DOI: 10.7860/JCDR/2026/80025.24206

Original Article

Ayurveda Section

Ethnobotanical Survey of Medicinal Plants Used by the Tribal Population of Ashti Taluka, Wardha District, Maharashtra, India

MRUNALINI PATURKAR[1], PRAMOD KHOBRAGADE[2], AKSHAY PARGAONKAR[3], VIJAY GAJANANRAO THAKARE[4]

ABSTRACT

Introduction: India has a rich heritage of medicinal plants, which constitute a central pillar of its traditional healing systems. An ethnobotanical survey of medicinal plants provides extensive knowledge about plant species and their efficacy in local communities, thereby helping to strengthen and enhance the Ayurvedic healthcare system, particularly in the management of rare diseases. This study focuses on conducting an ethnobotanical survey.

Aim: To collect information on herbs used for medicinal purposes by the tribal population of Ashti taluka in Wardha District, Maharashtra, India.

Materials and Methods: A descriptive, observational survey was conducted in remote villages of Ashti tahsil, Wardha district, Maharashtra, India. Traditional healers and elderly community members were identified with the help of leaders and local people. Interviews were conducted in the local language from November 2020 to November 2021 using a structured questionnaire covering plant common names, habits, useful parts, method of preparation, mode of application, dosage, and medicinal uses. Photographs of wild plants were taken, and taxonomic identification and verification were carried out using Indian medicinal plant literature and international botanical databases. The age and experience of informants were taken into consideration during data collection.

Results: Twelve plant species belonging to ten different plant families were documented. These plant species were used by folk practitioners for the management of acute and chronic conditions such as hypertension, diabetes mellitus, cancer, asthma, and skin diseases, including eczema, psoriasis, and leukoderma.

Conclusion: Plants utilised by tribal communities appear to play an important role in the management of acute and chronic conditions, including hypertension, diabetes mellitus, asthma, and skin disorders such as eczema, psoriasis, and leukoderma. Traditional therapeutic practices reflect a deep integration of folk and classic Ayurvedic knowledge systems.

Keywords: Medicinal plants, Traditional healers, Tribal communities

INTRODUCTION

India has abundant flora, which represents one of its greatest treasures. Blessed with diverse agro-climatic conditions, India is considered a medicinal plant garden of the world. In Ayurveda, it is stated that every substance in nature can be used for therapeutic purposes [1]. In most of the remote areas where health care services are lacking, Traditional medicine plays a vital role in the treatment of diseases. Medicines are considered one of the principal pillars of the treatment. Martin defined Ethnobotany in 2001 as "the interactions between plants and people in their local environment," whereas Jones in 1941 described ethnobotany as the study of tribal people and their utilisation of tropical plants [2]. Forest dwellers, including cattle grazers, possess sound knowledge of the morphology and properties (guna) of the drugs growing in their surroundings [3]. Ethnobotanical surveys are essential for understanding, documenting and validating the uses of traditional drugs in the system of medicine.

Ashti, a taluka of Wardha District in Maharashtra, is home to tribal communities living in remote areas who practice this traditional system of medicine for primary healthcare. This treasure of medicinal plant knowledge has been transmitted orally without written records and is still retained by them [4]. Therefore, this study aimed to identify the medicinal plants used by local communities of Ashti taluka and to compare their traditional uses with descriptions in Ayurvedic texts. The present study may prove beneficial for students, teachers, researchers, scientists, readers, and others interested in medicinal plants.

NEED FOR THE STUDY

The rich diversity of medicinal plants in our nation is because of its cultural and educational heritage, yet *Abutilon ranadei* (Family: *Malvaceae*) [5], *Amorphophallus commutatus* (Shivala) [6], *Achyranthes aspera* (Aghada), *Biophytum sensitivum* (Lajalu) [7] and many other species present in Maharashtra are facing rapid decline. Their disappearance poses a serious threat to both biological heritage and availability for medicinal purposes, as these plants contain unique phytochemical compounds responsible for therapeutic effects. Indigenous knowledge held by local dwellers remains largely undocumented and at risk of being lost. Without systematic preservation of ethnobotanical information, future generations of researchers and practitioners will lack access to this invaluable resource, hindering drug discovery and sustainable healthcare development. Therefore, there is an urgent need to conduct comprehensive surveys, authenticate and catalogue these under-studied species, and establish a centralised database of traditional medicinal knowledge. Ashti taluka of Wardha district is one of the areas where many tribal peoples are located in remote areas, having a large amount of medicinal knowledge which is unexplored, so an attempt has been made to do an ethnobotanical survey.

The primary objective is to conduct an ethnobotanical survey among tribal communities in selected villages of Ashti taluka, with a focus on the use of medicinal plants for therapeutic purposes.

