

Some abortifacient plants used by the tribal people of West Bengal

S Mitra¹ and Sobhan Kr Mukherjee^{2*}

¹Department of Botany, Ranaghat College, Ranaghat, Nadia-741235, India

²Department of Botany, University of Kalyani, Kalyani, Nadia

*Correspondent author, E-mail: sobhankr@yahoo.com

Phone: (033) 2592 6917, 09432224984 (Mob.)

Received 28 September 2007; Accepted 10 February 2009

Abstract

Use of abortifacient plants is common practice among the tribal communities of West Bengal. In the present paper a list of 22 Angiospermic plant species belonging to 21 genera under 18 families and used as abortifacient has been provided. The study was conducted with 7 native tribal communities of West Bengal, i.e. *Lodha*, *Lohar*, *Munda*, *Oraon*, *Polia*, *Sabar* and *Santal*. Among these, *Santal* and *Oraon* people are well-acquainted with knowledge of the plants usage. The mode of preparation, administration and the dosage of the drugs are also provided for further studies and induce early stage pregnancy termination.

Keywords: Abortifacient plants, Tribal communities, *Lodha*, *Lohar*, *Munda*, *Oraon*, *Polia*, *Sabar* and *Santal*, West Bengal.

IPC code; Int. cl.⁸—A61K 36/00, A61 K 35/78, A61P 15/04

tribal groups are: *Santal*, *Munda*, *Oraon*, *Lepcha*, *Polia*, *Lodha*, *Birhore*, *Sabar*, *Rabha*, *Bhumij*, *Sherpa*, *Bhutia* and others. Besides, endangered and endemic tribe *Toto* also inhabits the state at the Madarihat subdivision of the Jalpaiguri district.

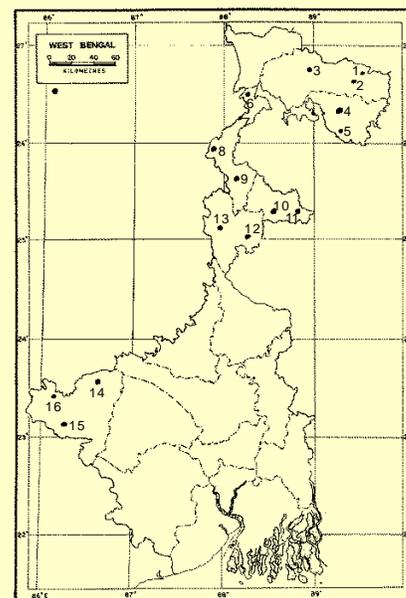
Introduction

The physical or chemical substances, which induce abortion, are known as the abortifacient. The use of these plants is very common practice among different tribal communities of the state West Bengal and in accordance with the situation and the necessity, the tribal medicine men and women have used abortifacient plants.

During present study an attempt has been taken to collect information from different tribal communities of the state, document them and also to evaluate their biological activity. The available research papers and books dealing with ethnobotanical studies in West Bengal have been consulted and compared with our field study¹⁻¹⁵.

Area of study

The West Bengal lies in between 21°45' to 27°10'N latitude and 85°55' to 89°56' E longitude, comprising of an area of about 88,752sq. km, divided into 19 districts. Due to varied geographic and climatic condition, the state is well-diversified and has unique vegetation. The state has about 11,548 sq. km of forest area which is about 13% of the total landmass of the state. In general the vegetation of the state is divided into 5 broad categories, which are as follows: moist tropical forest; dry tropical forest, subtropical forest, temperate forest and grass land¹. The state also shows a well-diversified population, comprising 42 different tribal communities. Among these tribal communities, some of the major



Map of West Bengal showing the collection spots:

1. Jainti; 2. Raja Bhat Khawa;
3. Madarihat; 4. Koch Bihar; 5. Dinhat;
6. Chopra; 7. Islampur; 8. Raiganj; 9. Goalpara;
10. Balurghat; 11. Hili; 12. Bamangola;
13. Malda; 14. Raghunathpur;
15. Bagmundi; 16. Jaipur

Materials and Methods

During the present work *Santal*, *Oraon*, *Munda*, *Lodha*, *Sabar* and *Lohar* tribes were interacted for the study and documentation of their traditional knowledge and plants used for inducing early stage abortion. Two groups of people, viz. *Polia* and *Rajbanshi* are not tribe but have profound knowledge regarding nature, hence they were also included in this study. Extensive field survey of different parts of the state (Map showing the place of collection) including perusal of published literature and the herbarium specimens of different herbaria of the state was done to document information. Collection of all specimens was not done hence, herbarium specimens available in Botany Department of University were consulted. Fresh specimens were identified with the help of taxonomy experts and deposited the voucher specimens in the department. A list of 22 different abortifaciant plants is mentioned here along with the name of the tribal community from whom the information was collected. The vernacular or local name of the plant, the processes of preparation of the drug, dose and mode of the administration are also provided.

It is true that this list is not a complete list in every respect, since the ethnobotanical exploration work of the state has not yet been completed. The uses, marked with the asterisk (*) are the new information and not mentioned in any pre-existing literature.

