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## RESEARCH ARTICLE

### SOME IMPORTANT ABORTIFACIENTS PLANTS USED BY TRIBES AND VILLEGERS OF BUNDELKHAND REGION OF M.P.

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#### ABSTRACT

The Bundelkhand region of M.P. is rich in natural resources including vegetation. The Ethno-medicinal survey of the region was carried out during April 2013 to November 2014 frequently. Various tribes of the region such as Kols, Gonds, Gujars, Lodhas and Naths were surveyed. Information on plants used as abortifacients by tribals was obtained through interview of local medicine men and elderly women and local vaidaya (Ayurvedic medicinal practitioners), who had knowledge of such use of folk drugs. To get reliable and authentic information, repeated verification of data was done. The plants collected were identified and authenticated by the herbarium present in Dept. of Botany, Dr. H.S.G.V.V. Sagar (M.P.). The preparation of remedies includes infusion, decoction, and preparation of paste of leaves, stem, bark flowers seeds or whole plants. A total of 19 plant species belonging to 15 Angiospermic plant families were found to be commonly used by the tribes for the termination of pregnancies either for social or medical region or for family planning. In the paper, various plants used as abortifacients have been discussed with their mode of application. However further phyto-chemical investigations are required to provide information on the exact role of the various active components present in the plant which are used as abortifacients. This information can be utilized scientifically to develop contraceptives, which can be popularized among civilized communities for the benefit of mankind.

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#### INTRODUCTION

Over growing population is one of the major threats in the developing countries facing new challenges, with its inevitable consequences on all aspects of development (Ciganda and Laborde, 2003). Therefore, there is an urgent need to control population explosion, and to ensure better health for one and all. Herbal medicines are in great demand in the developed as well as developing countries for primary health care because of their wide biological and medicinal activities, higher safety margins and lesser costs (Padma 2005). Bundelkhand region lies between 23° 8' - 26° 30' N latitude and 78° 11' - 81° 30' longitude. It consists of some part of Uttar Pradesh and some part of Madhya Pradesh. The Bundelkhand region of M.P. comprises six districts of M.P. viz Datia, Tikamgarh, Chhaturpur, Panna, Damoh and Sagar. According to the World Health Organization 2003 about 80% of the population of developing countries being unable to afford pharmaceutical drugs, rely on traditional medicine, mainly plant based to sustain their primary health care needs (Goyal et al., 2008). Traditionally the tribal women prefer plant medicines rather than modern medicines for menstrual trouble, conception disorder, birth control practices, abortion etc.

(Ajesh et al., 2012). Abortifacients are drugs or agents that cause abortion i.e. expulsion of foetus permanently, particularly at any time before it is viable or capable of sustaining life (Tarafeder 1983).

#### MATERIALS AND METHODS

The present work is the outcome of extensive survey of Bundelkhand region of M.P. including Sagar, Damoh, Teekamgarh, Datia, Chhaturpur and Panna district, during the period of June 2013 to November 2014. The tribal pockets and villages of study areas were extensively and regularly visited for collection of ethno-medicinal explorations following the methodology as suggested by the Singh et al. (2010) and Vinod Kumar et al. (2013). The information regarding the medicinal uses of the plants available in the local areas for ailments and diseases were collected by various direct meetings, discussions and interviewing elderly learned and experienced persons of villages.

#### RESULTS AND CONCLUSION

The indigenous system of medicine provides information on various medicinal uses of folk plants, which are used by tribals and villagers for curing various ailments and other purposes.

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One of such uses is herbal abortifacients which are effectively used by tribal women for terminating pregnancies either for medical reasons or for family planning (Nargas and Trivedi 2010).

The paper described the common abortifacient ethno-medicinal plants used by the tribal woman of Bundelkhand region of M.P. In the present investigation 19 plant species belongs to 15 families were identified as abortifacient. The table 1 presents the information of plants with their botanical and vernacular name followed by family names and plant part used; preparations and mode of use. The findings of present investigation are quite similar with those reviewed by Das *et al.* (2011). There are so many common plants which are used by both ethnic people of Tripura and Bundelkhand region of M.P. for the purpose of abortion.

**Table 1. Local remedies of common plant species used by tribal and rural people of Bundelkhand region of M.P. for termination of pregnancy**

