

**AN ETHNOBOTANICAL SURVEY OF ANTIFERTILITY AND ABORTIFACIENT
MEDICINAL PLANTS USED BY THE LOCAL BANCHHADA TRIBE OF MANDSAUR
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ABSTRACT

The present study is aimed to explore about their beliefs, practices and the use of herbal abortifacients and contraceptives among the sex workers of Banchhada community on National highway (Mhow-Neemuch Road NH 79 SH 31, India) at Piplia Mandi area (24°12'10"N 75°0'27"E) to tackle unwanted pregnancies. Frequent and planned Ethnobotanical surveys were conducted during September 2021 to October 2021 in six different areas of Piploda village on NH 78 of Mandsaur district of Madhya Pradesh, India. A total 32 participants of 15-49 age group sex traders were selected for in-depth interviews and group discussions. Collected information was documented in a datasheet mentioning detailed information of the informants and vernacular names, useful plant parts, method of preparation and administration modes of drugs. The study revealed that there are about 17 medicinal plant species and their parts belonging to 11 families are being used in the study area as traditional medicines used by sex workers as contraceptives or abortifacients to tackle the unwanted pregnancies and other health problems. Non affordability and non accessibility of modern contraceptives was found to be an important factor for its non adherence of modern contraceptive pills. The study suggests that, a thorough investigation on these plants for their contraceptive action should be performed to validate the claims of these sex workers.

KEYWORDS: Antifertility and Abortifacients, Banchhada community, Central India, Sex workers.**INTRODUCTION**

Traditional beliefs and people's individual opinion play a major role in receipt of contemporary contraceptive methods and it is more prevalent amongst ethnic communities. It is to be noted that the existing widespread beliefs and practices in traditional health care system address existing gaps in health care system and get better clinical services for them. The application of various plant parts as abortifacients and as contraceptives was more familiar to the earliest doctors of India (Priya G, et al 2012).^[1] Plant based drugs have an overall market value about us \$ 62 billion per year while our country share is only about 0.5%, with \$358.60 million which will probably raise up to about 15% in near future (economytimes.indiatimes.com/industry/healthcare/biotech, Shrivastava S et al 2007).^[2] About 1.1 billion Indian people (70%) still make use of these non-allopathic systems of medication. Many people believe that the term herbal is the sign of wellbeing with minimum side effects in contrast to the synthetic drugs (Shrivastava S et al 2007).^[3] During the modern period, with the progress of culture and growth, natives move toward to discover more and more medicinal properties of several herbal drugs.

Despite many accomplishments in health care industry in the twenty first century, people in poor countries still lack usual access to inexpensive crucial drugs (WHO, 2008).^[4] For these inhabitants, contemporary medication is by no means a practical treatment preference. In contrast, several therapeutic plants are extensively obtainable and affordable, even in remote areas. In several cases, the poor people of developing countries cannot afford the cost of modern medicine in modern health technology (Raj A et al 2011).^[5] In most of ethnic groups a culturally systematized usual health care system exists which seems to be the primary and leading line of treatment. The WHO has already documented the contribution of such usual and traditional herbal health care system (WHO, 2019).^[6]

According to census 2011, India is having a population of 16.2% and 8.2% SC and ST with majority population live in Madhyapradesh (India) (<https://censusindia.gov.in/>).^[7] Low literacy, poor fiscal and livelihood conditions are major factors among tribal population to reflect their dependence on herbal contraceptives. These herbal oral contraceptives have become the need of time because of severe adverse effects produced by synthetic oral contraceptives.

Several rural, tribal and indigenous peoples of Madhya Pradesh also make use of a number of therapeutic plants for oral contraceptives (Shrivastava S, et al 2007).^[3]

Female sex traders are prone to a wide range of social, sexual and reproductive health problems (unintended pregnancy, violence, sexual exploitation, stigma and discrimination) (Bearinger LH, et al 2007).^[8] Female sex workers have unmet need for contraceptives and require comprehensive sexual and reproductive health prevention interventions (Lim MS et al 2015).^[9] Further, the sex workers firmly believe that synthetic and popular contraceptives are effective but contain estrogen and progesterone hormones which pose certain side effects which forced them to depend on herbal medicines for the termination of unwanted pregnancy.

