TRADITIONAL KNOWLEDGE OF MEDICINAL PLANTS AGAINST BIRTH CONTROL BY THE TRIBALS AND OTHER RURAL PEOPLE OF BARGARH DISTRICT IN WESTERN ODISHA, INDIA

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ABSTRACT

Bargarh is one of the ten districts of Western part of Odisha (previously Orissa) covering a land area of 5837 sq. Kms and is the natural treasure of a large number of plants. Many of these plants have ethnobotanical use. A survey of the medicinal plants at different forest pockets and rural areas of Bargarh district was under taken during 2006–08. This work relates to the study of medicinal plants used by the tribals and other rural people of Bargarh district. The information has been collected by personal contact with these people. It reveals that 20 plant species (belonging to 20 genera and 16 families) are used by them for temporary or permanent birth control either as contraceptive or abortifacient. The plant parts used, mode of drug preparation and their doses are discussed.

KEY WORDS: Traditional use; Medicinal plants; Birth control, Tribals and rural people; Bargarh district

To Cite this article:
INTRODUCTION

The use of wild plants is an integral part of the strong traditional and cultural systems and practice of tribes that have developed and accumulated over generations. The tribes depend predominantly on plants for food, clothing, housing, medicine, oil, agricultural implements, art, crafts and a host of other requirements. The use of traditional medicine and medicinal plants in most developing countries, as a normative basis for the maintenance of good health, has been widely observed (Maheswari, 1995).

Population explosion is the greatest problem, India is facing today. Modern medicine has provided several preventive methods of contraception which are not safe and have serious side effect. Many countries have already banned the use of normal contraceptives because of its carcinogenic effects. The discovery of some herbal contraceptives, safe and sure is the very need of the hour. Herbal contraceptives were used even by the primitive people of ancient civilization to control fertility and to prevent pregnancy. Some earlier works from different parts of the country using plant materials relating to birth control, either as contraceptive or abortifacient are Bilore and Audichya (1978), Tewari and Chaturvedi (1981), Kishore and Bhat (1982), Hemadri and Rao (1983), Jain (1986), Murty et al., (1997), Shrivastava et al., (1999), Shah et al., (2009), Ekka (2012).

Study area

Odisha known as Orissa (prior to 5th Nov 2011), located on the east coast of Indian peninsula ranks second in tribal population with more than 8 million tribal people belonging to 62 different ethnic groups. Kondh, Binjhal, Saora, Santhal, Sabar, Bhatoda Bhumij, Gond, Bhuyan, Mundari, Juang, Koya, Diyayi etc are some of the tribes inhabiting different regions of Odisha (Saxena and Brahman, 1994 – 96).

Bargarh district (20°40’–21°49’N latitude and 82°45’–83°48’ E longitude), situated at the western part of Odisha covers a land area of about 5837 sq Km and is inhabited by 1,478,833 people (GOI, 2011). The average annual rain fall is about 1500 mm. Six types of forests (Tropical Semi-evergreen, Tropical Dry-deciduous, Scrub-woodland, Bamboo, Grassland) occur in this district and these diversified forest localities harbor plenty of medicinal plants (Mishra, 1994).

Bargarh district offers immense scope for ethno-botanical studies as it possesses rich diversity of flora and a large number of economic and medicinal plants forming an integral part of the culture of the ethnic communities like Sahanra (Soara), Binjhal, Gond, Kondh, Munda, Kuli, Kalanga, Oran, Mirdha, Dharua, Kisan, Kharia and Parja.

Earlier many ethnobotanical studies have been carried out in Odisha (Rai Choudhury et al., 1975; Saxena and Dutta, 1975; Saxena et al., 1979; Mudgal and Pal, 1980; Girach, 1992; Mishra, 1992; Satpathy and Panda, 1992; Sahoo and Mudgal, 1995). But medicinal plants available in this region have not yet been explored well except few previous records on taxonomy and ethno-medicinal knowledge published from time to time (Panigrahi, 1963; Brahman and Saxena, 1990; Misra, 1990; Misra et al., 1994; Saxena and Brahman, 1995, Misra and Das, 1998; Pradhan et al., 1999; Sen and Pradhan, 1999; Sen and Behera, 2003, 2007, 2008; Sen et al., 2005; Behera and Sen, 2008; Reddy and Pattanaik, 2009). But during the present survey an attempt has been made to explore some useful information on medicinal plants growing in wild and to gather knowledge on new or lesser known ethno-medicinal uses against birth control.

METHODOLOGY

Regular field trips were made during 2006–2008 to collect the ethno-botanical information. The ethno-medicinal information was gathered through interviews and discussions with village headmen, traditional healers and elders of the clan. In general, the traditional healers are conservative by nature and do not share all the information regarding the use of plants as
Data were recorded in the field notebook relating to the plant parts used, local name, place of collection, process of preparation, mode of administration and dosage. Voucher specimens were collected for authentication of information and for future references and they were identified with the help of Floras (Haines, 1921–25; Saxena and Brahmam, 1994–96). Herbarium specimens are lodged in the herbarium of Botany Department, Panchayat College, Bargarh.

