Traditional use of medicinal plants in pediatric and maternal care practiced by the ethnic groups of Purulia district, West Bengal, India

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Abstract: Purulia, the eastern part of Chhotanagpur plateau, houses a large number of ethnic people with diverse cultural background. An ethnomedicinal survey was conducted in the remote villages of the district, situated at the western part of the state West Bengal, India. In the present investigation, a venture is being made to explore the use of medicinal plants for pediatric and maternal care purpose by the aboriginals of the district. A number of informants such as local traditional medical practitioners and knowledgeable elders have provided the information in frequent field visits to the place. Total number of 24 plant species belonging to 15 families has been enumerated with scientific names, families, vernacular names, uses and locality of use.

Keywords: Pediatric; Maternal; Traditional; Ethnobotany; Purulia.

Introduction

Medicinal plants play a major role in the rural areas of the third world counties. Herbal medicines are extensively used by the indigenous people of Asian, African and South American countries. Rural India, inhabited by a number of ethnic groups with their diverse cultural practices, heavily depends on traditional system of medicine as a part of their lifestyle. Lack of conventional medical infrastructure and poor economic condition enable the folk people to practice and inherit alternative systems of medicine to treat diverse types of ailments. The ethnic groups present in the district are Santhal; Oraon; Birhor; Kharia; Bhumija; Kharwar; Gond; Mal Paharya and Ho. The tribal groups speak their own language and use their knowledge on traditional medicine as they have inherited from their ancestors.

Several ethnobotanical investigations have been conducted in the district to explore its vast ethnomedicinal plant lore (Dey and De 2010a,b; Dey and De 2011a; De 1965, 1980a,b; Jain and De 1964; Chakraborty and Bhattacharjee 2006; Chakraborty et al. 2003; Sur et al. 1992a,b; Basu 2000a,b). The present investigation is an attempt to investigate the ethnomedicinal plants used in the district for the purpose of pediatric and maternal care.

Materials and Methods

Purulia is situated between 22°51' N and 23°42' N and 85°51' E and 86°54' E, with an area of 6529 sq km and a maximum altitude of 700m above sea level and an average elevation of 228m. Extreme climate with lesser downpour prevails in the area throughout the year. Monocropped cultivation is common in the district and upland occupies almost 60% of the total cultivated lands. Total forest coverage is 185726 ha (29.69 % of the total land of the district). The rural people mostly depend on forest products to survive as agriculture is poorly developed.
Prior to the field visits, extensive literature survey was carried out on the previous ethnobotanical and floral reports on the district. Rural areas were visited during summer, monsoon and winter to avail most of the plants in their flowering conditions. During the visits, the informants were chosen on the basis of structured questionnaire. Prior consent was taken from the rural folks for documentation of their ethnic knowledge on medicinal plants. The data was recorded in a data sheet with the names of the plants, families, vernacular names, uses of medicinal plants for pediatric and maternal care, mode of administration and locality of use. Informants were selected on the basis of their ability to identify a particular plant in situ and their basic knowledge of ethnomedicine. Local herbal medical practitioners and elderly people were preferred during the interviews. 21 Informants were selected above the age of 50 followed by 16 (40-50 years), 11 (30-40 years) and 2 (20-30 years) (Figure 1). Out of the 50 informants, 46 were male and 4 were female. After knowing the specific use of the medicinal plants, informants were taken to the field to identify the plants on the basis of tribal or vernacular names. Photographs of the plant habit and reproductive structures were taken and common plants were collected for herbarium preparation. Rare or endangered plants were kept untouched. Collected plants were compared with the literature and identified with the help of standard keys to the specimens.

Results

The plants used for pediatric and maternal care are enumerated alphabetically with their scientific names, vernacular names, uses and locality of use.

