

Ethnomedicinal Plants Used in the Treatment of Gynecological Disorders by the Traditional Health Practitioners in Bagalkot District, Karnataka, India

Research Article

Vijaymahantesh Gobbi and Kotresha Katrahalli*

Taxonomy and Floristic Laboratory, Department of UG, PG and Research in Botany, Karnatak University's, Karnataka Science College, Dharwad, India

***Corresponding author:** Kotresha Katrahalli, Taxonomy and Floristic Laboratory, Department of UG, PG and Research in Botany, Karnatak University's, Karnataka Science College, Dharwad, India. Email: kotresh_sk@yahoo.com g.vijay919@gmail.com

Copyright: © Gobbi V, et al. 2023. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Article Information: Submission: 27/01/2023; Accepted: 24/02/2023; Published: 28/02/2023

Abstract

Gynecological disorder is one of the most severe conditions under reproductive health. So, we investigate and collect information from traditional practitioners on the use of medicinal plants for treatment of gynecological disorder in Bagalkot district, Karnataka. The field study was carried out during January 2021 – October 2022. The indigenous knowledge of local traditional healers about the plant species used for medicinal purposes was collected using a questionnaire by personal interviews during field visits. In the present investigation, 15 plant species, belonging to 15 genera and 12 families used by the local healers against gynecological problems of the women are documented. Leaves (5) were the most frequently used plant parts and most of the medicines were prepared in the form of juice and administered orally. On the basis of fieldwork, it is revealed that the traditional health practitioner's use the plant medicine commonly for white discharge (leucorrhoea) and irregularity periods (Metrorrhagia) in women's. The scientific name, family, local name, habit, part used and mode of their administrations are provided in the table.

Keywords: Medicinal plants; Gynecological disorder; Traditional health practitioner; Bagalkot district

Introduction

Gynecology is a branch of medicine that deals with the condition of the female reproductive system. An emerging specialty called ethanol gynecology uses local medicinal plants to treat gynecological conditions such as abortion, menstruation disorders, leucorrhoea, infertility, and delivery issues. Menstrual disorders, despite playing a significant role in women's lives, are sometimes overlooked as serious health problems that can interfere with women's daily activities. The restrictions on analgesics and sanitary facilities lead Indian women to prefer household spice cabinets or traditional medications [1]. This study concentrated on the traditional remedies that indigenous women used to manage menstrual discomfort. The traditional health practitioners in Karnataka's Bagalkot District are highly known for

having a thorough understanding of medicinal plants. This paper attempts to compile useful information about plants used traditionally by local healers to treat gynecological diseases.

Materials and Method

Study Area: Bagalkote is a city situated in the northern part of the Indian state of Karnataka. Geographically, it is located at the coordinates 16.18°N 75.7°E, and Situated along the banks of the River Ghataprabha, it lies at an average elevation of 533 meters above sea level. It is the head-quarters of bagalkote district. The district consists of nine C.D. blocks namely Badami, Bagalkote, Bilagi, Hunugund, Jamakhandi, Mudhol, Ilkal, Guledgudd, and Rabhakavi Banahatti. (Figure 1).

