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Indigenous Knowledge and Traditional Uses of Medicinal Plants in Ambegaon Taluka, Pune District, Maharashtra

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Abstract
Indigenous medicine is a vital aspect of rural health care in rural India. Research of this study reveals medicinal plants knowledge recorded by local peoples in Ambegaon Taluka Pune district, Maharashtra. Field documentation and data collected provide a summary of records and identify a total of 24 medicinal plant species from 17 families. Among the four dominant families are Fabaceae, Combretaceae, Bignoniaceae, and Zingiberaceae. Leaves, bark, roots, rhizomes, stems, flowers, fruits, seeds-the different parts of plants which are used to treat diseases such as liver disorders, heart disease, diabetes, kidney stones, respiratory infections, skin diseases, bone fractures, digestive disorders, reproductive health problems. The most commonly used parts in plants were leaves and bark. The study demonstrates the range and depth of indigenous ethnomedicinal knowledge in Ambegaon Taluka and the need for recording and safeguarding of that information. The rapid modernization, habitat destruction, lack of preservation, and decreasing transmission of oral traditions threaten this knowledge system. An adjunct to the evidence-based practice of healing, cultural knowledge and research in the field of traditional plants is needed to help them to be integrated and validated scientifically and protected from deterioration through conservation efforts. Keywords: Indigenous knowledge, Ethnobotany, Medicinal plants, Ambegaon Taluka, Traditional medicine, Conservation, Western Ghats.

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Introduction

Medicinal plants have therapeutic use since time immemorial. According to the World Health Organization (WHO, 2013), nearly 80% of the world population depends on traditional medicine in primary health care. India possesses an enormous plant diversity, rich heritage of herbal medicine systems like Ayurveda, Siddha, and Unani (Sharma, 2002).

Indigenous knowledge is a group of traditional practices and beliefs developed by local communities over many generations, developed through contact with their environment (Berkes, 2012). In rural regions like Ambegaon Taluka, traditional healers and old residents continue to use locally developed medicinal plants to cure common ailments. Ambegaon Taluka, located in Pune District of Maharashtra, is influenced by the ecological diversity of the Western Ghats, a worldwide biodiversity hotspot (Myers *et al*., 2000).

Its diverse medicinal flora, known as flora native to the region, has been put to good use for healthcare, particularly where modern hospitals are not as abundant. But modernity, deforestation and changing lifestyles are endangering this indigenous knowledge. Thus a systematic record is needed to save not only the diversity of the plants but also the customary practices involved in them.

Objectives

1. To document medicinal plant species used in Ambegaon Taluka.
2. To record plant parts used and traditional methods of treatment.
3. To categorize ailments treated by indigenous remedies.
4. To assess conservation and sustainability concerns.

Study Area

Ambegaon Taluka is located in Maharashtra's northern Pune District. The region has a tropical monsoon climate that features moderate to high rainfall. The terrain comprises wooded hills, farmlands, and residential areas.

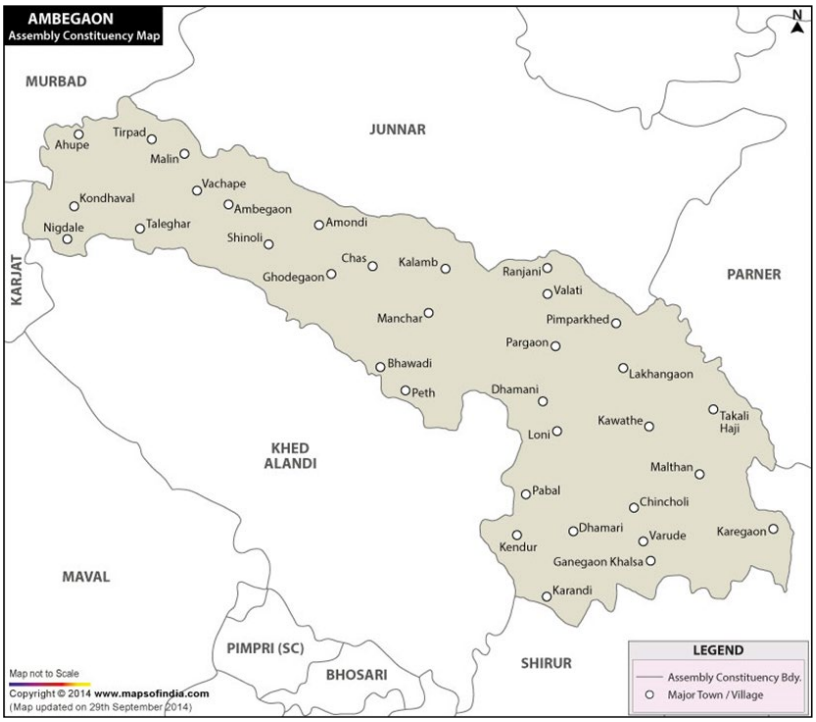

Fig 1: Map of Ambegaon Tahsil, District: Pune

The Western Ghats' ecological significance to the region leads to a high flora diversity. Farming is still the main occupation of the majority, and traditional plant knowledge is maintained within the rural household and forest communities.

