



Ethnomedicinal plants used by tribal people of Gadchiroli Maharashtra for the treatment of Cancer

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Abstract

In the present investigation, a survey was carried out at Wadsa, Kurkheda, Korchi, Dhanora, Etapalli, Bhamaragarh, Sironcha, Aheri tehsils of the district Gadchiroli for the collection of information about Ethnomedicinal practices on Cancer by local Ayurvedic practionars. The study revealed that 25 plants species belonging to 20 families were used by 'herbal healers' for the disease of cancer all over the district and there is need for the documentation of the traditional knowledge about medicinal plants that will test in various experimental models using modern scientific methodologies.

Keywords: ethnobotany, traditional medicinal knowlegde, ethnomedicinal studies

Introduction

Cancer imposes the major disease burden worldwide with considerable variation among countries and region. It becomes second major cause of death in human after cardiovascular disease (Jackson, 2000) [2]. In India Cancer is the most common cause of mortality. There is burden on India about the diagnosis of the disease cancer. India is a vast repository of medicinal plants that are used in traditional medical treatments (Chopra *et al.*, 1956) [3] and there are various traditional methods and herbal combinations mentioned in Ayurveda employed in treatment of various cancers. In addition to these traditional methods, a herbal decoctions consisting of multiple herbs each possessing tremendous potential for a cancer cure are commonly used in Ayurveda. In India, through the usage of plants and also the records of such usage are very ancient, but under the title of 'Ethnobotany' studies were initiated only by Dr. E.K. Janaki Ammal in 1954.

In Maharashtra Gadchiroli is the region where tribal people resides belonging to Gond, Dhamdi, Korku, Madia, Pardhan,

Kuvar and lodhi communities. These people have their own knowledge accumulated by them through a long series of observation and is transmitted from one generation to another. There is need of compiling data about Ethnomedicinal knowledge of local Ayurvedic Practionars on promising phytochemical from folk medicinal plants for anticancer activity that will test in various experimental models using modern scientific methodologies.

Materials and Methods

Study Area

Gadchiroli District is located on the North-Eastern side of the State of Maharashtra. It is situated between 18.43' to 21.50' North latitude and 79.45' to 80.53' East longitude. It occupies an area of 14412.0 sq.km, having State borders of Andhra Pradesh and Chhattisgarh. The district is categorized as Tribal and undeveloped district and most of the land is covered with forests and hills. Forests cover more than 75.96 % of the geographical area of the district.

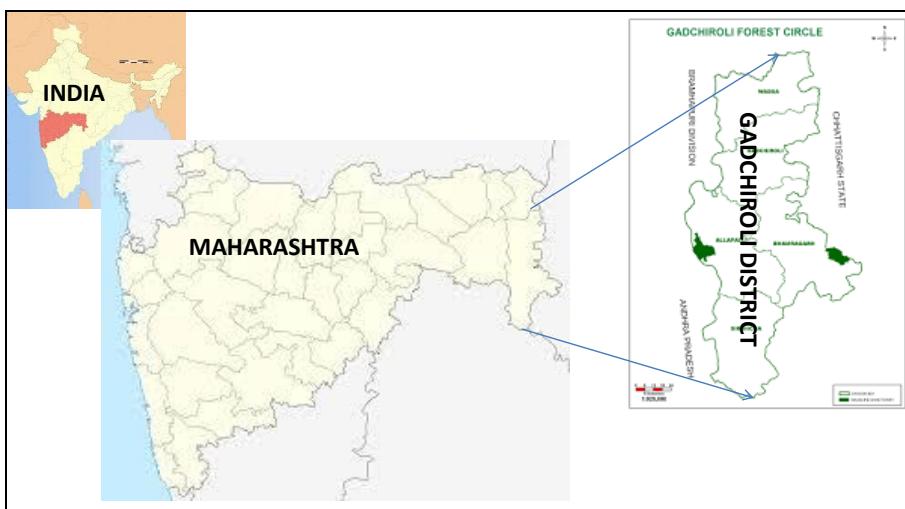


Fig 1

In order to get traditional medicinal knowledge from tribal people of Gadchiroli district, field visits were given to different villages like Ekalpur, Jambali, Mahageo, Walad, Yerkadi, Deosara, Khamtada, Katalwada, Salagtola, Bodaldand, Joshitola, Kasari, Bortola, Chittur, Loha, Potri, Gorguda Vatara, Korepalli and Govalheti during January 2013 to January 2014. The approaches and methodologies for ethnobotanical work suggested by Jones (1941) [5], Schultes (1960, 1962) [11, 12], Jain (1964, 1967, 1987, 1989) [6, 7, 8, 9], Bellany (1993) [4], Chadwick and Marsh (1994) [13] and

Martin (1995) [14] were followed in the present study. The information was documented involving field study by contacting and interviewing Vaidus, Ojhas for plants used to cure cancer.

Observation and Results

25 Plant species belonging to 20 families had been using by various tribes for the treatment of cancer are mentioned in Table 1 with their common name, botanical name, and family and plant parts used.

