Journal of Gynecology and Maternal Health
ISSN: 3068-3696
ScitechSeries
Open Access

Unlocking the Potential of Herbal Oral Contraceptives: The Need of the Hour for Tribal Women in Central India

Abstract

Tribal women in India face unique challenges in accessing reproductive healthcare, including limited availability of modern contraceptive methods. However, traditional knowledge of herbal remedies offers a potential solution. This paper explores the role of herbal oral contraceptives in empowering tribal women, examining their efficacy, safety, and integration into modern healthcare systems. It also highlights the challenges and potential strategies for incorporating herbal contraceptives into family planning programs also provides an in-depth analysis of the potential of herbal oral contraceptives in addressing the reproductive health needs of tribal women in India. By combining traditional knowledge with scientific research, it is possible to develop effective, culturally acceptable, and accessible contraceptive methods.

Keywords: Contraception, Herbal, Tribal

Review Article

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Received: 27 Oct, 2025; **Accepted:** 14 Nov, 2025; **Published:** 25 Nov, 2025.

Introduction

India's tribal populations, constituting approximately 8.6% of the national population, often reside in remote areas with limited access to healthcare services. Among these, tribal women encounter significant barriers to reproductive health services, including cultural taboos, lack of awareness, and logistical challenges. Traditional herbal remedies have been utilized for centuries within these communities, offering a potential avenue for contraception.

Traditional Herbal Contraceptives: An Overview

Ethnobotanical studies have documented the use of various plants for fertility control among tribal communities. These plants are typically utilized in the form of decoctions, powders, or infusions and are consumed orally to prevent pregnancy.

Scientific Name	Local/Tribal Name	Part Used	Method of Usage	Pharmacological Mechanism	Reference
Abrus precatorius	Rosary Pea	Seeds	Seeds powdered and taken orally in small doses to prevent conception	Contains abrin, a potent toxin that may disrupt reproductive processes	1
Amaranthus spinosus	Thotakura	Whole plant	Decoction prepared from leaves and stems, consumed daily during fertile period	Contains saponins and alkaloids that may affect hormonal balance	3
Strobilanthes callosa	Kusha	Leaves	Leaf juice taken orally once daily for a menstrual cycle	Contains compounds that may interfere with ovulation	1

Azadirachta indica	Neem	Seeds/ Leaves	Seed paste or leaf decoction administered orally to inhibit fertility	Contains azadirachtin, which may affect fertility by disrupting hormonal pathways	2
Carica papaya	Papaya	Seeds	Seeds ground into powder and consumed to reduce fertility	Contains enzymes like papain that may affect sperm motility and ovulation	1
Vitex negundo	Nirgundi	Leaves/ Seeds	Leaf extract or seed powder taken orally for antifertility effects	Contains flavonoids and alkaloids that may modulate hormonal activity	2
Euphorbia hirta	Dudhi / Asthma Weed	Whole plant	Plant decoction consumed orally during reproductive age	Contains compounds with potential antiprogestational activity	1
Curculigo orchioides	Kali Musli	Rhizome	Rhizome decoction consumed to prevent conception	Contains bioactive compounds that may exhibit antifertility effects	4
Butea monosperma	Flame of the Forest	Gum	Gum mixed with honey and used as a suppository	Contains flavonoids that may exhibit estrogenic activity	4
Achyranthes aspera	Chirchita	Whole plant	Whole plant decoction consumed orally for fertility control	Contains saponins and alkaloids that may affect reproductive hormones	4
Datura metel	Jimson Weed	Seeds	Seeds ground into powder and consumed to prevent pregnancy	Contains tropane alkaloids that may disrupt uterine contractions	4
Cassia fistula	Golden Shower Tree	Fruit pulp	Fruit pulp consumed as a purgative to prevent conception	Contains anthraquinones that may affect gastrointestinal motility	4
Mimosa pudica	Sensitive Plant	Whole plant	Whole plant decoction consumed orally for fertility control	Contains alkaloids that may exhibit antiprogestational activity	4
Heliotropium indicum	Turnsole	Whole plant	Whole plant decoction consumed orally for permanent sterilization	Contains pyrrolizidine alkaloids that may affect liver function	4
Salmalia malabarica	Silk Cotton Tree	Flowers	Flowers used in traditional practices for fertility control	Contains compounds that may exhibit estrogenic activity	4

Table 1: Herbal Contraceptives Used by Tribal Communities in Central India

Challenges in Integrating Herbal Contraceptives into Modern Healthcare

Despite their promising potential, integrating herbal contraceptives into mainstream healthcare faces several obstacles:

- **Regulatory Hurdles:** The Central Drugs Standard Control Organization (CDSCO) requires extensive clinical testing and safety evaluation before approval of herbal products for oral contraceptive use [2,4].
- **Standardization and Quality Control:** Variations in plant species, growing conditions, and preparation methods make it difficult to maintain consistent dosages and potency [3,4].
- **Scientific Validation:** Most ethnobotanical data are anecdotal; limited clinical studies exist to confirm safety and efficacy [1,3,4].
- **Cultural Perceptions and Awareness:** While tribal women often accept herbal remedies, lack of awareness about standardized use and dosage may result in misuse or reduced efficacy [5,6].
- **Accessibility and Knowledge Transfer:** Documentation of traditional knowledge is incomplete. The risk of losing valuable tribal knowledge is high, especially as younger generations migrate to urban areas [2,5].