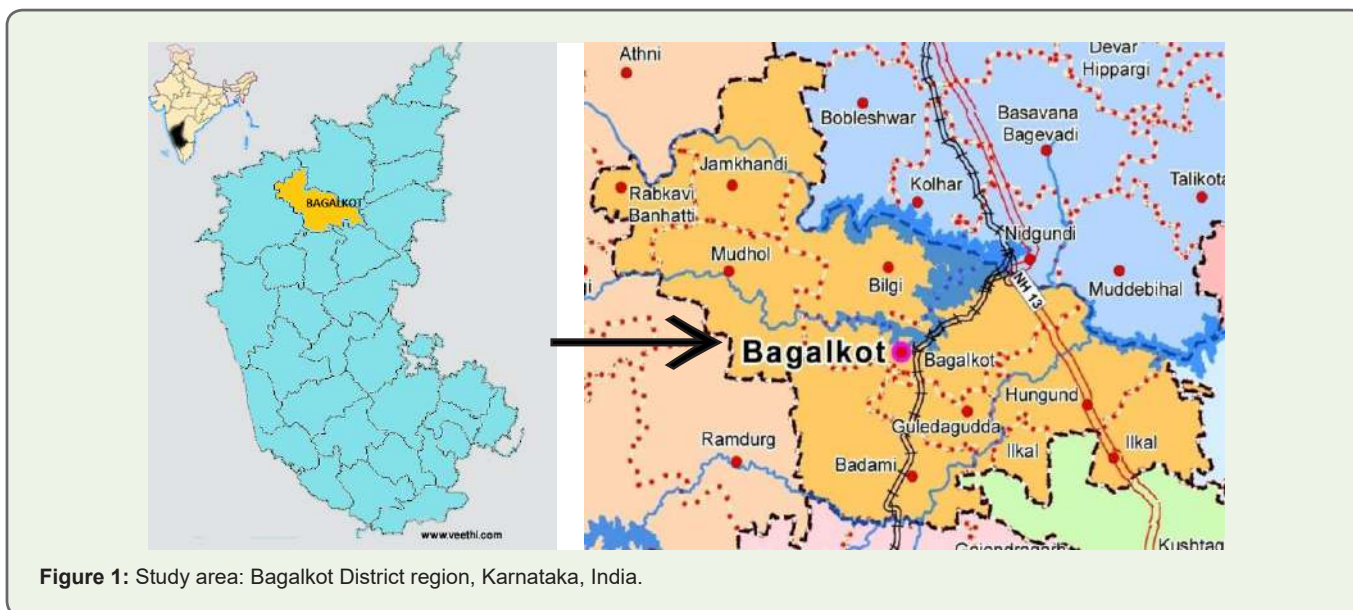


Figure 1: Study area: Bagalkot District region, Karnataka, India.

Ethnobotanical data collection: The present work was carried out in villages of the nine talukas of Bagalkot district, Karnataka. The extensive studies were conducted during the period January, 2021 to November, 2022 with the help of local informants and local Traditional Health Practitioners (THPs) including males and females of different age groups, education level and experience of medicinal plants utilization. Plant specimens are to be collected with flower and fruits. The collector number is given to each plant and noted the field observation in field note book.

To get information from Traditional Health Practitioners, a questionnaire (Data sheet) must be produced. To keep record of additional information during interactions, a data sheet including the Traditional Practitioner’s name, age, occupation, visit date, knowledge, location, plant family, habit, dosage, and vernacular names as well as a field study note book are also kept.

Botanical identification: All the plant specimens collected during field visits were taxonomically identified with the help of available floras [2-6]. The correct plant names were verified from International Plant Names Index [7].

Preparation of Herbarium: The collected plant specimens at the time of field visits were prepared in the form of herbarium as suggested by Jain and Rao (1997) [8]. To protect against insect and fungal attack the herbarium sheet are poisoning with 95% ethanol or methylated spirits (denatured alcohol).

Result and Discussion

The present study revealed that 15 plant species, belonging to 15 genera and 12 families used by the local healers against gynecological problems of women are documented. Out of 15 plants, the majority of the species are shrubs (40%), followed by herbs (33%), and climbers (27%) (Figure 2). The majority of medications are made from the following plant parts: leaves (40%), roots (27%), seeds (6.6%), flowers (6.6%), fruit (6.6%), whole plant (6.6%), and wood (6.6%) (Figure 3). Traditional medical practitioners frequently rely their diagnoses