Review of Literature

Ethnobotanical studies in Maharashtra indicate the relevance of indigenous medicinal plants and traditional plants among tribal and rural people (Jain, 1991). High medicinal plant diversity and traditional utilization patterns have been reported in studies performed in Western Ghats (Gadgil & Vartak, 1976).

Patil and Patil (2007) reported a number of ethnomedicinal species in Pune and surrounding districts. Berkes (2012) highlighted that indigenous knowledge is fragile, but also responsive to socioeconomic change. Documentation is therefore important to minimize erosion of knowledge.

Materials and Methods

Data Collection

The study is based on compiled ethnomedicinal records from Ambegaon Taluka

Medicinal_Plants

Data Include:

- Common name
- Botanical name
- Family
- Plant part used
- Disease cured

Information reflects traditional practices preserved within local communities.

Identification and Classification

Plants were identified using standard botanical references (Singh & Karthikeyan, 2000). Species were classified based on family and plant part used.

Table 1: Indigenous Medicinal Plants and Their Traditional Uses

S. No.	Common Name	Botanical Name	Family	Part Used	Disease Cure/Traditional Use
1	Rakht Roda (Marwar Teak)	Tecomella undulata (srn.)seem	Bignoniaceae	Liver/Whole plant (traditional use)	Liver & spleen disorders; grows in hilly slopes and dry arid regions
2	Ragat Roda (Desert Teak)	Terminalia crenulata(Heyne)Roth	Combretaceae	Bark/Wood	Traditional use in desert regions (medicinal properties reported)
3	Safed Halad	Curcuma zedoaria(Christm.)Rosce.	Zingiberaceae	Root	Snake bite, fever, blood pressure control, anti-inflammatory, antimicrobial
4	Arjun (Arjun Sal)	Terminalia arjuna(Roxb.ex Dc.)Wight&Arn.	Combretaceae	Bark	Heart disease, swelling, expectorant, antidysenteric
5	Bidari Kand	Pueraria tuberosa(Roxb.exWild.)DC.	Fabaceae	Rhizome/Tuberous Root	Promotes weight gain, general tonic, boosts immunity, improves skin health,

					reproductive issues
6	Kadu Nath (Kadamul)	Pedalium murex L.inn.	—	Leaves/Root	Knee pain, headache (forest herb)
7	Bibala	—	—	Bark	Toothache, dysentery, stomach disorders
8	Bhui Tarwada (Bhuj Amla)	Phyllanthus niruri Linn.	Phyllanthaceae	Leaves/Stem	Neck pain, kidney stones, liver disorders, controls blood sugar & cholesterol
9	Medshingi	Dolichandrone falcata(Wall.ex DC.)Stem.	Bignoniaceae	Leaves	Stomach pain, fever, piles
10	Had Sandhi	Cissus quadrangularis Linn.	Vitaceae	Stem	Bone healing, joint pain, bone health
11	Sonkhair	Acacia ferruginea DC.	Fabaceae	Stem/ Leaf	Astringent, antimicrobial, sore throat, Mouth ulcers, dysentery, diarrhea, helminthiasis, burns, itching, fever
12	Jungali Adrak	Zingiber roseum (Roxb.)	Zingiberaceae	Rhizome/Roots	Blood sugar control, fever
13	Indrajav	Holarrhena antidysenterica (L.) Wall.ex A.DC	Apocynaceae	Seeds/Bark	Blood sugar control, acidity, piles, skin diseases, urinary problems, diarrhea, constipation, immunity booster
14	Behada	Terminalia bellirica (Gaertn.)Roxb.	Combretaceae	Fruit Bark	Stomach pain, improved digestion, cough, vomiting, nausea, constipation
15	Brahmi	Bacopa monnieri (L.) Wettest.	Scrophulariaceae	Leaves/Whole plant	Improves intelligence, reduces fatigue, hair growth, depression, mental retardation, fever
16	Palas	Butea monosperma(Lam.)Taub	Fabaceae	Flower/Leaves	Kidney stones, heat-related disorders
17	Akkarkara	Anacyclus pyrethrum (L.)Lag.	Asteraceae	Flowers	Improves digestion, libido, stamina, fertility, testosterone, sperm count, brain function, oral & dental health
18	Satapcha Pala	Ruta graveolens (L.)	Rutaceae	Leaves/Stem	Digestive issues in children, cough, cold, allergic problems
19	Netradeep	Duranta erecta (L.)	Verbenaceae	Root	Eye problems, cataracts
20	Pimpal Mul	Piper longum(Linn.)	Piperaceae	Stem	Cough, acidity, enhances digestion, improves breathing, boosts metabolism, constipation relief, reduces gum & tooth pain
21	Nagar Motha	Cyperus scariosus R.Br.	Cyperaceae	Rhizome/Stem	Hair fall, skin diseases, wound healing
22	Amar Vel	Cuscuta reflexa (Roxb.)	Convolvulaceae	Stem	Hair fall, eye diseases
23	Maka	Eclipta prostrata (L.)L.	Asteraceae	Leaf	Hair fall, throat infection, liver disorders
24	Gunj	Abrus precatorius L.	Fabaceae	Leaf/Seed	Hepatitis, skin disorders

