

ETHNO-MEDICINAL FORMULATIONS AGAINST ABDOMINAL AND COLIC PAIN IN PASCHIM MEDINIPUR DISTRICT, WEST BENGAL, INDIA

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ABSTRACT

The ethnic communities of the district Paschim Medinipur have valuable traditional knowledge of their own. Their indigenous ethno-medicinal knowledge for curing numerous diseases is invaluable to strengthen modern system of medicine. But this traditional knowledge of thousand years old is also under threat of rapid invasion of urban culture and change of traditional way of life style. Some plants are believed to have useful against abdominal and colic pain. Mostly underground parts especially roots are frequently observed to intake orally for this purpose. Sometimes plant material applies externally on abdomen for massage. *Cassia occidentalis* and *Cassia tora* are most frequently used in sudden belly pain. Lodhas prepare medicine from *Cassia occidentalis*, *Aristolochia indica* and *Zizyphus nummularia* against belly pain. Other plants commonly used in this respect are *Indigofera linnaei*, *Mucuna pruriens*, *Rauvolfia* spp., etc. This paper deals with 23 such plants used by the different ethnic communities.

Keywords: Paschim Medinipur, Abdominal and Colic Pain, Ethno-Medicinal Knowledge

INTRODUCTION

The district Paschim Medinipur is the second largest district of West Bengal, India and situated on its extreme south-western part. It is located in between 22°57'10" N to 21°36'35" N latitudes and 88°12'40" E to 86°35'50" E longitudes.

It covers an area of 9786.28 square kilometers (Anonymous, 2003).

The district is bounded in east with Purba Medinipur and Howrah districts of West Bengal, on the west with Mayurbhanj district of Orissa and Purba Singhbhum district of Jharkhand states, on the north with Hooghly, Bankura and Purulia districts of West Bengal and on the south with Purba Medinipur district of West Bengal and Baleshwar district of Orissa state.

The population of ethnic people in Paschim Medinipur district is largest in West Bengal. About 17.55 % population of this district is of ethnic communities (Hansda, 2004). Most of them are inhabited in the western forest region. The number of scheduled tribe communities in this district is 37 (Mandal *et al.*, 2002). Major Scheduled Tribe groups are Santals, Bhumijis, Mundas, Savars, Koras and Lodhas.

The district is rich in plant diversity also but many wild plant species are under threat of increasing human population.

The ethnic communities of the district have valuable traditional knowledge of their own. Their indigenous ethno-medicinal knowledge for curing numerous diseases (of both human and veterinary) is invaluable to strengthen modern system of medicine.

But this traditional knowledge of thousand years old is also under threat of rapid invasion of urban culture and change of traditional way of life style.

The area was previously explored ethno-medicinally by Chaudhuri and Pal (1975), Chaudhuri and Pal (1976), Pal (1988), Pal and Jain (1989, 1998), Ghosh (2003), Paria (2005), De and Bhattacharya (2005), De (2013); medicinal plants of the adjacent areas of the district was investigated by several workers such as Bodding (1925, 1927, 1940), Maiti and Manna (2000), Chakraborty *et al.*, (2003), Chakraborty (2006), Chakraborty and Bhattacharjee (2006), Dey and De (2011).

Both the indigenous knowledge and its plant (and animals also) materials are under threat of extinction. So the written documentation of this traditional knowledge is very much necessary.

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MATERIALS AND METHODS

Some plants are believed to have useful against abdominal and colic pain and mostly underground parts especially roots are frequently observed to intake orally for this purpose. This paper deals with 23 such plants used by the different ethnic communities. Field studies in this regard were done by the following way-

- i) Interaction with tribal people for preliminary information about medicinal plants.
 - ii) Consultation with medical men among ethnic communities who regularly practice their traditional medicine.
 - iii) Consultation with different ethnic groups like Santal, Lodha etc. of the experimental area to confirm the medicinal property of individual plant.
 - iv) Medicinal property of different ethno-medicinal plants was critically cross checked from ethnic people of various communities and also from literature, if any.
 - v) Plant specimens were identified following available literatures (Haines, 1921-1925; Mooney, 1948; Prain, 1903).
 - vi) Ethno-botanical enumeration method as proposed by Jain (1995) and Jain and Mudgal (1999) is followed in this investigation with some necessary modifications.
 - vii) Herbarium specimens are deposited in herbarium of Department of Botany, Jhargram Raj College.
- 23 plant species under 21 genera and 17 families are found to be used against abdominal pain by field study. These plants are arranged alphabetically by their botanical name, family, accession number, vernacular name, along with their traditional medicinal formulation/s.