1. Achyranthes aspera L.
   Family: Amaranthaceae
   Vernacular names: Apang, Chirchithi
   Use: The whole plant decoction is used to treat dermatological disorders in children. Pneumonia is treated with the root decoction.
   Locality: Manbazar, Puncha

2. Alstonia scholaris R. Br.
   Family: Apocynaceae
   Vernacular name: Chhatim
   Use: Leaf juice is prescribed in epilepsy and asthma in children as well as in adults.
   Locality: Jhalda, Jaipur

3. Aristolochia indica L.
   Family: Aristolochiaceae
   Vernacular name: Ishermul
   Use: Root paste is prescribed in bowel troubles and skin infections in children.
   Locality: Kashipur, Jhalda

4. Atylosia scarabaeoides (L.) Benth.
   Family: Fabaceae
   Vernacular names: Gaisani, Pirikurti
   Use: The whole plant or the roots are being crushed and prescribed for vitality to the mothers after childbirth. Bronchitis in children is treated with the fresh root paste.
   Locality: Kuilapal, Baghmundi

5. Buettneria herbacea Roxb.
   Family: Malvaceae
   Vernacular names: Dikku sindur, Deku sindur
   Use: The roots are crushed with some other herbs and prescribed in diarrhea in children. The same preparation is prescribed in body ache and stomach upset in minors.
   Locality: Neturia, Bundwan

6. Calotropis gigantea L. Br. ex Ait.
   Family: Apocynaceae
   Vernacular names: Akonda, Akanda
   Use: Latex is used in skin irritations and scabies of children. Root decoction is prescribed as an analgesic to babies in high fever. The same preparation is prescribed to women at childbirth to reduce labor pain.
   Locality: Para, Jhalda

7. Cissampelos pareira L.
   Family: Menispermaceae
   Vernacular names: Ekladi, Pooa
   Use: The crushed roots are used in stomach ache, cough and cold and breathing troubles of babies. Roots are used as an anthelmintic and also to cure severe stomach ache in children. Root paste is also prescribed to the snakebitten children and adults.
   Locality: Baghmundi, Puncha
Family: Fabaceae
Vernacular names: *Chhoto jhunjhuni, Nari Sa-koe*
Use: The crushed plant preparation is prescribed to women just after childbirth to prevent weakness. Crushed roots are prescribed in skin infection and snakebite.
Locality: Santuri, Ramkanali

9. *Cryptolepis buchananii* Schult.
Family: Apocynaceae
Vernacular names: *Dudhi, Dudhla lar*
Use: Malnourished children are prescribed with the plant decoction to strengthen bones. Stomach pain and other gastric problems of minors are treated with fresh root decoction.
Locality: Raghunathpur, Kalma

10. *Dolichos biflorus* L.
Family: Fabaceae
Vernacular names: *Hoe, Kuthi*
Use: Water boiled seed decoction is prescribed to weak pregnant ladies and malnourished mothers after delivery. The whole plant decoction is used in dysentery of children.
Locality: Puncha, Jaipur

11. *Emilia sonchifolia* (L.) DC.
Family: Asteraceae
Vernacular names: *Nacha, Kulae ara*
Use: Root is tied to the neck to cure fever in babies. Toothache in children is treated with the leaf juice.
Locality: Panchakot, Jaipur

12. *Helicteres isora* L.
Family: Malvaceae
Vernacular names: *Sinkari, Petkamra*
Use: Mustard oil boiled fruits along with the oils is given in stomach ache of babies. Fruits are also given in irritable bowel complaints of children.
Locality: Jhalda, Para

13. *Hiptage benghalensis* (Kurz.)
Family: Malpighiaceae
Vernacular names: *Gorunda, Madhulata*
Use: Whole plant powder is used as an analgesic in babies suffering from high fever. Water boiled plant decoction is administered orally in case of weak mothers after childbirth. Leaves are used as a temporary cure in asthmatic problems.
Locality: Puncha, Neturia

14. *Hymenodictyon excelsum* (Roxb.) DC.
Family: Rubiaceae
Vernacular names: *Borkunda, Bhorkud*
Use: Crushed stem bark is prescribed to cure enlarged spleen of babies. Diarrhea and dysentery in babies are cured whole plant decoction.
Locality: Kuilapal, Balarampur

Family: Euphorbiaceae
Vernacular names: *Roli, Ban sinduar*
Use: Malnourished pregnant ladies are prescribed the crushed roots to regain vitality. The same preparation is prescribed to babies with enlarged spleen.
Locality: Jhalda, Balarmpur

16. *Mimosa pudica* L.
Family: Fabaceae
Vernacular names: *Lajwati, Lajaru*
Use: Insomniac babies are treated with the root tied to the neck. The leaf paste is applied to open bleeding wounds.
Locality: Barrabazar, Ajodhya