With this background, it is critical to investigate and realize the prevailing local and context specific barriers among tribal for developing appropriate and effective strategies under family planning program. This study was an effort to provide insight for better understanding about the prevailing cultural beliefs and practices with regard to child birth and management of unwanted pregnancies among tribal people in Mandsaur district of Madhya Pradesh, India.

Therefore, the present study is aimed to explore about their beliefs, practices and the use of herbal abortifacients and contraceptives among the sex workers of Banchhada community on National highway (Mhow-Neemuch Road NH 79 SH 31, India) at Piplia Mandi area (24°12'10"N 75°0'27"E) of Mandsaur district to deal with unnecessary pregnancies. So that it can be used as readymade scientific information for further research.

MATERIALS AND METHODOLOGY

Study design and sample collection: The Banchhada tribal community of in Rajasthan and Madhya Pradesh is spread over 120 villages. A majority of women are indulged in prostitution as a traditional occupation and it is passed on from one generation of women to the next. The Banchhada people of India's central state of Madhya Pradesh have a very low literacy rate. Sex trade is a means of existence for thousands of families among Banchhada tribal community of the Mandsaur region of Madhya Pradesh state. They speak a type of Hindi that is influenced by the less prominent Malvi language. When the men struggle to find service, young female members are sent to trade sex by the pimps (Father or brother) who help and take care of all the arrangements (<https://groundreport.in/banchhada>).^[10]

Data collection method

Frequent and planned Ethnobotanical surveys were performed to obtain ethnomedicinal information from the sex workers and pimps of Banchhada communities on at

Piplia Mandi area (24°12'10"N 75°0'27"E) of Mandsaur district, Madhya Pradesh, India (Fig.1).

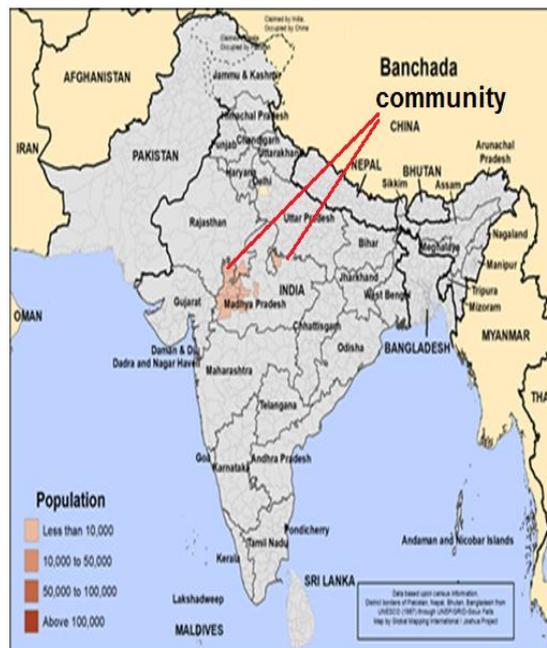


Fig.1: Map showing the study location/

A total 32 participants of 15-49 age group sex traders were selected for in-depth interviews and group discussions. Ethnomedicinal information was also obtained from elder people of the community (pimps) by using a predesigned flexible questionnaire. Sampling was during September 2021 to October 2021 in six different areas of Piploda village on NH 78 of Mandsaur district, Madhya Pradesh, India. Collected information was documented in a datasheet mentioning detailed information of the informants and vernacular names, useful plant parts, method of preparation and administration modes of drugs. Collected plant samples were verified identified and was confirmed by consulting reference herbarium specimen available in Department of Botany, Government PG College of Mandsaur and also from the online sources (<https://www.gbif.org>).^[11]