RESULTS AND DISCUSSION

During the survey a number of unique and interesting ethno-medicinal formulations were observed and recorded. The detailed description of the same is enumerated below:

1. *Acacia nilotica* (L.) Wild. ex Delile [Mimosaceae]; RPD-12

Vernacular Name: Bāblā

Mundas prescribe gum (obtain from wounded stem bark) in belly pain. The gum is considered also as a stomachic.

2. *Achyranthus Aspera* L. [Amaranthaceae]; RPD-17

Vernacular Name: Āpāng

Kurmis mixed 5g root with 5g root of *Aerva lanata* and 5g rice, pasted and prescribe it in abdominal pain, when required.

3. *Aerva Lanata* (L.) Juss. ex Schult. [Amaranthaceae]; RPD-5

Vernacular Name: Chāldhuā

Kurmis mixed 5g root with 5g root of *Achyranthes aspera* and 5g rice, pasted and prescribe it in abdominal pain, when required.

4. *Andrographis Paniculata* (Burm.f.) Wallich ex Nees. [Acanthaceae]; RPD-18

Vernacular Name: Kālmegh

Koras chewed root or stem (2.5-5cm) in sudden belly pain when needed.

5. *Anogeissus Latifolia* (Roxb. Ex DC.) Wall. ex Guill. & Perr. [Combretaceae]; RPD-20

Vernacular Name: Dha

Mundas prescribe juice of inner stem bark (about 25g), 2-3 times for one day in dyspepsia, diarrhoea and belly pain. They usually chewed 25g bark after removing outer skin, suck its juice and exclude the remaining fibres.

6. *Aristolochia Indica* L. [Aristolochiaceae]; RPD-9

Vernacular Name: Ishermul

Root (2-3g) mixed with roots of *Zizyphus nummularia* (5-10g) and *Cassia occidentalis* (5-10g), pasted and Lodhas prescribe this mixture paste in abdominal pain, 2-3 times before meal for 5 days.

Koras intake paste of about 2.5-5 cm root mixed with water in sudden belly pain, when required. Mostly they chewed root in this purpose.



Plates: A- *Aerva lanata*, B- *Andrographis paniculata*, C- *Aristolochia indica*, D- *Costus speciosus*, E- *Flacourtia indica*, F- *Indigofera linnaei*, G- *Litsea glutinosa*, H- *Mucuna pruriens*

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7. *Cassia Occidentalis* L. [Caesalpiniaceae]; RPD-10

Vernacular Name: Jhunjhuni

Root (5-10g) mixed with roots of *Aristolochia indica* (2-3g) and *Zizyphus nummularia* (5-10g) and made into paste. Lodhas prescribe this paste in abdominal pain, 2-3 times before meal for 5 days.

Mundas prescribe only root paste (10g) in belly pain for 2-3 times in a day.

8. *Cassia tora* L. (Including *C. Obtusifolia* Linn.) [Caesalpiniaceae]; RPD-22

Vernacular Name: Chākundā

Santals prescribe root paste mixed with limewater in sudden belly pain, as required in a day. Sometimes roots are chewed in the unavailability of lime.

Koras chewed only roots (2.5-5cm) in this purpose, when required. Sometimes raw paste mixed with water is also prescribed.

9. *Cocos Nucifera* L. [Arecaceae]; RPD-2

Vernacular Name: Nārkel

Ethnic communities apply coconut seed oil mixed with water externally on abdomen for massage in belly pain.

10. *Costus Speciosus* (J. Koenig) Sm. [Costaceae]; RPD-25

Vernacular Name: Keu

Ethnic communities prescribe 25g rhizome paste mixed with 25g sugar-candy (*michhri*) in dysentery, diarrhoea, dyspepsia and belly pain, for 3-4 days. Excess application of it may cause constipation. They prefer white variety of this species. Lodhas prescribe only rhizome paste in belly pain.