The abbreviation used here are: CN-Common name; VN-Vernacular name; B- Bengali; E-English; S-Santali; O-Oraon; M-Munda; Lo-Lodha; P-Polia; Sa-Sabar; Lor- Lohar and R-Rajbanshi .

Enumeration of Plants

1. ***Abrus precatorius* Linn.** (Fabaceae)
CN: Indian liquorice (E). VN: *Kunch* (B/O)
Oraon tribe use *fresh seed powder (about 20g) mixed with a glass of lukewarm water at early morning in empty stomach to induce abortion.
2. ***Achyranthus aspera* Linn.** (Amaranthaceae)
CN: Prickly chaff flower (E). VN: *Apang* (B); *Rechari* (Lo); *Sitirkad* (S);
Fresh root (3-5 pieces, about 1cm long) is made into paste. The paste thus obtained is mixed with lukewarm water to stop bleeding after abortion by the *Lodha* tribe. It is given after every 3 h. *Fresh root (about 9 cm long) is used to induce abortion by the *Santals*.
3. ***Aerva lanata* (Linn.) Juss. ex Schult.** (Amaranthaceae)
VN: *Chaya* (B); *Tore-ara* (Lo).
Fresh root (about 9cm long) is used as a stick for inducing abortion by the *Lodha*. The medicine man suggested that this processes of abortion is effective for terminating pregnancy up to 4 months only.
4. ***Alternanthera philoxeroides* (Mart.) Griseb.** (Amaranthaceae)
CN: Alligator weed (E). VN: *Jalsachi-ara* (Lo).
A piece of fresh plant, about 9cm long is used as stick to induce abortion by the *Lodha* tribe. *Lodha* women take ½ “bhari” *Hing* (***Ferula assafoetida* Linn.**), at the top of

this stick and keep the whole things over night inside to induce abortion.

5. ***Ananas comosus* (Linn.) Merr.** (Bromeliaceae)
CN: Pineapple (E); VN: *Anaras* (B/P).
Fresh young leaves (about 10g) are made into paste with 7 black pepper (***Piper nigrum* Linn.**) seeds and the whole paste is given to the pregnant women to induce abortion by the *Polia* tribe.
6. ***Annona reticulata* Linn.** (Annonaceae)
CN: Bullocks heart (E); VN: *Nona* (B); *Nag-hawa* or *Ramphal* (S).
The seed powder (about 3g) mixed with the powder of black pepper seeds in equal amount is given to the pregnant women by the *Santal* tribe. It is said that the drug is effective for 3-4 months pregnancy only.
7. ***Aristolochia indica* Linn.** (Aristolochiaceae)
CN: Indian Birthwort (E). VN: *Iswarmul* (B); *Isenmul* (Sa); *Ishermul* (Lo)
The fresh root (about 9 cm long) is used to induce abortion by the *Lodha* women. *The *Sabars* also use the paste of the roots prepared by crushing fresh root (about 10g) with *Hing* in equal amount as abortifaciant.
8. ***Avicennia marina* (Forssk.) Vierch.** (Avicenniaceae)
VN: *Peyara ban* (B).
**Munda* tribe mix the leaf extract with a glass of lukewarm goat milk and adequate amount of sugar and

give this preparation at bed time to release the fetus.