The secondary objectives were to identify the medicinal plants used by these communities for the treatment of various diseases; to document information on herbs effectively used by local dwellers as medicinal plants, and to develop an ethnobotanical database for the study area.

MATERIALS AND METHODS

A descriptive observational survey study was conducted in Ashti tehsil, Wardha District, Maharashtra, India from November 2020 to November 2021 among tribal communities including Balai, Banjara, Gond, Gawali, Bhui, Gowari, and Pradhan. Villages including Sahur, Mubarakpur, Pardi, Dhanoli, Botona and surrounding areas were selected for the study. The study was approved by the Institutional Ethical Committee letter MGACHRC/IEC/October -2020/133 with a study duration of one year.

Preliminary interactions with each good respondent were carried out to explain the aims and objectives of the research. Informed consent and co-operation of the participants were sought before gathering any ethnobotanical information. Special emphasis was placed on consulting elderly individuals and traditional practitioners within Ashti tehsil.

Study Procedure

Ethnobotanical data collection: Traditional vaidyas, medicinal healers and knowledge holders were identified with the help of community leaders, local informants and local referrals. Ethnobotanical surveys were conducted from November 2020 to November 2021 through repeated field visits to different remote villages of Ashti tehsil. Local people assisted in facilitating effective communication with respondents in their native language.

Data were collected through semi-structured questionnaires, personal interviews, and group discussions. The questionnaire was prepared by the PhD scholar in English, Hindi and Local language, which was validated by the subject experts of the Dravya Guna departments. [ANNEXURE 1]. Respondents included local vaidyas, traditional healers, adult men and women familiar with indigenous medicinal practices. The questionnaires were designed to get the local/common name of the plant, habit of the plant, useful part of the plant, ingredients/formulations, method of preparation and application, dosage, and medicinal uses.

Field photographs of plants in their natural surroundings were taken, and voucher specimens were prepared for identification. Plant species were identified using standard Indian medicinal plant literature and authenticated with reference to the International Plant Name Index (IPNI) [8], The Plant List [9], and the Germplasm Resources Information Network (GRIN) [10] taxonomy database. Plant family classification followed the APG IV (Angiosperm Phylogeny Group) system [11,12].

Data validation: The number of informants was five; all were aged 50-70 years, and their educational status ranged from no formal education to 12th standard. Medicinal values and therapeutic uses reported by the informants were cross-checked with published literature in ethnobotany, pharmacognosy and medicinal plant databases to ensure reliability and accuracy. As only five key informants were included, the calculated quantitative ethnobotanical indices should be interpreted cautiously and as exploratory rather than definitive.

Quantitative analysis of ethnobotanical data: To evaluate the significance of each species and the consensus among informants, quantitative ethnobotanical indices were calculated, including:

1. Informant Consensus Factor (ICF)
2. Use Value (UV)
3. Relative Frequency of Citation (RFC)
4. Fidelity Level (FL)
5. Relative Popularity Level (RPL)
6. Rank Order Priority (ROP)

Informant consensus factor (ICF): It was developed by Trotter RT and Logan YH, which tests the consistency of informants' knowledge regarding plant species for treating a particular illness category. This parameter accounts for the degree of agreement among the different informants interviewed concerning the use. The ICF value was calculated using the formula [13].

$$ICF = \frac{Nur - Nt}{Nur - 1},$$

where Nur is the total number of use reports for each disease category, and

Nt indicates the number of species used in said category.

Use Value (UV): Use Value reflects the relative importance of each plant based on the number of different uses reported. Use value gives an idea about the important species used by a community. It is calculated using the formula [14,15].

$$UVi = \frac{\sum Ui}{N}$$

Where, UV indicates the use value of an individual species, ∑Ui is the sum of the uses recorded for that species, and N represent the number of informants who reported that species.

Relative Frequency of Citation (RFC)

Relative Frequency of Citation (RFC) signifies the local importance of each species in a study area. The most popularly used plant species will get the highest number for the citation-frequency among the community members. This index is determined by dividing the number of informants citing a useful species (FC) by the total number of informants in the survey (N). RFC is calculated by the formula [16,17]:

$$RFC = \frac{FC}{N} \quad 0 < RFC < 1.$$

Theoretically, it varies from zero to 1. When a few informants quote the species, a value close to zero is obtained. The upper limit is seldom obtained; it is possible only when all the informants quote a particular species [16].

Fidelity Level (FL)

The FL is the percentage of informants who claim the use of certain plant species to treat a particular ailment in a study area. The FL index is calculated using the formula [18,19]:

$$FL\ (\%) = \frac{Np}{N} \times 100$$

Where, 'Np' is the number of informants who reported the use of certain plant species for a particular disease and 'N' is the total number of informants citing the species for any given disease. The maximum FL indicates the frequency and high use of the plant species for treating a particular ailment by the informants of the study area.