Potential Benefits of Herbal Oral Contraceptives for Tribal Women

- Accessibility: Herbal contraceptives can be sourced locally, reducing dependence on urban healthcare facilities and modern contraceptive supplies [3,6].
- Autonomy and Empowerment: Women can manage their reproductive health independently, enhancing decision-making power within households [8].
- Cultural Acceptability: Using familiar plants aligns with cultural beliefs, reducing resistance compared to synthetic contraceptives [2,5].
- Cost-Effectiveness: Locally sourced plants reduce costs associated with commercial contraceptives, benefiting economically disadvantaged tribal communities [6,8].
- Preservation of Traditional Knowledge: Integrating scientifically validated herbal contraceptives into modern healthcare helps preserve tribal ethnobotanical knowledge [4,7].

Recommendations for Future Research and Policy

- **Conduct Rigorous Clinical Trials:** Systematic clinical studies should be conducted to confirm safety, efficacy, and dosage for each plant-based contraceptive [4,7].
- **Standardize Formulations:** Develop protocols for plant collection, preparation, and dosage to ensure reproducible effects and minimize toxicity [3,4].
- **Integrate into Healthcare Programs:** Collaborate with government and non-governmental organizations to include validated herbal contraceptives in family planning initiatives [5,8].
- **Community Education:** Educate tribal women on safe usage, timing, and potential side effects of herbal contraceptives to ensure effective reproductive control [6,8].
- Ethnobotanical Documentation: Record and preserve traditional knowledge on contraceptive plants, particularly from marginalized tribal regions [2,3].
- **Pharmacological and Mechanistic Studies:** Investigate bioactive compounds and their molecular mechanisms to develop evidence-based herbal contraceptives [4,7].

Conclusion

Herbal oral contraceptives offer a culturally acceptable, cost-effective, and accessible option for reproductive health management among tribal women in India [9-10]. By bridging traditional ethnobotanical knowledge with modern scientific validation, it is possible to empower women, preserve indigenous knowledge, and address gaps in family planning services. Future research focused on standardization, clinical validation, and integration into healthcare programs is essential for realizing their full potential.

References

1. Jain, Anita, S. S. Katewa, B. L. Chaudhary, and Praveen Galav. “Folk herbal medicines used in birth control and sexual diseases by tribals of southern Rajasthan, India.” Journal of ethnopharmacology 90, no. 1 (2004): 171-177.
2. Dey, Susmita, Dola Das, Arijit Chakraborty, Shubhadeep Roychoudhury, Birupakshya Paul Choudhury, Arun Paul Choudhury, and Subhash C. Mandal. “Plant-based traditional herbal contraceptive use in india: safety and regulatory issues.” In Evidence based validation of traditional medicines: a comprehensive approach, pp. 659-675. Singapore: Springer Singapore, 2021.
3. Shrivastava, Satyaendra, Sumeet Dwivedi, Darshan Dubey, and Shweta Kapoor. “Traditional herbal remedies from madhya pradesh used as oral contraceptives-a field survey.” International Journal of Green Pharmacy (IJGP) 1, no. 1 (2007).
4. Bhatt, Narendra, and Manasi Deshpande. “A critical review and scientific prospective on contraceptive therapeutics from ayurveda and allied ancient knowledge.” Frontiers in pharmacology 12 (2021): 629591.

5. Mudi, Prasanna Kumar, and Manas Ranjan Pradhan. “Attitude and determinants of contraceptive use among the Juang tribe: A cross-sectional study in Odisha, India.” Clinical Epidemiology and Global Health 24 (2023): 101448.
6. Muralidhar, Kiranmayee, Holly Nishimura, Kate Coursey, Karl Krupp, Poornima Jaykrishna, Vijaya Srinivas, and Purnima Madhivanan. “Knowledge and practice of family planning among pregnant tribal women in Southern India: an observational study.” Contraception and Reproductive Medicine 9, no. 1 (2024): 2.
7. Adia, Madina Mohamed, Asiimwe Savina, Namukobe Jane, Mukwaya Joel, Anywar Godwin, Kakudidi K. Esezah, and Byamukama Robert. “Medicinal plant species used for contraception and reproductive health care in rural Uganda.” Heliyon 11, no. 1 (2025).
8. Sreedevi, Aswathy, Krishnapillai Vijayakumar, Shana Shirin Najeeb, Vishnu Menon, Minu Maria Mathew, Lakshmi Aravindan, Rithima Anwar et al. “Pattern of contraceptive use, determinants and fertility intentions among tribal women in Kerala, India: a cross-sectional study.” BMJ open 12, no. 4 (2022): e055325.
9. Dwivedi, Sumeet. “Phytotherapeutic potential of Traditional Herbal medicine for the treatment of Gynecological disorders among tribes of Malwa Region of Madhya Pradesh, India.” International Journal of Pharmacy & Life Sciences 13, no. 11 (2022).
10. Satyaendra Shrivastava, Satyaendra Shrivastava, Darshan Dubey Darshan Dubey, and Sumeet Dwivedi Sumeet Dwivedi. “Recent advances in potential of herbal oral contraceptives.” (2009): 128-151.

Citation: Sumeet Dwivedi and Prerna Chaturvedi. “Unlocking the Potential of Herbal Oral Contraceptives: The Need of the Hour for Tribal Women in Central India” J Gynecol Matern Health (2025): 118. DOI: 10.59462/3068-3696.3.1.118