Standard methods of Jain S.K, and Rao R.R, (1976)^[12] were adopted in the collection and preservation of plant materials. Voucher specimens were collected in triplicates. They were identified (Singh VP 2014^[13] and Singh NP et al 2001)^[14] and were prearranged in alphabetical manner. The identification and nomenclature of the listed plants were based on The Flora of Madhya Pradesh^{[13][14]} (Singh VP 2014 and Singh NP et al 2001) and were later verified and confirmed by departmental and online sources (<https://www.gbif.org>).^[11] The identified plants were deposited in the laboratory of Botany department at Government PG College, Mandsaur (Madhya Pradesh, India).



Fig.2. Sex workers of Banchhada communities (Prostitution is a hereditary occupation here).

RESULTS

The study clearly revealed that in dearth of contemporary health facilities sex workers in the study area depend on plant materials for therapeutic purposes. Based on the field investigations and group discussions with sex workers and pimps it was found that, information on the medicinal uses of plants now seems to be limited to senior pimps (above 45 years of age) only. They were well familiar with medicinal plants of their area. Younger age group is comparatively unaware of nearby medicinal plants from their surroundings. In all, the sex workers of this community use 17 different medicinal plant species and their parts belonging to 11 families as contraceptives or abortifacients to prevent the unwanted pregnancies and other reproductive health problems. The local name, family, plant part used and method of drug preparation, with dosage form and dose to treat the unwanted pregnancy are given in table 1.

Results indicate that around 59 per cent of sex-traders reported at least one of the gynecological issues. Excess vaginal discharge with bad smell, frequent urination with pain, lower abdominal pain, and menstrual abnormalities with pain and excess bleeding were the most reported gynec disorders. The experienced men/women (pimps) have exhibited a good knowledge about the herbal

medicines to treat the unwanted pregnancy. The study also found that the traditional herbal treatment is generally affordable and easy to access.

Results clearly revealed that the majority of sex workers (89%, n=32) prefer to use herbal contraceptive methods while others use modern contraceptive pills. Results also revealed that some female sex traders be familiar with about modern contraceptives while some, others have incomplete awareness or out correctly decline to consume contraceptives for fear of losing customers. Nevertheless, certain traditions and false beliefs fear at the hospital wait time, and extensive queues at the hospitals etc. work in combination to obstruct use of modern contraceptives. One of the excellent herb *Abrus precatorius* L is a drug of choice for preventing pregnancy and act as excellent herbal oral contraceptives. Besides, a number of other plants Neem, Papita, Castor, Gudhal, Ratalu, and Haldi etc. exhibit potent contraceptive properties among male and female and act as anti-fertility agents.

The list of 17 medicinal plants which are frequently used as oral contraceptives and abortifacients from the sex workers of Banchhada community in Mandsaur district of Madhya Pradesh (India) are as follows.

Table 1: herbal medicine used as oral contraceptives with their method of preparations.

	Scientific name	Local name	Family	Plant part used	Method of preparation
1.	<i>Abrus preactorius</i> L.	Ghughuchi	Papilionaceae	Seeds	5 gm seeds boil in 50ml cow's milk remove the seed coat, powdered it mixed equal amount of turmeric and jaggery make small pills, take 1 pills daily for 5 days starting on the fourth day of menstruation.
2	<i>Amaranthus spinous</i> L	Chaulai	Amaranthaceae	Roots	Homogeneous crushed roots in rice water taken after menstruation cycle twice a day.
3	<i>Azadirachta India</i> Juss	Neem	Meliaceae	Seeds	Seed powdered and given 3 gm daily.
4	<i>Butea monosperma</i>	Palas	Papilionaceae	Seeds	The seeds about 10-15 roasted powdered and to be taken every day in empty stomach.
5	<i>Carica papaya</i> L.	Papita	Cariaceae	Seeds	About 30 seeds powdered and to be taken with water regularly after the menses till the commencement of next menses
6	<i>Curcuma longa</i> valetton	Haldi	Zingiberaceae	Rhizome	3 gm powder taking during menstruation cycle every day.
7	<i>Desmodium</i>	Shalapari	Fabaceae	Whole	5 gm powdered of whole plant taken during