Relative Popularity Level (RPL)

The RPL is the ratio between the number of ailments treated by a particular plant species and the total number of informants for any disease. However, plant species with comparable FL may vary in their healing potential. A correction scale is therefore introduced, in which all the encountered plant species are divided into popular and unpopular groups. The RPL assumes a value of 0 and 1.0, with '1' being complete popularity of a plant for major ailments and '0' no ailments treated by a plant species. When all plant species are frequently used to treat some major ailments, the popularity index would be maximum (1.0); then decrease towards zero as the

relative popularity of the species diverges away from the popular side. For popular plant species, the RPL value is rationally selected to equal unity (i.e., equal to 1), while the RPL value is less than one for unpopular plant species. The RPL of the plant species is calculated and designated as popular or unpopular. The RPL value may be determined for each specific plant in accordance with its exact position on graph [20,21].

Rank Order Priority (ROP)

The ROP is a correction factor, used for appropriate ranking of the plant species with different FL and RPL values. The ROP is derived by multiplying RPL and FL values as explained earlier [22].

ROP=FL×RPL

The data obtained were analysed and presented in terms of proportions and percentages to highlight patterns of medicinal plant usage within the study area. List of ethnobotanical plant species documented in the study area [23-39] [Table/Fig-1].

RESULTS

A total of 12 plant species were documented, representing diverse botanical families, including *Lythraceae, Solanaceae, Euphorbiaceae, Mimosaceae*, and *Moraceae*. These plants are utilised by tribal communities in traditional therapeutic practices and are identified with both local and Sanskrit names, reflecting a deep integration of folk and classical Ayurvedic knowledge systems.

In documented plants, there were five tree, four shrubs and three herb species. The parts used varied, including roots, leaves, seeds, bark, latex, and fruits, indicating the holistic utilisation of plant components. The medicinal uses ranged widely, addressing conditions such as wound healing, asthma, diabetes, skin diseases, jaundice, digestive issues, infertility, and even snake bites.

Preparation methods observed included juice extraction, decoction, infusion, and paste (kalk), with both oral and topical routes of administration. Notably, some plants, such as *Putranjiva roxburghii,* were used in reproductive health, while others, like *Hyptis suaveolens* and *Cassia uniflora,* showed diverse applications, including metabolic, dermatological, and infectious diseases. Plant-wise quantitative indices of the ethnobotanical study are given in [Table/Fig-2].

The present study employed a quantitative ethnobotanical approach to evaluate the medicinal plants used by the local community of Ashti taluka of Wardha district. *Lagerstroemia parviflora* has the highest community consensus and use, with Use Value (UV=1.4), it is the most regularly used plant for medicinal purposes. It's high relative frequency of citation (RFC=0.8) and informant consensus factor (ICF=0.86) signify a strong agreement among Vaidya's and

S. No.	Botanical name	Family	Local name	Sanskrit name	Habit	Part used	Disease treated	Preparation	Administration route
1.	*Lagerstroemia parvifloraRoxb*	Lythraceae	Lendiya	Siddheshwara	Tree	Fruits,Leaves	Wound healing for animals, cough, fever, asthma, bronchitis [23]	Juice	Topical
2	*Physalis angulata Linn*.	Solanaceae	Phupphuda	Asphota	Herb	Leaves, Fruits	Malaria, Asthma, Dermatitis [24]	Juice, infusion	Oral
3	*Phaseolus trilobus Ait*.	Papilionaceae	Ranmuga	Mudgaparni	Herb	Whole plant	Gastritis, burning, sensation diarrhoea, abdominal discomfort, eye disorders, swelling [25] jaundice, liver disorders [26]	Decoction, powder	Oral
4	*Pedilanthus tithymaloides [L.]Poit*	Euphorbiaceae	Rang Chita	-	Shrub	Leaves,flower, root, latex	Abscess, inflammation, pain laryngitis, mouth ulcers, HSV Infection [27]	Decoction, leaves paste	Topical
5	*Putranjiva roxburghii Wall*	Euphorbiaceae	Putrajeevak	Putrajeevak	Tree	Seeds,leaves	Diabetes, infertility,oligospermia [28]	Decoction	Oral
6	*Mimosa hamata* [Willd.]	Fabaceae	Chileti	Veertaru	Shrub	roots	Inflammation [29] food for cattles, ashtma [30]	Decoction	Oral, topical
7	*Hyptis suaveolens [L.]Poit*	Lamiaceae	Jangalitulas	Kharasani	Shrub	leaves	Diabetes mellitus, fever, eczema flatulence, cancer, and headache [31,32]	Juice,decoction	Topical
8	*Chloroxylon swietenia (Roxb.)*	Rutaceae	Bhera	Behara	Tree	Leaves, bark	Wounds [33], snake bites, rheumatism,	Leaf kalk, bark extract Bark powder +coconut oil	Topical, oral
9	*Dolichandrone falcata (Wall. exDC.) Seem*	Bignoniaceae	Medhshingi	medhshingi	Tree	Stem bark, fruits	Diabetes mellitus, jaundice, fever, Haemorrhoids [34,35]	Leaves juice, Fruit decoction	Oral, topical
10	*Cassia uniflora.Mill* [36]	Fabaceae	Tarota	Chakramarda variety	Herb	Leaves,seeds	Skin diseases, piles, ringworm, eczema, wound healing [37]	Seed kalk, leaves juice	Topical,Oral
11	*Ziziphus xylopyrus (Retz.) Willd*	Rhamnaceae	JangaliBer (dhoti)	Jangalibadar	Shrub	Fruit, leaves	Diabetes mellitus, insomnia, snakebite, digestive disorders [38]	Fruit, leaves kalk	Topical, Oral
12	*Ficus rumphii Blume*	Moraceae	Bhosa / Sone	Ashmantak	Tree	Bark, ksheer, fruit, leaves	Splenomegaly, diabetes mellitus, obesity [39]	Bark decoction, ksheer	Oral

