

ETHNOMEDICINAL PLANTS USED AGAINST DIABETES AT BARGARH DISTRICT IN ORISSA (INDIA)

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ABSTRACT

This paper deals with 11 plant species of ethnomedicinal value used to manage diabetes by the people residing in the forests of Barapahad and Gandhamardan hills in Bargarh district, Orissa. The data presented in this paper has been collected by personal contact with different medicine men. Voucher specimens are deposited in the herbarium of Botany Department, Panchayat College, Bargarh, Orissa.

INTRODUCTION

Medicinal plants always play as a key role in human life. Rural people and forest dwellers are utilizing medicinal plants for preventive and curative purpose of various ailments.

Diabetes is a disease due to some physiological disorders. That is why millions of people are suffering from diabetes all over the world. A number of plants or plant parts are mentioned as antidiabetic agents in various literatures like Indian Medicinal Plants (Kirtikar and Basu, 1981), The Useful Plants of India (Ambasta *et al.* 1992), Medicinal Plants (Jain, 1994), Glossary of Indian Medicinal Plants (Chopra *et al.* 1996).

Bargarh district is situated between latitude 20°40' and 21°49' North and longitude between 82°45' and 83°48' East. The district is enrich with wonderful and valuable medicinal plants mostly found in the hills of Barapahad and Gandhamardan. The Barapahad is situated towards the north-east of Bargarh district and is extending over an area of 347 km². Debrigarh Sanctuary is a part of the hills. The Gandhamardan hills extend over an area of 300 km² and located in south-eastern part of the district. In 1963, G. Panigrahi describe Gandhamardan as the real Gandhamardan of Ramayana epic fame and reported to 220 medicinal plants species with their medicinal value from this area.

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MATERIALS AND METHODS

Ethnobotanical field studies were conducted in different villages during 1992-1996. The traditional healers, kabirajas and vaidyas belonging to the tribe 'Kondha' and 'Gond' and other ethnic communities were contacted for information regarding medicinal uses of the plant species. The plant species collected during the field studies are preserved in the herbarium of Botany Department, Panchayat College, Bargarh.

A list of 11 plants used to manage diabetes are enumerated here in alphabetical order with their botanical names, families, local names and uses.

1. **Aegle marmelos** (L.) Corr. ex Roxb. (Rutaceae) "*Bel*".

Fresh leaf extract (15 ml) with honey (1 teaspoonful) is taken thrice daily for one month.

2. **Ananas comosus** (L.) Merr. (Bromeliaceae) "*Sapri*".

Ripe fruit juice (half a cup) is taken daily.

3. **Azadirachta indica** A. Juss. (Meliaceae) "*Leem*".

Fresh leaf extract (5 to 25 ml) with honey (5 to 10 ml.) is taken once in the morning.

4. **Cicer arietinum** L. (Fabaceae) "*Tiasichana*".

The seeds (red variety) are crushed in a iron mortar and pestle. The power (1-2 teaspoonful) with lemon juice (1/2-1 teaspoonful) is taken with warm water once daily in empty stomach for 21 days.

5. **Pongamia pinnata** (L.) Pierre. (Fabaceae) "*Karanj*".

The flowers (120 gm) are boiled to obtain a decoction. The decoction (40-60 ml) is taken once daily in empty stomach.

6. **Gymnema sylvestre** (Retz.) R. Br. ex Schultz (Asclepiadaceae) "*Gudmari*".

The leaves (12g) of the plant and the leaves (12g) of *Syzygium cumini* are boiled together in two cups of water. The decoction (half a cup) with honey (1 teaspoonful) is taken in the morning for one month. The leaf extract (1 teaspoonful) and the fruit powder (1 teaspoonful) of *Trigonella foenum-graecum* is taken twice daily before meals.

7. **Mangifera indica** L. (Anacardiaceae) "*Am*".

The leaf powder (5g) is taken once daily in empty stomach.

8. **Moringa oleifera** (Moringaceae) "*Munga*". The root decoction (1 teaspoonful) is taken twice daily.

9. **Pterocarpus marsupium** Roxb. (Fabaceae) "*Bija*".

The wood powder (1 kg) is boiled in 16 litres of water to obtain a decoction. It is filtered and the filtrate is boiled again to get a paste. It is dried and powdered. The powder (250 mg) is taken twice daily.

10. *Syzygium cumini* (L.) Skeels
(Myrtaceae) "*Jamu*".

The seed powder (3g) is taken thrice a day. The fresh leaf extract (6ml) is taken twice daily.

11. *Tinospora cordifolia* (Willd.) Miers.
(Menispermaceae) "*Gulchi*".

The stem (30g) and the fruit (30g) of *Phyllanthus emblica* are boiled together. The decoction (60 ml) with a pinch of turmeric powder is taken twice daily.

DISCUSSION

The ethnobotanical study of Bargarh district reveals that both Barapahad and Gandhamardan hills are with rare and valuable medicinal plant resources and need adequate conservation (Sen & Pradhan, 1999). This paper deals with 11 plant species used in diabetes by the tribals and other ethnic communities of Bargarh district. The method of uses and doses administered reported in this paper are restricted to the tribals and other ethnic communities. The process of extraction of the active principles of these plants should be standardised for safe uses.

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