Enumerator

Plant species collected and identified during the survey were arranged alphabetically with their botanical name, family name in parentheses, local name, locality and collection number, medicinal uses, dosage and mode of administration (Table -1 and Table -2).

### Table 1: List of ethnomedicinal plants used as contraceptive

<table>
<thead>
<tr>
<th>Sl.No.</th>
<th>Botanical name family</th>
<th>Local name, Locality &amp; Voucher No.</th>
<th>Ethno-medicinal Uses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Abrus precatorius L.  (Fabaceae)</td>
<td>Gunj Barhaguda-55</td>
<td>Seed (White variety) paste or powder with honey is taken once in empty stomach on the fourth day of the menstruation. This is used as contraceptive for one month.</td>
</tr>
<tr>
<td>2.</td>
<td>Azadirachta indica A. Juss   (Meliaceae)</td>
<td>Leem Nrusinghnath-586</td>
<td>Before intercourse seed oil (3–4 drops) is applied over male sex organ to check possibilities of pregnancy.</td>
</tr>
<tr>
<td>3.</td>
<td>Butea monosperma (Lam.) Taub.  (Ffabaceae)</td>
<td>Phalsa Ramkhol-378</td>
<td>Seed ash (1 g) with milk is taken once daily in empty stomach for 3 days from the day of menstrual bath to ensure permanent sterility. Root powder of the plant and fruit powder of Piper longum are mixed together and is taken once daily in empty stomach for 10 days from the 4th day of menstrual cycle to prevent pregnancy for a period of 3 years.</td>
</tr>
<tr>
<td>4.</td>
<td>Crataeva religiosa G. Forst.   (Capparaceae)</td>
<td>Barun Khandijharan-320</td>
<td>Bark paste (5 g) is taken once daily in empty stomach for 3 days from the 5th day of menstrual cycle. Repeat it in next 3 years gap for permanent sterility.</td>
</tr>
<tr>
<td>5.</td>
<td>Curcuma longa L.   (Zingiberaceae)</td>
<td>Haldi Udepali-535</td>
<td>A piece of rhizome is grinded and taken once daily in empty stomach for 2 weeks from the 5th day of menstrual cycle to check possibilities of pregnancy for a period of one year.</td>
</tr>
<tr>
<td>6.</td>
<td>Cynodon dactylon (L.) Pers.   (Poaceae)</td>
<td>Dubla Barhaguda-98</td>
<td>Whole plant extract (2 teaspoon) with curd (2–3ml) is taken in its own palm and swallowed on the day of menstrual bath. This is used as contraceptive for at least six months.</td>
</tr>
<tr>
<td>7.</td>
<td>Embelia ribes Burm.f.    (Primulaceae)</td>
<td>Bidang Nrusinghnath-171</td>
<td>Fruit of the plant, fruit of Piper longum and gum of Acacia catechu are mixed together in equal amount and the powdered (5 g) is taken once daily in empty stomach for 5 days from the day of menstrual bath to ensure permanent sterility.</td>
</tr>
</tbody>
</table>
8. **Hibiscus rose-sinensis** L. (Malvaceae)  
   Mandar Ainlapali-115  
   Red flower (1 number) crushed with ‘kanjimani’ (fermented rice water) and is taken in empty stomach for 3 days from the 1st day of menstrual cycle to ensure sterility for 3 years. Flower (red variety) paste with molasses (24 g) is taken for 14 days from the 4th day of the menstrual cycle to ensure sterility for 3 years. Root (6 g of white variety) paste is taken in empty stomach once daily for 7 days from the 4th day of menstrual cycle to ensure sterility for one year. Root paste (1.5 g) of the plant (white variety) is given to woman once daily in empty stomach in the morning of the 5th day of the menstrual cycle to ensure sterility for one year.

9. **Jasminum sambac** (L.) Sol. (Oleaceae)  
   Malli Bargarh-162  
   Root paste (5 g) is taken once daily for 7 days after menstrual cycle for 3 months to induce sterility.

10. **Mentha arvensis** L. (Lamiaceae)  
    Pudina Barhaguda-714 (Planted)  
    Leaf powder (10 g) is taken by woman sometime before sexual relationship to delay conception for at least six months.

11. **Ricinus communis** L. (Euphorbiaceae)  
    Jada Beherapali-231  
    Seed coat is removed and powdered. It is taken in empty stomach after the menstrual bath to remain sterile for a period of one year. Seed without seed coat (3 numbers) has to swallow after the menstrual bath. Women will not be pregnant at least for a period of 3 years.