[Table/Fig-1]: List of Ethnobotanical plant species of the study area [23-39].

Plants	Informant Consensus Factor (ICF)	Use Value (UV)	Relative Frequency of Citation (RFC)	Fidelity Level (FL, %)	Relative Popularity Level (RPL)	Rank Order Priority (ROP)
Lagerstroemia parviflora	0.86	1.4	0.8	80	0.85	0.68
Physalis angulata	0.75	1.1	0.6	60	0.7	0.42
Phaseolus trilobus	0.67	0.9	0.6	60	0.6	0.36
Pedilanthus tithymaloides	0.71	1	0.6	60	0.68	0.41
Putranjiva roxburghii	0.77	1.2	0.6	60	0.75	0.45
Mimosa hamata	0.5	0.8	0.4	40	0.62	0.25
Hyptis suaveolens	0.67	1	0.6	60	0.66	0.4
Chloroxylon swietenia	0.75	1.2	0.6	60	0.7	0.42
Dolichandrone falcata	0.67	0.9	0.6	60	0.61	0.37
Cassia uniflora	0.67	0.9	0.6	60	0.63	0.38
Ziziphus xylopyrus	0.71	1	0.6	60	0.67	0.4
Ficus rumphii	0.8	1.3	0.8	80	0.75	0.6

[Table/Fig-2]: Result of ethnobotanical study plant-wise.

local people regarding its medicinal applications. The plant's high-Fidelity Level (FL=80%) suggests its effectiveness for treating skin and respiratory diseases. *Ficus rumphii* has good importance. It exhibits a high ICF (0.800) and UV (1.3), reflecting its good knowledge and frequent use in folk practitioners. *Putranjiva roxburghii* is also highly significant in infertility, oligospermia and diabetes with ICF (0.77), UV (1.2), RFC (0.6), *Chloroxylon swietenia*. This plant shows a relatively high RPL (0.7), which indicates its good efficacy in snake poisoning and Rheumatism. Its consistent UV (1.2), RFC (0.6) values show its notable tropical application for specific conditions only.

***Ziziphus xylopyrus*:** Demonstrating consistent popularity, its moderate values (ICF=0.71) (UV=1.0) reflect its steady use for a variety of general health concerns. *Hyptis suaveolens*: With a moderate RFC (0.60 and UV (1.0), this plant is a consistent part of the local medicinal flora. Its lower ROP (0.40) suggests it may function as a secondary option, used when more popular remedies are unavailable. *Physalis angulata* [Table/Fig-2]. This species shows good consensus (ICF=0.75) and is frequently used (UV=1.1), indicating its established therapeutic properties are widely known.