11. *Cynodon Dactylon* (Linn.) Pers. [Poaceae]; RPD-15

Vernacular Name: Durbā

Santals apply leaf juice (20-25 ml) mixed with cow milk (about 250 g) in empty stomach to cure belly pain.

12. *Ficus Benghalensis* L. [Moraceae]; RPD-4

Vernacular Name: Bat

Santals prescribe young prop root paste mixed with a small amount of sugar in belly pain or colic pain (*pet shul*) 1 spoonful in a day.

13. *Flacourtia Indica* (Burm.f.) Merr. [Flacourtiaceae]; RPD-14

Vernacular Name: Baichi

Ethnic communities prepare *sarbat* from crushed root (about 2.5cm) mixed with water and prescribe it after sieving in abdominal pain.

14. *Holarrhena Pubescens* (Bunch.-Ham.) Wallich ex G. Don. [Apocynaceae]; RPD-3

Vernacular Name: Kurchi

Lodhas prescribe root paste (10g) mixed with a black pepper and a pinch of common salt in sudden belly pain. Kurmis prescribe only root paste (it is bitter in taste), when required.

15. *Indigofera Linnaei* Ali. [Fabaceae]; RPD-19

Vernacular Name: Pithāri

Santals prescribe whole plant paste in belly pain.

16. *Litsea Glutinosa* (Lour.) Robinson [Lauraceae]; RPD-21

Vernacular Name: Piplās

Santals and other communities of southern and eastern parts of the district squeeze leaves in water, mix it with a very small amount of milk and sugar, taken in empty stomach as a cooling agent, stomachic and for the treatment of belly pain and gastritis. Milk and sugar may be excluded, common salt sometimes used instead of sugar.

17. *Marsilea Minuta* L. [Marsileaceae]; RPD-8

Vernacular Name: Sushni

Ethnic communities prescribe rhizome juice obtained from crushed rhizome in abdominal pain, in empty stomach.

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18. *Mucuna Pruriens* (L.) DC. [Fabaceae]; RPD-24

Vernacular Name: Ālkushi

Bhumij prescribe seed powder (2 spoonful) in vigorous belly pain.

19. *Oxalis Corniculata* L. [Oxalidaceae]; RPD-7

Vernacular Name: Āmrul

Santals prescribe boiled leaves in belly pain.

20. *Rauvolfia Serpentina* (L.) Benth. ex Kurz. [Apocynaceae]; RPD-23

Vernacular Name: Sarpagandhā

Lodhas mix 5g root with 2 pieces black pepper and a pinch of common salt, pasted and prescribe it in abdominal pain, simultaneously abdomen is massaged with asafoetida mixed water. It is used as a substitute of *Rauvolfia tetraphylla*.

21. *Rauvolfia Tetraphylla* L. [Apocynaceae]; RPD-13

Vernacular Name: Chāndrhā

Lodhas mix 5g root with 2 pieces black pepper and a pinch of common salt, pasted and prescribe it in abdominal pain, simultaneously abdomen is massaged with asafoetida mixed water.

22. *Terminalia Arjuna* (Roxb. ex DC.) Wight & Arn. [Combretaceae]; RPD-6

Vernacular Name: Arjun

Koras prescribe stem bark paste orally in sudden belly-pain, 1 spoonful when required.

23. *Ziziphus Nummularia* (Burm.f.) Wight & Arn. [Rhamnaceae]; RPD-16

Vernacular Name: Budākul

Root (5-10g) mixed with roots of *Aristolochia indica* (2-3g) and *Cassia occidentalis* (5-10g) and made into paste. Lodhas prescribe this paste in belly pain, 2-3 times daily before meal for 5 days. Mundas prescribe only root paste (10g.) in prolonged and severe belly pain, 2-3 times daily.

Conclusion

23 plant species under 21 genera and 17 families are used against against abdominal and colic pain due to digestive problems. Mostly underground parts especially roots are frequently observed to intake orally for this purpose. Sometimes plant material applies externally on abdomen for massage. *Cassia occidentalis* and *Cassia tora* are most frequently used in sudden belly pain. Lodhas prepare medicine from *Cassia occidentalis*, *Aristolochia indica* and *Zizyphus nummularia* against belly pain. Other plants commonly used in this respect are *Indigofera linnaei*, *Mucuna pruriens*, *Rauvolfia* spp., etc.

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