JETIR.ORG ISSN: 2349-5162 | ESTD Year : 2014 | Monthly Issue
JOURNAL OF EMERGING TECHNOLOGIES AND INNOVATIVE RESEARCH (JETIR)
An International Scholarly Open Access, Peer-reviewed, Refereed Journal

EXTRAPHARMACOPOEIAL DRUGS: AN EXPLORATION OF LOCAL HEALTH TRADITIONS IN ARAVALLI HILLS OF GURUGRAM DISTRICT, HARYANA

[1]Dr. Udesh Kumar, [2]Dr. Shashi Bala
[1]Assistant Professor, [2]Consultant Stri evam Prasuti Roga
[1]Department of Dravyaguna,
[1]BDM College of Ayurveda Science, Jhajjar, India

Abstract : Traditional medicine continues to play a pivotal role in healthcare, particularly among rural and indigenous communities worldwide. This study explores extrapharmacopoeial drugs—medicinal plants not included in formal pharmacopoeias—used in local health traditions (LHTs) in the Aravalli Hills of Gurugram district, Haryana. Through systematic field surveys and interviews conducted from September 2019 to July 2021, 58 plant species were documented, spanning 54 genera and 32 families, used to treat 120 different ailments. The findings highlight 27 extrapharmacopoeial species with unique therapeutic applications, emphasizing their potential for new drug discovery. Comparative analysis with Ayurvedic texts and modern scientific studies underscores the necessity of preserving traditional knowledge and validating these medicinal uses through rigorous scientific methods. This paper advocates for integrating these findings into contemporary healthcare systems to enhance therapeutic options and promote sustainable healthcare.

IndexTerms **– Anukt Dravya, Drug discovery, Extrapharmacopoeial drugs, Local health traditions (LHTs)**

I. INTRODUCTION

Traditional medicine plays a crucial role in healthcare across various parts of the world, particularly in rural and indigenous communities. The World Health Organization (WHO) estimates that a significant portion of the global population relies on traditional medicine for primary healthcare needs. This reliance is rooted in the accessibility, affordability, and cultural acceptance of traditional medical practices. In India, Ayurveda, one of the world's oldest medical systems, incorporates a vast repository of plant-based remedies. However, not all plant drugs used in traditional practices are included in formal pharmacopoeias. These "extrapharmacopoeial" drugs known as *Anukt Dravya* in Ayurveda, often derived from local health traditions (LHTs), possess immense potential for new drug discovery and development. These drugs are yet to be formally recognized and explored based on various aspects. While the inclusion of extrapharmacopoeial drugs offers numerous benefits, it also poses challenges. The primary challenge lies in the scientific validation of these plants' efficacy and safety. Rigorous pharmacological studies and clinical trials are essential to substantiate traditional claims and integrate these plants into mainstream Ayurvedic practice. Future research should focus on comprehensive ethnobotanical surveys in diverse geographical regions, detailed pharmacological and phytochemical analyses of identified plants, collaborative studies combining traditional knowledge with modern scientific methodologies.

This research paper explores the significance of extrapharmacopoeial drugs based on a survey study conducted in the Aravalli Hills of Gurugram district, Haryana. The study documents the use of various medicinal plants in local health traditions and highlights those not currently recognized in Ayurvedic pharmacopoeia. By comparing these findings with classical texts and modern scientific studies, we aim to underline the potential of these lesser-known plants in contributing to contemporary medicine and potentially uncovering novel therapies.

Literature Review

Extensive research has been conducted on the utilization of medicinal plants in traditional health practices. Studies have documented the ethnomedicinal knowledge of various communities, emphasizing the importance of preserving this knowledge for future generations and drug development. For instance, Singh and Chunekar's work on the glossary of vegetable drugs in Brhattrayi and other studies on the medicinal plant wealth of the Aravalli Hills provide valuable insights into traditional medicinal practices. These studies reveal a rich heritage of plant-based treatments for various ailments, underscoring the need for systematic documentation and scientific validation.

2. Methodology

The present study was conducted from September 2019 to July 2021 in the Aravalli Hills of Gurugram district, Haryana. The study area covers approximately 450 km², including around 60 villages within a 3 km range of the hills. Systematic field visits and surveys were carried out to gather detailed information on the medicinal plants used in local health traditions. Traditional healers, elderly men and women, were interviewed using a pre-designed plant utilization questionnaire. Plant specimens were collected, identified, and documented with the help of taxonomists and regional floras.

Enumeration of Herbal Drugs Used in Local Health Traditions

The study identified 58 plant species used by traditional healers in local health traditions. These plants belong to 54 genera and 32 families, and are used to treat 120 different disease conditions through 203 therapeutic preparations. The majority of these plants are herbs (24 species), followed by trees (14 species), shrubs (9 species), climbers (7 species), and under shrubs (4 species). The therapeutic preparations include pastes, decoctions, powders, juices, and water extracts.