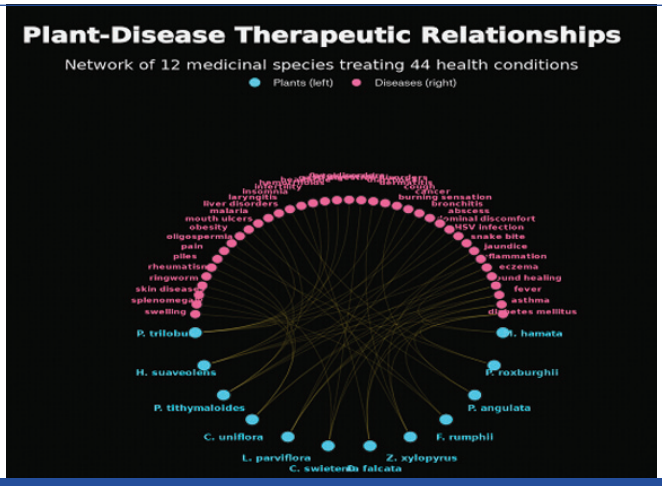
***Pedilanthus tithymaloides*:** Although it has a lower ICF (0.71) and RFC (0.6) compared to the top species, its high FL (60%) and RPL (0.68) indicate that when it is used, it is considered highly effective for its specified purpose. This category includes plants with lower values across most indices, suggesting they are either used for niche applications or by a smaller segment of the community.

***Phaseolus trilobus*:** This species has moderate indices (ICF=0.71, UV=1), indicating a steady, but not widespread, ethnomedicinal role, possibly for nutritional or metabolic disorders.

***Dolichandrone falcata*:** While it has a moderate RFC (0.6), its lower UV (0.9) and FL of 60% suggest a more specialised or infrequent use, potentially for specific seasonal or chronic conditions.

***Cassia uniflora*:** Maintaining moderate standings across all indices, this plant shows consistent but not dominant use. It showed moderate use in the present study, particularly for dermatological conditions.

***Mimosa hamata*:** This plant has the lowest ICF (0.5) and ROP (0.25) of the species studied. Its recognition is limited, and its use is likely confined to specific subgroups or for highly specialised conditions, such as those requiring anti-inflammatory or analgesic effects. In conclusion, the ethnobotanical study identified *Lagerstroemia parviflora* and *Ficus rumphii* as the most critical medicinal species in the community. The data clearly delineates a hierarchy of plant use, from universally accepted remedies to specialised and less frequently used alternatives, providing a quantitative framework for understanding and preserving traditional knowledge [Table/Fig-3].



[Table/Fig-3]: Chord plot using ethnobotanical review showing medicinal plants used for the treatment of various ailments.

DISCUSSION

The traditional uses of *Lagerstroemia parviflora* documented in the present study are partly supported by published reports describing antimicrobial, anti-inflammatory, antitussive, and antioxidant activities of its fruit and leaf extracts [23]. Physalis angulata Linn. is used as an antimalarial, antiasthmatic, and skin condition treatment. Pharmacologically, it demonstrates antiparasitic, analgesic, anti-inflammatory, and anticancer activities in ethanolic extracts, the same traditional uses which are validated as per modern sciences [24]. *Phaseolus trilobus* Ait., Mudgaparni shows action on gastroenterological problems, liver protective, diuretic, and anti-inflammatory effects which are in line with oral uses as per folk people [25,26]. *Pedilanthus tithymaloides* (L.) has applications for skin abscesses, inflammation, and pain, which are validated with studies showing its anti-viral, anti-tumour, and anti-viral activities, particularly against herpes simplex virus [27]. *Putranjiva roxburghii Wall*. *Kwatha* for both types of infertility, DM2, is as per research on its spermatogenic, antidiabetic, and antioxidant activities, with seed kernel extracts lowering blood glucose and enhancing fertility parameters in animal models [28]. *Mimosa hamata kwatha* for asthma, pain and inflammation find its pharmacological uses as anti-inflammatory, where alkaloids show COX-2 inhibition and respiratory relief in asthma [29,30]. Hyptis suaveolens folk preparations were used for diabetes, fever, and eczema, which shows ethnopharmacological proof in terms of hypoglycaemic, antioxidant, and cytotoxic effects from its studies [31,32]. Chloroxylon swietenia (Roxb.) b uses for wounds, snakebites, and rheumatism its antimicrobial, anti-inflammatory, and wound healing activity, but its antivenom activity has not been studied by recent research and clarify whether this is the citing source's conclusion or the authors' own literature observation [33]. *Dolichandrone falcata* stem and

bark are used in diabetes, jaundice, fever, and haemorrhoids. As per pharmacological review, it is effective in treating anaemia, bloody diarrhoea, anthelmintic, analgesic, antiviral, and antifungal conditions. Additionally, the bark extract is beneficial for menorrhagia and leucorrhoea, while the leaves are used in the treatment of diabetes and other diseases [34,35]. *Cassia uniflora* is used for skin diseases, piles, ringworm, and wounds. Its analgesic, anti-inflammatory, and antifungal activities in extracts targeting arthritic inflammation as per its pharmacokinetics and pharmacodynamic review [36,37]. *Ziziphus xylopyrus*, useful in diabetes, insomnia, snakebites, and digestion improvement, is confirmed by research [38]. Ficus rumphii, used for splenomegaly, diabetes, and obesity, is also validated by modern research [39]. Among these twelve species, which are discussed here, are commonly used for medicinal purposes efficiently. Internal uses of medicines (33%) were predominant over external or topical uses (25%), both oral and topical (41.66%).