9. ***Barleria cristata* Linn.** (Acanthaceae)
VN: *Jhinti* (B); *Bantishi* (S).
*Fresh root of about 3g is crushed with about 100ml *pochai* (alcohol from rice) or *Mahua* (alcohol from the flowers of *Bassia latifolia* Roxb.) and give it once a day in early morning for 3-5 consecutive days to induce abortion up to the stage of 3 months pregnancy by the *Santal*.
10. ***Bombax ceiba* Linn.** (Bombacaceae)
CN: Silk cotton tree (E). VN: *Shimul* (B); *Semal* (O)
Seed powder about 30g is made in to paste with sugar molasses (about 50g) and *Hing* (about 10g). The whole paste thus obtained is divided into 3 equal parts. One each of these 3 parts is given in 12h gap to induce abortion by the *Oraon* tribe.
11. ***Caesalpinia pulcherrima* (Linn.) Swartz** (Caesalpinaceae)
CN: Barbados pride (E). VN: *Krishna Chura* (B); *Jiti* (Lor)
*Dried leaf infusion about 1 cupful is given in early morning in empty stomach to induce abortion by the *Lohar* tribe. It is said that single dose is highly effective abortifaciant to induce abortion of up to 2 months pregnancy. If the first dose is failed then a second dose is given after 7 days of the 1st dose.
12. ***Cuscuta reflexa* Roxb.** (Cuscutaceae)
VN: *Swarnalata* (B); *Amarbel* (S).
*Fresh plant extract of about 50g is mixed with the extract of *Bishkutuli* (*Polygonum hydropiper* Linn.), seeds of the same amount, 5 black pepper seeds and about 5g table salt. The whole mixture is boiled after adding 200ml water. The whole mixture after boiling is filtered and the *Santals* women take the filtrate in early morning, empty stomach for 3 successive days to induce abortion.
13. ***Dendrophthoe falcata* (Linn. f.) Ettingshausen** (Loranthaceae)
VN: *Baramanda* (B); *Banda* (M)
Fresh stem of about 20g, along with 11 black pepper seeds of about 10g and *Cheeta* root (*Plumbago indica* Linn.) are crushed to paste. The whole paste thus obtained is given early morning, empty stomach by the *Munda* to induce abortion.
14. ***Gloriosa superba* Linn.** (Liliaceae)
CN: Malabar-glory lily (E). VN: *Ulat chandal* (B); *Samansom* (O).
*Fresh roots of about 20g are made in to paste along with 7 black pepper seeds. The whole paste thus obtained is given with a glass of lukewarm goat milk at the bed time to induce abortion by the *Oraon* tribe.
15. ***Hibiscus rosa-sinensis* Linn.** (Malvaceae)
CN: China-rose (E). VN: *Jaba* (B/Sa)
*Inner portion of the root bark (about 100g) is made into paste along with the seeds of black pepper. The whole paste thus obtained is mixed with a glass of water and is given as the abortifaciant to *Sabar* women.
16. ***Meyna spinosa* Roxb. ex Link** (Rubiaceae)
VN: *Meyna* (B/P)
Pulp of the ripe fruits and seeds are made into paste with 2-3 *Rasun* (bulb of *Allium sativum* Linn.) and *Hing* (about 2.5g). The whole paste thus obtained is made into a pill to keep it inside for over night to induce abortion by the *Polia* tribe. It is said that this drug is effective to induce abortion up to 2 months pregnancy.
17. ***Plumbago rosea* Linn.** (Plumbaginaceae)
VN: *Lal-cheeta* (B/S)
*A candle of about 9cm long is prepared from the root paste of this plant, which is kept inside overnight to induce abortion for the pregnancy up to 3 months by the *Santal*.
18. ***Plumbago zeylanica* Linn.** (Plumbaginaceae)
VN: *Chita* (B/O)
*Fresh root of about 9cm long is used to induce abortion by the *Oraon* tribe.
19. ***Semecarpus anacardium* Linn. f.** (Anacardiaceae)
VN: *Bhela* (B/R).
*The fresh root bark of about 20g is made into paste. Two small pills are prepared from this paste and are kept inside overnight to induce abortion by the *Rajbanshi* tribe.
20. ***Stephania japonica* (Thumb.) Miers.** (Menispermaceae)
VN: *Ahnad-ne-muka* (B); *Agnalata* (M).



Abrus precatorius



Aerva lanata



Alternanthera philoxeroides



Annona reticulata



Barleria cristata



Bombax ceiba



Caesalpinia pulcherrima



Cuscuta reflexa



Dendrophthoe falcata



Gloriosa superba



Hibiscus rosa-sinensis



Meyna spinosa



Plumbago rosea



Plumbago zeylanica



Stephania japonica



Thevetia peruviana

Fresh root paste of about 30g is given to induce abortion for the pregnancy up to 2 months by the *Munda* tribe.

21. ***Thevetia peruviana* (Pers.) K. Schum.** (Apocynaceae)

VN: *Kalke* (B/R)

Seeds are made into paste with adequate amount of sugar molasses and the paste is given at bed time to induce abortion by the *Rajbanshi*. Care should be taken during the application of this drug, since it is used at the late stage of the pregnancy; in case of overdose it causes profuse bleeding.

22. ***Uraria lagopodioides* Desv.** (Fabaceae)

VN: *Sankarjata* or *Chakulia* (B); *Chintamoni* (O)

Whole plant paste of about 30g is made into a candle which is kept inside to induce abortion by the *Oraon* tribe.

Results and Discussion

The present study has documented 22 species of angiospermic plants, belonging to 21 genera under 18 families and is used by 6 different tribals and 2 other communities of the state as abortifacient drugs. Among these 6 tribal communities, the *Santals* and the *Oraon* people are the most well acquainted with this abortifacient drugs and each of them has used 5 different prescriptions of drugs followed by the *Lodha* tribe with 4 prescriptions.

It is significant that all drugs except one are prepared from the root portion of the plants. It signifies that the active principles of the plants for abortion

are confined in the root portion of these plants than the aerial parts.

Conclusion

It can be concluded that the preparations reported for the first time in this paper for utilizing abortifacient plants, viz. *Abrus precatorius*, *Achyranthus aspera*, *Ananas comosus*, *Aristolochia indica*, *Avicennia marina*, *Barleria cristata*, *Caesalpinia pulcherrima*, *Cuscuta reflexa*, *Gloriosa superba*, *Hibiscus rosa-sinensis*, *Plumbago rosea*, *P. zeylanica* and *Semecarpus anacardium* may be taken up for pharmacological studies and confirm validity.

Acknowledgements

Authors are deeply indebted to all the native medicine men and women and other knowledgeable people of these societies who have provided the valuable information. We are also thankful to all the DFO's, Beat officers, Rangers of West Bengal, Forest Division, for their kind help and co-operation. Last but not least the authors are also thankful to Dr. Kalyan Asish Mukherjee, M.B.B.S. for his various technical help, whenever it is required during preparation of this paper.

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