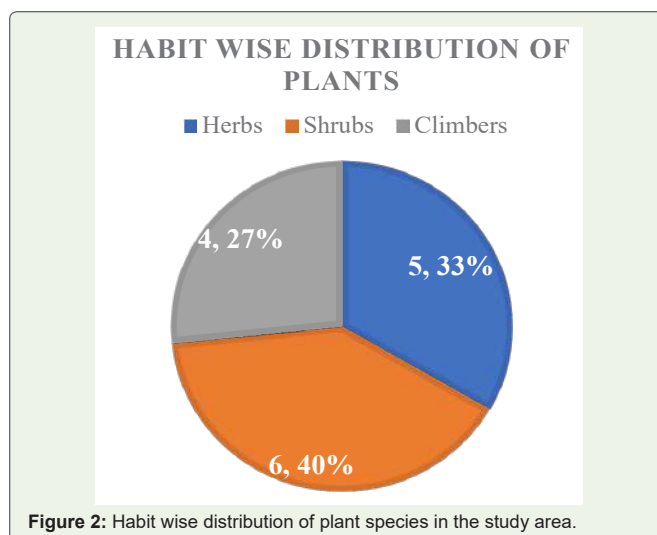


Figure 2: Habit wise distribution of plant species in the study area.

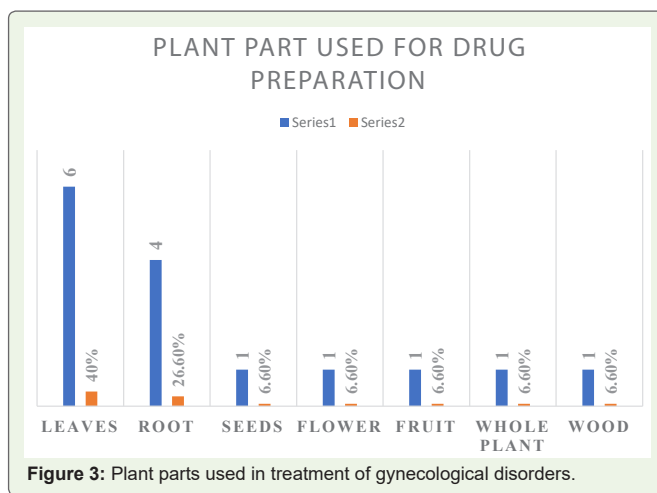


Figure 3: Plant parts used in treatment of gynecological disorders.

on both their own expertise in treating patients' ailments as well as details offered by patients about their symptoms. The four types of medicinal preparations in the current survey were used by grinding up diverse plant parts into powder(6), extracting juice from plant parts(5), combining plant parts with water to make a decoction(2), and plant parts as a paste (2) (Figure 4). Oral administration of plant medicine was the most typical method. Out of 15 plant species, 60% were used to treat Leucorrhoea (white, yellow, or greenish vaginal discharge), 20% for Menorrhagia (excessive blood flow during periods), 13% for Dysmenorrhea (abdominal, back, or other types of pain associated with periods), and 7% for Metrorrhagia (irregularity of periods) (Figure. 5).

Panduranga et al. (2011) [9] reported 37 medicinal plant species for women diseases. They explained about *Sterculia urens*, *Hybanthus enneaspermus*, *Curculigo orhiodes*, *Dodonaea viscosa* etc. are the most effective medicinal plants to treat women diseases. Vidysagar and Murthy (2012) [10] reported that 26 medicinal plants for menstrual disorders belonged to 21 families in an ethnobotanical survey carried out in Bellary district. They documented *Achyranthes aspera* L., *Asparagus racemosus* L., *Hibiscus rosa-sinensis* L., and *Leucas aspera* (Willd.) Link. as the most effective species against the menstrual disorders of women in Bellary District. Laddimath and Srinath Rao (2016) [11] mentioned in their article that *Caesalpinia bunducella* Roxb and *Withania somnifera* (L.) Dunal are the most



Figure 6: A. *Achyranthes aspera* L., B. *Argemone mexicana* (L.), C. *Coccinia grandis* (L.) Voigt, D. *Enicostemma axillare* (Poir. ex Lam) A.Raynal, E. *Hibiscus rosa-sinensis* L., F. *Santalum album* Santalaceae L.