Limitation(s)

Twelve drugs were identified, which may not fully capture the ethno-medicinal knowledge of all tribal and rural communities in Ashti taluka, potentially leading to under-reporting of useful species. The number of informants was small and village coverage within Ashti taluka was limited; therefore, the findings cannot be confidently generalised to the entire Wardha District or to other regions. In addition, the plant-wise application of certain quantitative indices, particularly ICF, requires cautious interpretation, as plant identification and disease classification depend on field observations and available taxonomic and clinical references; any misidentification or mismatch between local disease terms and biomedical terminology can compromise validity.

CONCLUSION(S)

The present study concluded that traditional herbal medicine plays a vital role in the lives of tribal communities in Ashti taluka in managing commonly encountered health conditions. These communities continue to rely on locally available medicinal plants as part of their traditional healthcare practices.The study findings suggest that these plant species play an important role in curing acute or chronic diseases efficiently. Traditional herbal medicine may have potential relevance in the supportive management of conditions such as hypertension, diabetes mellitus, asthma, and certain skin disorders; however, these uses require rigorous pharmacological, pharmacognostical, phytochemical, and clinical validation.

The present study would be helpful to researchers, teachers, and students in identifying newer species and their therapeutic applications.

Acknowledgement

The authors thank Dr Ramesh Acharya, ex-taxonomist, JB Science College, Wardha; Mr. Kaushal Mishra, Warden, Wildlife and Century Wardha; and the forest range officer of Ashti taluka, who were responsible for identifying local traditional healers. The authors are also grateful to local traditional healers for their knowledge and support in identifying ethnomedicine.