S.No.	Name of plant	Family/Common name	Description
1.	<i>Abrus precatorius L.</i>	Gumehi	Fresh seed powder (about 20 gm) mixed with a glass of lukewarm water at early morning in empty stomach to induce abortion.
2.	<i>Achyranthus aspera L.</i>	Amaranthaceae/Addhajara	Fresh root (3-5 pieces, about 1 cm long) is made into paste. The paste thus obtained is mixed with lukewarm water to stop bleeding after abortion by the lodhas tribe. It is given after every 3 hrs.
3.	<i>Aerva lantana L.</i>	Gorakhbuti or Kapuri jadi	Fresh root (about 9 cm long) is used as a stick for inducing abortion by the lodhas.
4.	<i>Amaranthus spinosus Linn.</i>	Amaranthaceae/Cholai	Root decoction is taken orally as an abortifacient.
5.	<i>Annona squamosa L.</i>	Annonaceae/Sitaphal	Paste of seeds given orally on empty stomach for 3-5 days.
6.	<i>Azadirachta indica A. juss.</i>	Meliaceae/Neem	(1) Tablets from stem bark paste are prepared. One tablet taken every day in empty stomach for 10 days. (2) Fresh seed paste may also be used for preparation of tablet.
7.	<i>Calatropis procera (Ailton)</i>	Asclepidaceae/Akana	Seeds are taken orally as abortifacient.
8.	<i>Carica papaya L.</i>	Caricaceae/Papeeta	Raw fruit latex is given orally once a day for 3 days. Excessive intake of fruit in pregnancy would cause its termination.
9.	<i>Cassia fistula Linn.</i>	Cesalpiaceae/Amaltas	Fruit of the plant is used as an abortifacient.
10.	<i>Cuminum cyaminum L.</i>	Apiaceae/ Jeera	Strong decoction of seeds is abortifacient.
11.	<i>Datura metal L.</i>	Solanaceae/Dhatura	Fresh root paste decoction in empty stomach.
12.	<i>Daucus carota Linn.</i>	Apiaceae/Gajar	The decoction of seeds is given orally in higher dose is abortifacient.
13.	<i>Hibiscusrosa sinensis</i>	Malvaceae/Gudhal	Inner portion of root bark paste with seeds of black pepper.
14.	<i>Lawsonia inermis Linn.</i>	Lythraceae/Mehndi	Root are bitter and strong abortifacient.
15.	<i>Mamordia charantia</i>	Cucurbitaceae/ Kareli	Fruit juice is given orally twice a day for 5 days on first three month for abortion.
16.	<i>Moringa oleifera Linn.</i>	Moringaceae/ Munga, Kaunse	Bark is used as abortifacient.
17.	<i>Terminalia arjuna Roxb.</i>	Combrataceae/Arjun	Fresh fruit paste in empty stomach.
18.	<i>Thevetia peruriana K.</i>	Apocyanaceae/Kaner	Seeds are made into paste with sugar molesses and given at bed time it is effective at the late stage of the pregnancy.
19.	<i>Trachyspermum ammi</i>	Apiaceae/Ajwain	Decoction of fruit given only for abortion.

#### Images of Some Important Abortifacient Plants of Bundelkhand region of M.P.



*Abrus precatorius L.*



*Achyranthus aspera L.*

Mitra (2009) reported 22 abortifacient plants used by tribal people of West Bengal and their findings revealed that most of the drugs are prepared from the root portion of the plants. The present findings are also showed the same trend as nearly 50% of plants utilized for abortion containing active principles in their roots. Ethno-medicinal plants used by tribes of Kerala, India were also listed by Ajesh *et al.* (2012). Rajeshwari and Rani reported nearly 30 abortifacient plants from different areas of herbal wealth of India.

The above mentioned plant species (Table 1) have many other medicinal uses also, but the abortifacient property of some of these species have also been reported from the various parts of the country like Rajasthan, West Bengal, Kerala, Maharashtra (Ref. 1 to 10) etc.



*Amaranthus spinosus* Linn.



*Calatropis procera* (Ailton)



*Carica papaya* L.



*Moringa oleifera* Linn.



*Cuminum cyaminum* L.



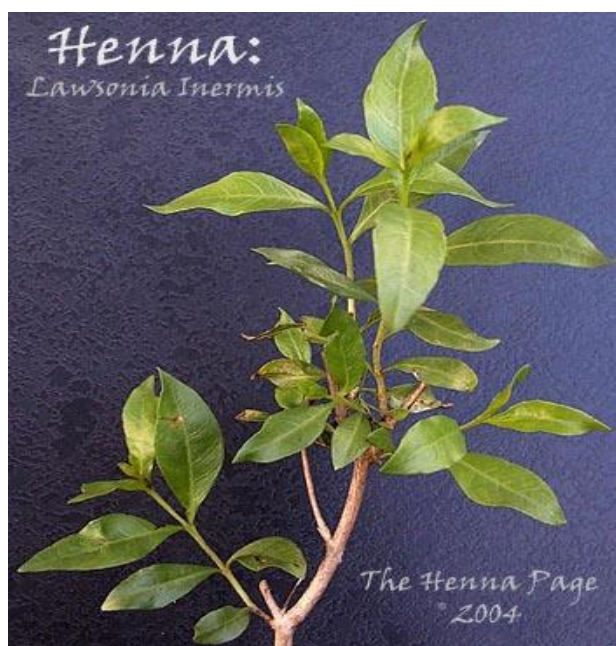
*Trachyspermum ammi*



*Mamordia charantia*



*Terminalia arjuna* Roxb.



*Lawsonia inermis* Linn.



*Daucus carota* Linn.

The tribals and rural people depend exclusively on these plants for abortion. The experimental literature gives a scientific backbone for the use of plant species as abortifacients. Some act by their toxicity and some by their pharmacodynamic properties (Ajesh, 2012). But it is very difficult to identify the effectiveness of herbal abortifacients.

To authenticate their scientific utilization, detailed study by researchers and pharmacologists is required in the respective fields to derive optimum benefits. Further, the active involvement of local people in evaluation, monitoring and

implementation processes is needed to conserve the natural wealth.

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