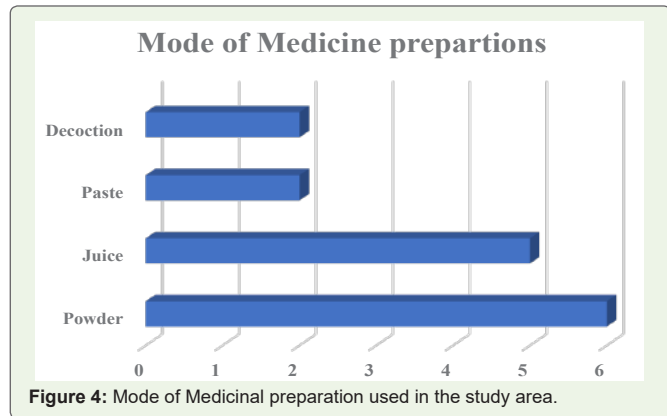


Figure 4: Mode of Medicinal preparation used in the study area.

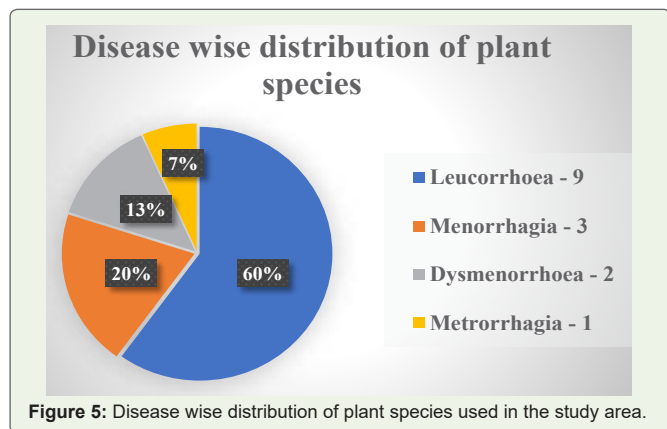


Figure 5: Disease wise distribution of plant species used in the study area.

effective medicinal plants for treating primary infertility in women. Ponnaiah et al. (2018) [12] have reported 24 medicinal plants used for female health issues. They documented *Hibiscus rosa sinensis* L. and *Petalium murex* L. to treat female health issues. Sahu et al, (2021) [13] have reported 28 species for the treatment of urogenital ailments.

Jiao M et al. (2022) [14] Screened 93 literatures on the topic Menstrual disorders in different countries, and analyzed 130 families and 571 species of plants used by women from different countries and regions. Among them, 451 are herbs, 178 are trees, 72 are shrubs, 21 are vines, five are climbers and 37 are of other types. The five main families are Asteraceae, Lamiaceae, Apiaceae, Fabaceae, and Zingiberaceae, while the five frequently used plants are *Zingiber officinale* Roscoe. (Ginger), *Ruta graveolens* L. (Common rue), *Angelica sinensis* (Oliv.) Diels (*Angelica sinensis*), *Foeniculum vulgare* Mill. (Fennel), and *Catharanthus roseus* (L.) G. Don (*Catharanthus roseus*). The general dosage of these herbs was 3–15 g. Vineeta et al. (2022) [15] documented a total of 114 ethnogynecological plant species from the retrieved literature of West Bengal, India. They found that Leucorrhea was treated with the highest number of plant species, and roots were most frequently used in different gynaecological ailments. Ugiomoh et al. (2023) [16] revealed that Fabaceae, Malvaceae, and Apocynaceae are the most recurrent families for the treatment of female infertility in the Agbor, Ika South, Delta State, Nigeria (Table 1).

Table 1: List of medicinal plants used in the treatment of Gynecological disorders in the Bagalkot District, Karnataka, India.