REFERENCES

[1] Charaka, Agnivesha, Dridhbala. Charaka Samhita. Vidyotini Hindi commentary. Pandey K, Chaturvedi G, editors. Rajeshwardatta Shastri, editor. 1st ed. Vol. 1. Varanasi: Choukhamba Bharati Academy; 2008. Atreybhadrakapyeyadhyaya, Shloka no. 12; p. 492.
[2] Mhaiskar MN, Rajurkar BM, Bidkar RS. Ethnobotanical studies of Hinganghat tehsil of Wardha district (MS). Int J Recent Adv Pharm Res. 2012;2(2):33-37.
[3] Charaka, Agnivesha, Dridhbala. Charaka Samhita Vol.I, Vaidyamanorama Hindi commentary, Shukla Acharya Vidyadhar , Prof. Tripathi Ravi Dutta, foreword by Acharya Priyavat Sharma, Chaukhamba Sanskrit Pratisthan , Delhi; 2007, Sutrasthan, Dirghajivitiyadhyaya , Shlok no.120, P.N. 47.
[4] Samy R, Ignacimuthu S. Antibacterial activity of some folklore medicinal plants used by Tribals in Western Ghats of India. J Ethnopharmacol. 2000;69(1):63-71. Doi: 10.1016/S0378-8741(98)00156-1.
[5] Tetali P, Tetali S, Joshi PV, Kulkarni S, Lakshminarasimhan P, Prasanna PV. Ecological and conservation studies of Abutilon ranadeiWoodr. et Stapf. J Bombay Nat Hist Soc. 2004;101(3):344-52.
[6] Pardeshi S. 15 species of endangered plants found in Maharashtra. Pune: Centre for Development of Advanced Computing (C-DAC). [16 June, 2010]. [cited 2026 Mar 2]. Available from: https://www.cdac.in.
[7] Chavhan VN, Dagawal MJ. Documenting indigenous plant species in arvi region dist. Wardha (M.S.): An Ethnobotanical Perspective. Plantae Sci. 2024;7(3):33-36. Available from: https://plantaescientia.com/ojs/index.php/ps/article/view/137.
[8] International Plant Names Index (IPNI). Royal Botanic Gardens, Kew; Harvard University Herbaria; Australian National Herbarium; 2026 [cited 2026 Mar 2]. Available from: www.ipni.org.
[9] Plants of the World Online (POWO). Royal Botanic Gardens, Kew; 2026 [cited 2026 Mar 2]. Available from: powo.science.kew.org.
[10] USDA, ARS, National Genetic Resources Program. Germplasm Resources Information Network (GRIN). National Plant Germplasm System; 2026 [cited 2026 Mar 2]. Available from: www.ars-grin.gov.
[11] Dauncey EA, Allkin B, Irving JTW. Medicinal Plant Names Services (MPNS). Royal Botanic Gardens, Kew; 2026 [cited 2026 Mar 2]. Available from: mpns.science.kew.org.
[12] Byng JW, Chase MW, Christenhusz MJM, Fay MF, Judd WS, Mabberley DJ, et al. An update of the Angiosperm Phylogeny Group classification for the orders and families of flowering plants: APG IV. Bot J Linn Soc. 2016;181(1):01-20. Doi: 10.1111/boj.12385.
[13] Trotter RT, Logan MH. Informant consensus: A new approach for identifying potentially effective medicinal plants. In: Etkin NL, editor. Plants in Indigenous Medicine and Diet: Biobehavioral Approaches. Bedford Hills, NY: Redgrave Publishers; 1986. p. 91-112.
[14] Phillips O, Gentry AH. The useful plants of Tambopata, Peru: I. Statistical hypotheses tests with a new quantitative technique. Econ Bot. 1993;47(1):15-32. Doi: 10.1007/BF02862203.
[15] Prance GT, Balee W, Boom B, Carneiro R. Quantitative Ethnobotany and the Case for Conservation in Amazonia. Conserv Biol. 1987;1(4):296-310. Doi: 10.1111/j.1523-1739.1987.tb00050.x.
[16] Ugulu I, Baslar S, Yorek N, Dogan Y. The investigation and quantitative ethnobotanical evaluation of medicinal plants used around Izmir Province, Turkey. J Med Plants Res. 2009;3(5):345-67.
[17] Tardio J, Pardo-de-Santayana M. Cultural importance indices: A comparative analysis based on the useful wild plants of southern cantabria (Northern Spain). Econ Bot. 2008;62(1):24-39. Doi: 10.1007/s12231-008-9004-5.
[18] Alexiades MN, editor. Selected guidelines for ethnobotanical research: A field manual. New York: New York Botanical Garden; 1996. p. 99-133.
[19] Friedman J, Yaniv Z, Dafni A, Palewitch D. A preliminary classification of the healing potential of medicinal plants, based on a rational analysis of an ethnopharmacological field survey among Bedouins in the Negev Desert, Israel. J Ethnopharmacol. 1986;16(2-3):275-87. Doi: 10.1016/0378-8741(86)90094-2.
[20] Ali-Shtayeh MS, Yaniv Z, Mahajna J. Ethnobotanical survey in the Palestinian area: A classification of the healing potential of medicinal plants. J Ethnopharmacol. 2000;73(1-2):221-32. Doi: 10.1016/S0378-8741(00)00316-0.
[21] Kadir MF, Sayeed MSB, Mia MM. Ethnopharmacological survey of medicinal plants used by indigenous and tribal people in Rangamati, Bangladesh. J Ethnopharmacol. 2012;144(3):627-37. Doi: 10.1016/j.jep.2012.10.003.
[22] Arshad M, Ahmad M, Ahmad E, Saboor A, Abbas A, Sadiq S. An ethnobiological study in Kala Chitta hills of Pothwar region, Pakistan: Multinomial logit specification. J Ethnobiol Ethnomed. 2014;10:13. Doi: 10.1186/1746-4269-10-13.
[23] Jaisinghani H, Magarde P. A rare medicinal Herb Lagerstroemia parviflora (ROXB). J Med Plants Stud. 2022;10(3):27-29.
[24] Novitasari A, Rohmawaty E, Rosdianto AM. Physalis angulata Linn. as a medicinal plant (Review). Biomed Rep. 2024 Jan 24;20(3):47. doi: 10.3892/br.2024.1735.
[25] Zaheer M, Kalim A, Siddiqui MUA, Ahmed S, Vigna trilobata (L.) Verdc: A Review Of Medicinal Uses, Phytochemistry And Pharmacology. Journal of Pharmacognosy and Phytochemistry. 2021;10(2):118-20. E-ISSN: 2278-4136 P-ISSN: 2349-8234.
[26] Kaur N, Tripathi Y, Sehrawat R. Phaseolus Trilobus – A Review. Univ J Phytochem Ayurvedic Heights. 2010;2(9):29-33.
[27] Ojha D, Das R, Sobia P, Dwivedi VP, Ghosh S, Samanta A, et al. Pedilanthustithymaloides inhibits HSV Infection by Modulating NF-κBSignaling. PLoS One. 2015;10(10):e0139338. Doi: 10.1371/journal.pone.0139338.
[28] Naik AN, Pandya PN, Mankad AU. A comprehensive review on phytochemicals and medicinal properties of *Putranjivaroxburghii* Wall. Int Assoc Biol Comput Dig. 2023;2(1):234-40. Doi: 10.56588/iabcd.v2i1.118.
[29] Khan N, Hatapakki BC. Anti-inflammatory Activity of Mimosa hamata (Willd.). J Drug Deliv Ther. 2019;9(5-s):34-39. Doi: 10.22270/jddt.v9i5-s.3596.
[30] Parvej S, Mathur K, Goyal M, Yadav SK. Mimosa hamata Willd: A review on ethnobotanical, phytochemical and pharmacological profile. Int J Pharm Biol Arch. 2016;8(1):10-12.
[31] Yerramsetty G, Narendra Babu A, Naga Lakshmi J, Kiranmai K, Kavya G. Review on Hyptis suaveolens. Int J Pharm Sci Rev Res. 2021;67(1):104-07. Doi: 10.47583/ijpsrr.2021.v67i01.017.
[32] Mishra P, Sohrab S, Mishra SK. A review on the phytochemical and pharmacological properties of Hyptis suaveolens (L.) Poit. Futur J Pharm Sci. 2021;7:65. Doi: 10.1186/s43094-021-00219-w.
[33] Ravishankara B, Mahmood R, Krishna V, Vinaykumar NM, Ravikumar S. Inflammation mediated wound healing efficacy of Chloroxylon swietenia DC. fruit phytocompounds. Int J Pharm Res. 2021;13(2): DOI:10.31838/ijpr/2021.13.02.203.