	gangeticum DC.			plant	menstruation period daily
8	Dioscorea bulbifera L.	Ratalu	Dioscoreaceae	Tubers	Tubers peeled out dried, roasted powdered about 10 gm for 5 days just after menses.
9	Ficus religiosa L.	Peepal	Moraceae	Seeds	Mixed powdered seed 5 gm with equal quantity of suhago borax and taken for 4 days during menstruation period
10	Hibiscus rosa sinensis L.	Gudhal	Malvaceae	Flowers	5-8 flowers dried, crushed and mixed with honey taken every morning in empty stomach
11	Mucuna pruriens L) DC.	Kemanch	Fabaceae	Seeds	Seed powder of 3 seeds given once daily for (3days after menses.
12	Ricinus communis L.	Castor	Euphorbiaceae	seeds	5-10 ml sap of seed in menstruation period once daily
13	Randia dumetorum L.	Madna	Rubiaceae	Fruits	Fruits powder in mixed with milk and given twice daily about 50 ml.
14	Calotropis procera	Arka	Asclepiadaceae		
15	Achyranthes aspera Linn	Aaghada	Amaranthaceae	Root	10gm of root powder is given orally as contraceptive drug
16	Lawsonia inermis	Henna, Mehndi	Lythraceae	Root	
17	Adhatoda vasica	vasaka,	Acanthaceae	Leaves	Dry powder of leaves is abortive at doses of 10 grams of in water for 3 weeks are effective.

DISCUSSION

Many of the above mentioned plants that are used by the local Banchada community also appear in earliest medical literature like the Ayurveda and Unani. During the study, we noticed that a huge number of plant materials are used for curing female reproductive disorders compared to pimps. This can be endorsed to the fact that unlike men, female sex workers are unaware and therefore find cure in the neighborhood itself. Besides, the professional work load on them is also somewhat higher and hence they barely find time to visit market places for modern clinical treatment. It has been well understood that therapeutic herbs and its materials play a vital role in future health care system (Akerle O 1992)^[15] Majority of ongoing contemporary research mainly focus on ancient and traditional herbal medicine only. Though the modern medicine has brought a big change in health care system but most of them are toxic and not totally safe. Some of them can even cause permanent harm to our body systems. On the contrary, the herbal medicines are pure and safe with negligible side effects. That maybe a reason that even these days, the traditional herbal medicine is still practiced in several parts of India among many tribal and ethnic communities. Further, herbal medicines are cheaper, effective, and easily accessible. The method of drug preparation is simple and easier with no risk of any side effects.

Due to the process of modernization and culture contact, there is always a threat to the native knowledge (Blowers A. 1997).^[16] Hence, it is very much urgent to carry out a restoration plan for the conservation of the native medicinal knowledge from native communities.

CONCLUSIONS

It can be concluded from the above survey that Banchada community inherit rich conventional information and records of medicinal plants to cure reproductive health

disorders. They are well aware and concerned of modern developmental activities which degrade the wild and flora of the area.

Non affordability and non accessibility of contraceptives was an important factor for its non adherence of modern pills. Lack of adequate public health facilities during any reproductive health related problems force the sex workers to consult local elder healers. We believe that the present documentation of novel traditional knowledge obtained from Banchada community of Mandsaur area (Madhya Pradesh, India) will undeniably offer recognition to the already existing knowledge and will also help in its preservation for the betterment of human society. We suggest a targeted approach to tackle the contraceptive needs of sex workers of this community to help remove barriers to contraceptive uptake. We also support the opening of counseling services to give necessary information on the benefits of modern contraceptive methods and so improve double use for both pregnancy and prevention of sexually transmitted diseases (STD/HIV). Further studies on chemical and pharmacological research are suggested to validate the efficacy, safety and other claims of this community.

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