Sl.No	Botanical Name	Local Name	Family	Habit	Part Used	Mode of Preparation	Dosage	Uses
1	<i>Achyranthes aspera</i> L.	Uttarani	Amaranthaceae	Shrub	Root	Grind the root with camphor and Shilajit basma	5gm of powder twice a day	Used to treat white discharge in women's (Leucorrhoea)
2	<i>Amaranthus caudatus</i> L.	Kirikali soppu	Amaranthaceae	Herb	Root	Root is grinded and boiled in water	100 ml of water two times a day in empty stomach	Used to treat white and red discharge (Leucorrhoea)
3	<i>Argemone mexicana</i> L.	Golagolike	Pappavaraceae	Herb	Leaves	Grind leaves filter juice through cloth. Boil the juice with coconut and make laadu.	Eat laadu daily once or twice for seven days.	Used to control white discharge in women's. (Leucorrhoea)
4	<i>Asparagus racemosus</i> Willd.	Shatavari	Asparagaceae	Climber	Root	Its ground roots are boiled with candy in water.	20ml of juice with one cup of milk daily two times for 7 days	To control white discharge in women's. (Leucorrhoea)
5	<i>Capparis sepiaria</i> L.	Tottilu balli	Capparaceae	Climber	Leaves	Leaf is juiced with water	10 ml of leaf juice with 50 ml of milk once a day for three days	Used to treat menstrual pain (Dysmenorrhoea)
6	<i>Coccinia grandis</i> (L.) Voigt	Tonde hannu	Cucurbitaceae	Climber	Root	Making root powder with sugar then mix with ghee and make a pill size of about 2 gram.	Give tablets two times a day for three days	Used to treat control bleeding for women's and relief stomach pain. (Menorrhagia)
7	<i>Cocculus hirsutus</i> (L.) W.Theob.	Dagadi balli	Menispermaceae	Climber	Leaves	Leaf is juiced with water	10 ml of juice two times a day for 21 days.	Helps in curing irregularity of periods. (Metrorrhagia)
8	<i>Enicostema axillare</i> (Poir. ex Lam.) A.Raynal	Ranjaka	Gentianaceae	Herb	Leaves	Ranjaka leaves + Flueggea leucopyrus leaves are grinded and sieved in white cloth	5 gm powder with water once a day up to 7 days	To relieve stomach pain for women's during menstruation. (Dysmenorrhoea)
9	<i>Flueggea leucopyrus</i> Willd.	Bilihooli	Phyllanthaceae	Shrub	Leaves	Opium soaked water is mix with hooli juice	Both juice are administered with curd one time in morning for three days.	Used to treat white discharge of women. (Leucorrhoea)
10	<i>Glycyrrhiza glabra</i> L.	Jesthamadhu	Fabaceae	Shrub	Whole plant	Whole plant is powdered.	5 gm of powder with 10 ml of honey in empty stomach two times daily for 30 days.	Controls bleeding during menstruation. (Menorrhagia)
11	<i>Guilandina bonduc</i> L.	Gajagada gida	Fabaceae	Shrub	Seeds	Grind Gajaga seeds+ cardamom + cumin seeds + sugar and make powder.	Give 10 gm of powder with goat milk one time a day for 7 days.	Used to treat white discharge in women's. (Leucorrhoea)
12	<i>Hibiscus rosa-sinensis</i> L.	Bili Dasavala	Malvaceae	Shrub	Flower	Flowers are dried in shade for 12 days then fry with ghee	Eating the flower in empty stomach every day for five days	Used to treat white discharge in women's (Leucorrhoea)
13	<i>Pedaliium murex</i> L.	Aneneggilu	Pedaliaceae	Herb	Fruit	caltrops are boiled in water for 15 minutes	100 ml of boiled water is used to drink	Used to treat white discharge in women's (Leucorrhoea)
14	<i>Santalum album</i> L.	Shrigandha	Santalaceae	Shrub	Wood	Bruising sandal wood with ghee and make small 1 gm tablets	One tablet morning in empty stomach once a day for 7 days.	To control bleeding during menstruation. (Menorrhagia)
15	<i>Sesamum prostratum</i> Retz.	Adavi ellu	Pedaliaceae	Herb	Leaves	Plant with Pedaliium murex + Blapharis integrifolia + Withenia somnifera of all whole plants in equal proportion are grinded.	5 gm powder with 50 ml milk two times a day up to 1 months	Used to treat white discharge in women (Leucorrhoea)

Conclusion

In the present study 15 plant species, belonging to 15 genera and 12 families used by the local healers against gynecological problems of women are documented. *Flueggea leucopyrus* Willd. and *Guilandina bonduc* L., are the two plant species found in our study to be mostly used to treat gynecological disorders by traditional healers. The identification of ethno-medicinal plants used to treat gynecological disorders is important for the future since it will benefit both researchers and native populations. The described therapies

required ethno-medicinal plants, photochemical processes, and other processes.