[34] Sabale JM, Pawar AR, Kante RM. A review: Exploring a valuable medicinal plant and diverse therapeutic potential of Dolichandrone Falcata. Int J Novel Res Dev. 2025;10(3):a163-a169. Available from: ijnrd.org.
[35] Dhaswadikar S, Parmar K, Kamble S, Kathuria I, Dhobi M, Birajdar A, et al. Anti-hemorrhoidal potential of standardized leaf extract of Dolichandrone falcata. Phytomed Plus. 2021;2:100172. Doi: 10.1016/j.phyplu.2021.100172.
[36] Chaudhari SS, Chaudhari SR, Chavan MJ. Analgesic, anti-inflammatory and Anti- arthritic activity of Cassia uniflora Mill. Asian Pac J Trop Biomed. 2012;2(2 Suppl):S970-S975.
[37] Jadi S, Gorantla N, Nadenla S, Dange S. Isolation and chemical characterization of potential bioactive compounds from Cassia uniflora. Int J Pharm Sci Res. 2019;10(12):5347-61.
[38] Modi A, Jain S, Kumar V. Zizyphus xylopyrus (Retz.) Willd: A review of its folkloric, phytochemical and pharmacological perspectives. Asian Pac J Trop Dis. 2014;4(Suppl 1):S1-S6. Doi: 10.1016/S2222-1808(14)60408-4.
[39] Deshpande AP, Jawalgekar RR, Ranade S. Dravyagunavigyan. 5th ed. Pune: Anmol Prakashan; 1999. p. 799.

PARTICULARS OF CONTRIBUTORS:
1. Associate Professor, Department of Dravyaguna, Mahatma Gandhi Ayurved College, Hospital and Research Centre, DMIHER, Sawangi, Wardha, Maharashtra, India.
2. Professor, Department of Dravyaguna, Datta Meghe Ayurvedic college Hospital and Research Centre, Hingna, Nagpur, Maharashtra, India.
3. Associate Professor, Department of Dravyaguna, Mahatma Gandhi Ayurved College, Hospital and Research Centre, DMIHER, Sawangi, Wardha, Maharashtra, India.
4. Assistant Professor, Yashwantrao Chavan College of Engineering, Hingna Road, Wanadongari, Nagpur, India.

NAME, ADDRESS, E-MAIL ID OF THE CORRESPONDING AUTHOR:
Dr. Mrunalini Paturkar,
Associate Professor, Department of Dravyaguna, Mahatma Gandhi Ayurved College, Hospital and Research Centre, Datta Meghe Institute of Medical Sciences, Wardha-442001, Maharashtra India.
E-mail: mrunaltule@gmail.com

PLAGIARISM CHECKING METHODS: [Jain H et al.]
- Plagiarism X-checker: May 14, 2025
- Manual Googling: Jun 04, 2026
- iThenticate Software: Jun 06, 2026 (17%)

ETYMOLOGY: Author Origin

EMENDATIONS: 10

AUTHOR DECLARATION:
- Financial or Other Competing Interests: None
- Was Ethics Committee Approval obtained for this study? Yes
- Was informed consent obtained from the subjects involved in the study? Yes
- For any images presented appropriate consent has been obtained from the subjects. NA

Date of Submission: **Apr 19, 2025**
Date of Peer Review: **Aug 05, 2025**
Date of Acceptance: **Jun 08, 2026**
Date of Publishing: **Aug 01, 2026**