17. *Ocimum sanctum* L.
Family: Lamiaceae
Vernacular names: *Tulsi, Tunrushi*
Use: Leaf decoction is used in cough and cold with honey and also in fever in children. Leaf paste is applied to the babies suffering from skin diseases like scabies, ring worm etc. Mucus formation in babies is also treated by it.
Locality: Puncha, Matha

Family: Apocynaceae
Vernacular names: *Champa, Gulach*
Use: Paste of crushed roots is applied topically to promote lactation in mothers. Root paste is also applied to prevent pus formation in open wounds.
Locality: Arsha, Panchakot
19. *Polygala chinensis* L.
Family: Polygalaceae
Vernacular names: *Buda ghetto, Khetpapri*
Use: Roots are crushed and prescribed to reduce body temperature in babies. Roots are also used to treat open wounds.
Locality: Manbazar, Arsha

20. *Rauvolfia serpentina*
Family: Apocynaceae
Vernacular names: *Sarpagandha, Chhota chand*
Use: The root juice is prescribed in gastrointestinal diseases. The roots are also used as an antitode to snakebite in children and adults.

21. *Rotala leptopetala* (Blume) Koehne
Family: Lythraceae
Vernacular names: *Munj ara, Ara muin ara*
Use: Dried stem segments are given to babies in fever.
Locality: Puncha, Kuilapal

22. *Sarcostemma acidum* (Roxb.) Voight
Family: Apocynaceae
Vernacular name: *Kula thar*
Use: A dry powder of the plant is being used in the form of a decoction to treat earache in babies. Milky latex is prescribed to the lactating mothers.
Locality: Puncha, Kashipur

Family: Solanaceae
Vernacular names: *Rengni, Tokkod janum*
Use: Anthers are soaked in mother’s milk and orally administered to babies to cure chronic cough. In case of chest complaints, fever and body pains, the decoction is given to the children.
Locality: Konapara, Santuri

24. *Zingiber officinale* Roscoe
Family: Zingiberaceae
Vernacular names: *Adi, Ada*
Use: The rhizomes are crushed and given to the child with honey or sugar in chronic cough and cold. Bronchitis in children is also said to be cured by using the preparation.
Locality: Balarampur, Jhalda

**Discussion**

A total number of 24 plants of 15 families are reported to be used in maternal and childcare by the indigenous people of Purulia district, West Bengal, India. Apocynaceae contains the maximum number of species (6), followed by Fabaceae (4), Malvaceae (2), Amaranthaceae, Aristolochiaceae, Asteraceae, Euphorbiaceae, Lamiaeceae, Lythraceae, Malpighiaceae, Menispermaceae, Polygalaceae, Rubiaceae, Solanaceae and Zingiberaceae (1 each) (Figure 2). Among the plant parts used, whole plant preparation has been found to be the most popular (13 cases), followed by root (9), leaf (5), stem (2), latex (2), seed, fruit, anther and rhizome (1 each) (Figure 3). In case of mode of administration oral (26 cases) exceeds the topical (12 cases).

![Figure 1: Age wise distribution of informants](http://www.openaccessscience.com)
remedy of certain diseases by using herbal preparations. Traditional healers mostly rely on the crude preparation of ethnobotanicals. Furthermore, some herbs were found to be more effective when used in combination with other plant preparation. Synergistic interaction between the active phytochemicals of crude preparations and associated herbs could have been responsible for the increased efficacy. Phytochemical nature and pharmacological activity of these preparations should be tested in vitro and in vivo to find out the active biomolecules and their mode of action. Positive clinical trials of isolated compounds may lead to the discovery of novel phyto-medicines in future drug discovery programs.

**References**


**Figure 2**: Pie diagram showing distribution of plant families (Apocynaceae=6; Fabaceae=4; Malvaceae=2; Other families=12).

**Figure 3**: Distribution of plant parts used (1. Root; 2. Whole plant; 3. Leaf; 4. Stem; 5. Latex; 6. Fruit; 7. Seed; 8. Anther; 9. Rhizome)

**Conclusion**

The ethnic groups of Purulia use a number of medicinal plants to treat a wide array of ailments occurring in children and mothers. Although some rituals and beliefs are prevalent in these areas, the authors have noted successful


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