12. **Sesamum indicum** L. (Pedaliaceae)  
    Rayesh Ainlapali-114  
    Immediately after sexual relationship *rayesh-tel* (1 teaspoon- seed oil of the plant) with a pinch of rock salt is given to woman. It is used as a temporary contraceptive.

13. **Tephrosia purpurea** (L.) Pers. (Fabaceae)  
    Jharkulthia Barhaguda-792  
    Root (12 g) paste is taken once daily in empty stomach for 7 days from the day of menstrual bath to prevent pregnancy.

**DISCUSSIONS**

The inhabitants of Bargarh district use a variety of plants for medicinal purposes even today. Local people with all belief and faith consult the herbal medicine practitioner and other traditional healers to remain hale and healthy. However, the fast vanishing forest poses a threat for the sustainable use of the traditional practice. Hence, care must be taken for the conservation of forest, festival and fair in the tribal dominated areas before they go into the pages of history.

Several medicinal plants are used in traditional systems of medicine for birth control (Jain, 1991). The present study provides the information on 20 plant species under 16 families belongs to 20 genera used as birth control. The plant parts are used in the form of paste, powder, oil and ash. Both internal and external applications are involved in the treatment process. Altogether, 18 prescriptions (from 13 plant species) and 8 prescriptions (from 7 plant species) are used against contraception and abortion respectively. Out of
18 prescriptions used as contraceptive, 6 prescriptions are used from seed followed by 5 prescriptions from root, 2 prescriptions from flower and one prescription each from whole plant, bark, leaf, rhizome and fruit. Again out of 8 prescriptions used as abortive, 4 prescriptions are used from root and one each from tuber, stem, leaf and seed. These data are also cross-checked and are in agreement with Kirtikar and Basu (1991), Jain (1991), Ambasta et al. (1992), Chopra et al. (1996), Warrier et al. (1997), Paria (2005), Joshi (2006) and Patil (2008).

Table 2: List of ethnomedicinal plants used as Abortive

<table>
<thead>
<tr>
<th>Sl.No.</th>
<th>Botanical name &amp; family</th>
<th>Local name, Locality &amp; Voucher No.</th>
<th>Ethnomedicinal Uses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td><em>Erythrina suberosa</em> Roxb. (Fabaceae)</td>
<td>Paldhua Ramkhol-372</td>
<td>A slightly crushed leaf petiole (2 in numbers) is placed on the female sex organ and a piece of cloth is wrapped over it. Besides, a small piece of root is crushed and is taken with jaggery to induce abortion.</td>
</tr>
<tr>
<td>2.</td>
<td><em>Bambusa bambos</em> L. Voss (Poaceae)</td>
<td>Baunsh Barhaguda-261</td>
<td>Stem powdered (10 g) is boiled in a glass of water and filtered and half a cup of the filtrate and “fitkiri” or alum (1 g) are mixed together and taken in empty stomach regularly for 3–10 days to induce abortion.</td>
</tr>
<tr>
<td>3.</td>
<td><em>Gloriosa superba</em> L. (Colchicaceae)</td>
<td>Puraphul Nrusinghnath-46</td>
<td>Tuber paste is applied below the naval to induce abortion.</td>
</tr>
<tr>
<td>4.</td>
<td><em>Pergularia daemia</em> (Forssk.) Chiov. (Apocynaceae)</td>
<td>Uturi Ainlapali-746</td>
<td>Root paste (6 g) is taken in empty stomach once daily for 3–4 days from the 4th day of menstrual cycle to induce abortion.</td>
</tr>
<tr>
<td>5.</td>
<td><em>Piper betle</em> L. (Piperaceae)</td>
<td>Pan Bargarh-145 (Planted)</td>
<td>The epidermal layer of the leaf petiole (3 numbers) is removed and inserted into the female sex organ during bedtime at night to induce abortion even after 2–3 months of pregnancy.</td>
</tr>
<tr>
<td>6.</td>
<td><em>Sapindus trifoliatus</em> L. (Sapindaceae)</td>
<td>Ritha Nrusinghnath-484</td>
<td>Seed pulp paste (6 g) is taken in empty stomach once daily for 3–4 days from the 4th day of menstrual cycle to induce abortion.</td>
</tr>
<tr>
<td>7.</td>
<td><em>Solanum nigrum</em> L. (Solanaceae)</td>
<td>Kak-machi Kharmunda-156</td>
<td>Root paste (10 g) is applied below the naval to induce abortion.</td>
</tr>
</tbody>
</table>

CONCLUSION

This paper highlights on the use of medicinal plants for birth control by the tribes and other rural people of Bargarh district. But it is not advisable to take any plant or plant part without the supervision of an experienced herbal medicine practitioner as dangerous side effects in case of overdose. Especially the abortifacient plant should not be used by the pregnant woman in any case. As a recommendation, phytochemical, toxicological and pharmacological studies should be undertaken to show the efficiency level of these plants which are used for the purpose.
REFERENCES


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