Acknowledgment

The authors are grateful to all the traditional healers of Bagalkot for providing the valuable information relevant to this work. The authors are also thankful to the authorities of Karnatak College Dharwad and Karnatak University, Dharwad, for providing good support and facilities. The authors would also like to thank the field assistants, Mr. Sangamesh Waladunki, Mr. Muttu Kalyani, and Mr. Shrivankumar Kalyani.

References

1. Pakkala KR, Patel HA (2021) Overview on some indigenous medicinal plants utilized in treatment of gynecological disorders by Indian women. DIMPS-IJ 01: 54-74
2. Cooke T (1903-1958) Flora of Presidency of Bombay. Botanical Survey of India.
3. Gamble JS (1967) Flora of Presidency of Madras. Vol. I - III: Allard & Co, London. (Reprinted-1956). Botanical Survey of India 1934.
4. Saldanha CJ (1984) Flora of Karnataka. Vol. I-II. Oxford & IBH Publishing. Co. Pvt. Ltd. New Delhi.
5. Saldanha CJ (1996) Flora of Karnataka. Vol. I-II. Oxford & IBH Publishing. Co. Pvt. Ltd. New Delhi.
6. Singh NP (1988) Flora of Eastern Karnataka, Vol. 1-II. Mittal Publications, New Delhi.
7. <http://www.ipni.org>
8. Jain SK, Rao RR (1997) A Handbook of Field and Herbarium Methods, Today & Tomorrow's Printers & Publishers. New Delhi.
9. Panduranga RM, Prasanthi S, Reddi S (2011) Medicinal plants in Folk medicine for Women's diseases in use by Konda Reddis. Indian Journal of Traditional Knowledge.10: 563-567.
10. Vidyasagar GM Murthy Siddalinga SM (2012) Ethnomedicinal plants used to treat menstrual disorders by tribal people in Bellary district of Karnataka, India. International Journal of Pharmacy & Life sciences. 3: 1-6.
11. Arati Laddimath, Srinath Rao (2016) Herbal medicine used to treat primary infertility in women by traditional practitioners of Vijayapur (Bijapur) district of Karnataka, India. International Letters of Natural Sciences . 50: 27-32.
12. Ponnaiah S, Karthikeyan S, Tagore JK (2018) Medicinal Plants Used for Fertility and Menstrual Disorders by the Women Belonging to the Nilgiris Tribe Community of Southern India. International Journal of Scientific Research and Reviews .7: 601-608.
13. Sahu AR, Sahu M, Raal A (2021) An Ethnobotanical study on Native Plants of Bargarh district of Western Odisha, India in Relieving Urogenital Ailments. A Journal of Plants, People and Applied Research .21 :1-11.
14. Jiao M, Liu X, Ren Y, Wang Y, Cheng L, et al. (2022) Comparison of Herbal Medicines Used for Women's Menstruation Diseases in Different Areas of the World. Front. Pharmacol. 12: 751207.
15. Vineeta, Shukla G, Bhat JA, Chakravarty S (2022) Folk therapeutic uses of ethnomedicinal plants to cure gynaecological disorders in tribal communities of West Bengal, India- A Meta-Analysis. Ethnobotany Research and Applications .24: 1-19.
16. Ugiomoh IG, Agogbua JU, Okan Richard A (2023) Plants used in the treatment of female infertility and other related health issues in Agbor, Ika South, Delta State, Nigeria. World Journal of Advanced Research and Reviews. 18: 622-634.