Results

Diversity of Medicinal Plants

A total of 24 medicinal plant species belonging to 17 families were recorded.

Dominant Families Include:

- Fabaceae (e.g., Pueraria tuberosa, Butea monosperma, Abrus precatorius)
- Combretaceae (e.g., Terminalia arjuna, Terminalia bellirica)
- Bignoniaceae (e.g., Tecomella undulata, Dolichandrone falcata)
- Zingiberaceae (e.g., Curcuma zedoaria, Zingiber roseum)

Plant Parts Used

Various plant parts are utilized:

- Leaves (Bacopa monnieri, Eclipta prostrata, Ruta graveolens)
- Bark (Terminalia arjuna, Terminalia bellirica)
- Roots/Rhizomes (Curcuma zedoaria, Cyperus rotundus)
- Stem (Cissus quadrangularis, Cuscuta reflexa)
- Seeds (Abrus precatorius)
- Flowers (Anacyclus pyrethrum)

Leaves and bark appear frequently, suggesting relatively sustainable harvesting practices.

Ailments Treated

Traditional remedies address a wide range of conditions:

Liver & Spleen Disorders

- Tecomella undulata
- Phyllanthus niruri

Heart Disease

- Terminalia arjuna

Diabetes & Blood Sugar Control

- Zingiber roseum
- Holarrhena pubescens

Digestive Disorders

- Terminalia bellirica
- Anacyclus pyrethrum
- Piper longum

Kidney Stones

- Butea monosperma
- Phyllanthus niruri

Bone Healing & Joint Pain

- Cissus quadrangularis

Skin Diseases:

- Abrus precatorius
- Holarrhena pubescens

Respiratory Problems

- Piper longum
- Ruta graveolens

Hair Fall & Skin Care

- Eclipta prostrata
- Cyperus rotundus
- Cuscuta reflexa

Eye Disorders

- Duranta erecta
- Cuscuta reflexa

This demonstrates extensive therapeutic coverage within local ethnomedicine.

Discussion

The overall domination of families such as Fabaceae and Combretaceae echoes previous ethnobotanical research from Maharashtra (Patil & Patil, 2007). Cardioprotective activities of certain species such as Terminalia arjuna are well accepted in Ayurveda (Sharma, 2002). The application of Cissus quadrangularis for healing bone is in keeping with known pharmacological findings of osteogenic activity of this herb.

Phyllanthus niruri and its association with liver and kidney treatments is widely recognized. Leaves and bark are common in both availability and considered potency. But over-cutting from the bark could have a negative impact on tree survival.

Ambegaon Taluka transmission of knowledge is mostly oral.

The younger generation has little dependence on traditional medicine and the continuity of traditional healthcare has decreased as this new age generation comes into medicine. This mirrors the concern by Berkes (2012) about indigenous knowledge loss.

Conservation Concerns

Although many species live in a small number of locations with high numbers of them all natural local variety, the issue of harvesting and habitat destruction. Sustainable harvesting and land clearing is unsustainable.

Biodiversity is at risk from forest expansion, agriculture and urbanization. Sustainable methods of harvesting and community-level conservation are crucial. Government schemes including the National Medicinal Plants Board must also fund cultivation schemes. Home gardens and other community herbal gardens may ease pressures on wild populations.

Conclusion

The study cites 24 plants being traditionally used for medicinal purposes in Ambegaon Taluka. Indigenous knowledge survives as an essential basis for primary healthcare and cultural heritage. Plants such as Terminalia arjuna, Phyllanthus niruri and Cissus quadrangularis are notable candidates for this therapeutic purpose.

This however, combined with modernization and ecological degradation, endangers biodiversity, traditional knowledge systems. There is an immediate call for systematic documentation, validation, and conservation. Indigenous knowledge combined with contemporary drugs could support healthcare and biodiversity conservation in Ambegaon Taluka towards sustainability.

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