Table 1: Showing Plants used by the tribal people for cure of the disease cancer

S.No.	Common name	Botanical Name	Family	Parts Used
1	Indrayan	<i>Citrullus colocynthis</i> L.	Cucurbitaceae	Root
2	Parad	<i>Kigelia pinnata</i> DC.	Bignoniaceae	Root
3	Chitrak	<i>Plumbago zeylanica</i> L.	Plumbaginaceae	Whole plant
4	Kanakchampa	<i>Plumeria acutifolia</i> L.	Apocynaceae	Bark
5	Arandi	<i>Ricinus communis</i> L.	Euphorbiaceae	Seeds
6	Kektdad	<i>Agave veracruz</i> L.	Agavaceae	Leaves
7	Durva	<i>Cynodon dactylon</i> L.	Poaceae	Leaves
8	Kandvel	<i>Cissus quadrangularis</i> L.	Vitaceae	Whole plant
9	Moha	<i>Madhuca indica</i> koen.	Sapotaceae	Bark
10	Chikna	<i>Sida rhombifolia</i> L.	Malvaceae	Roots
11	Jambhul	<i>Syzygium cumini</i> L.	Myrtaceae	Bark
12	Katta	<i>Acacia catechu</i> Willd.	Fabaceae	Bark
13	Bel	<i>Aegle marmelos</i> L.	Rutaceae	Leaves
14	Hivar	<i>Acacia leucopolia</i> L.	Fabaceae	Swollen part on stem
15	Palas	<i>Butea monosperma</i> L.	Fabaceae	Swollen part on Rachis
16	Jamb	<i>Psidium guajava</i> L.	Myrtaceae	Leaves
17	Arandi	<i>Ricinus communis</i> L.	Euphorbiaceae	Leaves
18	Chikna	<i>Sida acuta</i> L.	Malvaceae	Whole plant
19	Hirda	<i>Terminalia chebula</i> (Gaertn) Retz	Combretaceae	Fruit
20	Behra	<i>Chloroxylon swietenia</i> DC	Rutaceae	Bark
21	Salai	<i>Boswellia serrata</i>	Burseraceae	Bark
22	Kamuni	<i>Solanum nigrum</i>	Solanaceae	Fruit
23	Khadya nag	<i>Gloriosa superba</i> L.	Liliaceae	Seeds
24	Audumbur	<i>Ficus Glomerata</i>	Moraceae	Roots
25	Pundlik	<i>Thespesia populnea</i> ,	Malvaceae	Seeds

Discussion and Conclusion

The people of the region have lots of remedies by their own to cure various diseases. Present work was felt interesting and knowledgeable as well as very significant in cancer therapy because more than 10 new anticancerous plants were investigated. This study is really helpful for the well-being of mankind and support the physicians and researchers to utilize these plant sources for an effective cancer treatment. There are various plants products which has been already recorded as medicine for cancer like product from *Catharanthus Roseous* (Starling, 1976) [16] and from *Taxus Brevifolia* (Wani *et al.*, 1971) [15] etc but number of deaths still occur due to cancer are still not minimize.

Present investigation revealed the information from Adivasi people about most dangerous health problems cancer. It provides basic knowledge to Researchers and scientist who work on cancer.

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Reference

1. Singh JS, Raghubanshi AS, Varshney CK. Integrated biodiversity research in India. *Curr Sci.* 1994; 66(70):109.
2. Jackson BG. Mechanism based target identification and drug discovery in cancer research. *Science.* 2000; 1969:287
3. Chopra RN, Nayar SL, Chopra IC. In *Glossary of Indian medicinal plants*, Council of Scientific and Industrial Research. New Delhi. 1956; 1:197.
4. Bellany B. *Ethnobiology-Expedition Field Techniques*. Expedition Advisory Centre, Royal Geographical Society, London. 1993.
5. Jones VH. The nature and status of Ethnobotany. *Chron. Bot.* 1941; 6:219-221.
6. Jain SK. The role of a botanist in folklore research. *Folklore*, 1964; 5:145-150.
7. Jain SK. Ethnobotany: Its scope and study. *Ind. Mus. Bull.* 1967; 2:39-43.

8. Jain SK. A manual of Ethnobotany. Scientific Publishers, Jodhpur, 1987.
9. Jain SK. Methods and approaches in Ethnobotany. Society of Ethnobotanists, Lucknow, 1989.
10. Jain SK, Rao RR. A hand book of field and herbarium methods. Today & Tomorrow's Printers and Publishers, New Delhi, 1977.
11. Schultes RE. Tapping our heritage of ethnobotanical lore. *Econ. Bot.* 1960; 14:257-262.
12. Schultes RE. The role of the Ethnobotanists in search for new medicinal plants. *Lloydia*. 1962; 26:67-74.
13. Chadwick DJ, Marsh J. Ethnobotany and the search for new drugs. John Wiley and Sons, Chichester, U.K. 1994.
14. Martin GJ. Ethnobotany: a methods Manual. Chapman & Hall, London. Santaram, A. M. A chemotaxonomic study of some species of Coffee. *Thea* 1984-1995; 27:183-190.
15. Wani MC, Taylor HL, Wall ME, Coggon P, McPhail AT. Plant antitumor agents. VI. The isolation and structure of taxol, a novel antileukemic and antitumor agent from *Taxus brevifolia*. *J Am Chem Soc.* 1971; 93:2325-7.
16. Starling D. Two Ultrastructurally Distinct Tubulin Paracrystals Induced in Sea-Urchin Eggs by Vinblastine Sulphate. *Journal of Cell Science*. 1976; 20(1):79-89.