions and biodiversity but also for community healthcare and drug development in the present and future[9]. Documentation of indigenous knowledge and evaluation of the use of plants for a variety of purposes assume greater significance, not just to retain it, but also to keep it alive and make it available for future use because of rapid socio-economic and cultural changes that are taking place across the traditional community of the region. Keeping this in view, the present studies was initiated, with an aim to identify knowledgeable resource person *i.e.* elderly learned farmers and experienced traditional healers and document their knowledge of on the utilization of ethnoveterinary medicinal plants in Tikamgarh district of Bundelkhand region, India.

2. Material and methods

Bundelkhand region is situated between 23°8′- 26°30′ N latitude and 78°11′- 81°30′ E longitude in central part of India. The geographical location of Bundelkhand is in such a way that it acts as a gateway between the north and south India (Figure 1). The Bundelkhand region comprises of five districts of Uttar Pradesh State *viz*., Jhansi, Lalitpur, Jalaun, Hamirpur and Banda; six districts of Madhya Pradesh State *viz*., Datia, Tikamgarh, Chhatarpur, Panna, Damoh and Sagar and Lahar and Bhander tahsils of Bhind and Gwalior districts, respectively. The topography of the region is characterized by its smooth flat lands and inter-mixed undulating topography of varied slope. The Bundelkhand is bounded by the Yamuna river in the north, escarped ranges of the Vindhyan plateau in south, the Sindh River in the north-west and Bhanrer ranges in the south-east. The region is spread over 71618 km^2 and supports 12.45 million human populations as per 1991 census[10].

Tikamgarh District is located in the northern part of Madhya Pradesh. It lies on the Bundelkhand Plateau between the Jamni, a tributary of Betwa and Dhasan rivers. It

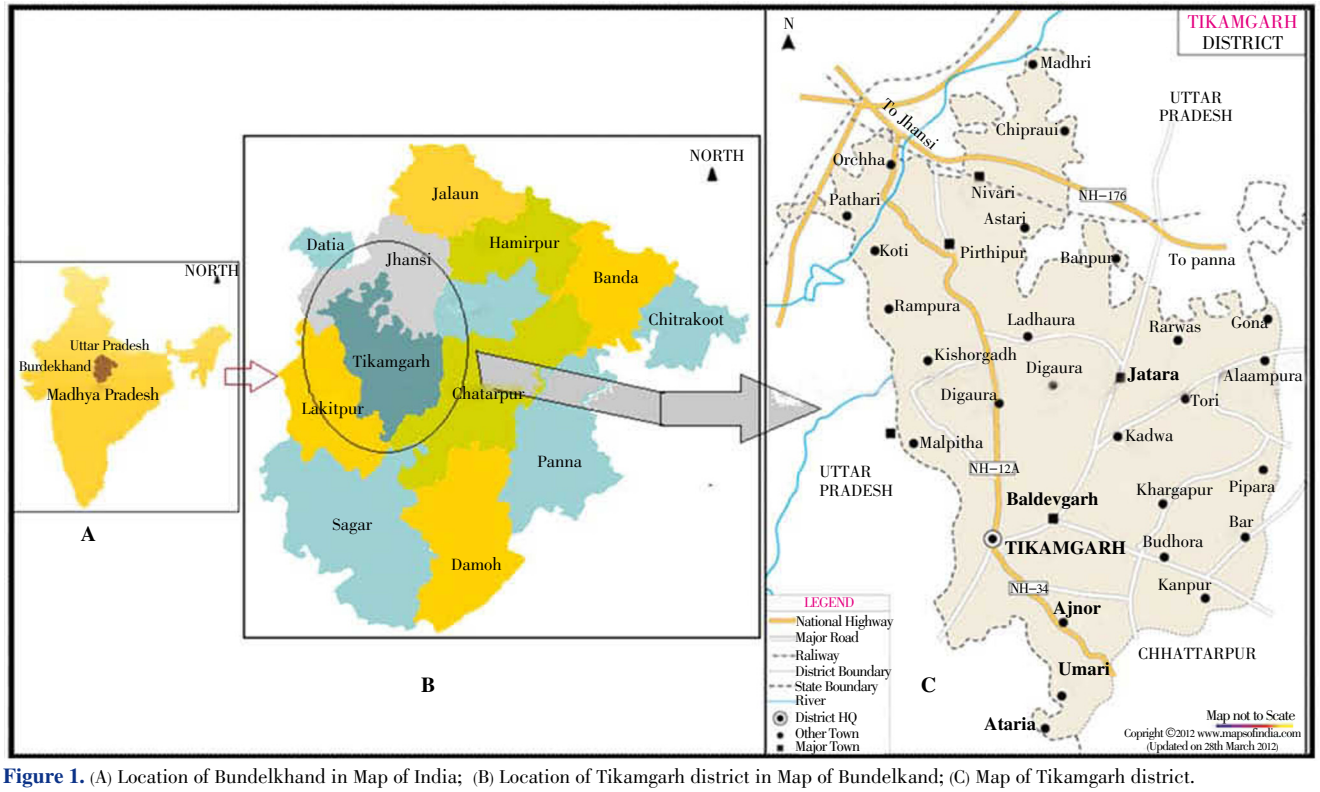

Figure 1. (A) Location of Bundelkhand in Map of India; (B) Location of Tikamgarh district in Map of Bundelkand; (C) Map of Tikamgarh district.