Table of **Extra-pharmacopeial medicinal plants being used in LHTs in study area**

S. N.	Local Name	Botanical Name	Indications in LHTs
1.	*Khairī*	*Acacia Senegal* L. Willd.	Conjunctivitis, Stomatitis, Dysentery, Growth Retardation, Postpartum Recovery, Uterine Prolapse, Infertility, Spermatorrhoea, Dryness & Itching of Skin **Veterinary use**- Fodder, Bark decoction for washing prolapsed uterus
2.	*Dhauka*	*Anogeissus pendula* Edgew.	Wound Healing, Malaria, Urinary Obstruction
3.	*Pyājā*	*Asphodelus tenuifolius* Cav.	Dental Carries and Pain, Traumatic Inflammations, Piles
4.	*Haḍjuḍa*	*Blepharis maderaspatensis* (L.) Heyne ex Roth	Bone Fracture, Musculo-Skeletal Pain, Seizures **Veterinary use** - inflammations after trauma
5.	*Jaṅgalī karauṅdā*	*Carissa spinarum* L.	Dietary Use, Hyperacidity, Gastritis, Piles, Stomatitis, Leucorrhoea
6.	*Kasauṅdī*	*Cassia sophera* L.	Boils, Abscess, Loss of Appetite, Dog bite, Snake Bite **Veterinary** – Uterine Prolapse
7.	*Hirankhurī*	*Convolvulus arvensis* L.	UTI, Allergic Skin Diseases, Constipation, Fever, Impotence **Veterinary use** - foot and mouth diseases

S. N.	Local Name	Botanical Name	Indications in LHTs
8.	*Guhāvrā*	*Conyza bonariensis* L.	Diarrhoea, Vomiting, Headache
9.	*Kuraṇḍa, Bāphalī*	*Corchorus depressus* L.	Contusions, Musculo-Skeletal Pains, Bone Fracture, Female Infertility, Leukoderma, General Health Tonic
10.	*Ambarbela*	*Cuscuta reflexa* Roxb.	Jaundice, Headache, Skin Diseases, Scabies, Stomatitis **Veterinary use** - Foot and Mouth disease, jaundice, dysentery
11.	*Biseṅdu / Piseṅdu*	*Diospyros montana* Roxb.	Boils, Abscess, Earache, Spider Bite, Fever **Veterinary use** - Worm infestation
12.	*Gādaḍā kī pyāja / Pahāḍī pyāja*	*Dipcadi serotinum* (L.) Medik	Cough And Cold, Fever, Pruritis, Dermatitis, Improves Eyesight, Piles **Veterinary** – Nasya For Fever
13.	*Uṅṭa Kaṭailā*	*Echinops echinatus* Roxb.	Fungal Infections, Vitiligo, Jaundice, Labor Pain, Impotence **Veterinary use** - digestive problems
14.	*Patthara-caṭṭā*	*Elytraria acaulis* (L.f.) Lindau	Mumps, Renal Calculi, Diarrhoea
15.	*Khaṭakhaṭī*	*Grewia flavescens* A.L. Juss.	Dysuria, Leucorrhoea, Dietary Use **Veterinary** – Delayed Or Retained Placentia
16.	*Jaṅgalī Gobhī*	*Launia procumbens* Roxb.	Nonhealing Wounds, Urinary Obstructions, Eczema
17.	*khīmpa*	*Leptadienia pyrotechnica* (Forsk.) Decne.	Dysmenorrhea, Sluggish Wounds, Fever, Ophthalmia, Conjunctivitis, Dietary Use **Veterinary use** - Fodder, conjunctivitis, foot and mouth disease
18.	*Kaima*	*Mitragyna parvifolia* (Roxb.) Korth	Boils, Abscess, Otitis Media, Hypertension, Allergic Dermatitis
19.	*Deśī karelā*	*Momordica balsamina* L.	Diabetes, Acne, Dietary Use
20.	*Nakada bavaḍī*	*Ocimum americanum* L.	Obesity, Ear Maggots, Haematuria, Dietary Use, Pain Abdomen, Gonorrhoea

S. N.	Local Name	Botanical Name	Indications in LHTs
21.	*Nāgaphanī*	*Opuntia dillenii* (Ker-Gawler) Haworth	General Debility, Carminative, Wound Healing, Boils, Abscess, Heat Stroke, Asthma
22.	*Dudhiyala bela*	*Pentatropis Spiralis* (Forsk.) Decne.	Incised Wound, Fever, Heat Stroke, Dysentery
23.	*Pīlha, jāla*	*Salvedora oleoides* Decne	Dietary Use, Oro-Dental Hygiene, Diarrhoea, Pain Abdomen, Diabetes
24.	*Rāṇā Baeṅgaṇa*	*Solanum incanum* L.	Asthma, Pneumonia, Dyspepsia, Indigestion, Dietary Use
25.	*Katirā*	*Sterculia urens* Roxb.	Heat Stroke, Cracked Heels, General Debility
26.	*Sadāharī*	*Tridax procumbens* L.	Abrasions, Pruritis, Dermatitis, Bleeding Wounds, Fungal Infections, Hematuria **Veterinary use -** proper implantation of foetus
27.	*Khīrphalī kuḍā*	*Wrightia tinctoria* R. Br.	Diarrhoea, Diabetes, Flatulence, Indigestion, Infective Skin Diseases, Worm Infestation

3. Observations and Comparative Analysis

3.1 Medicinal Uses and Ethno-veterinary Applications

The study found that several plant species have both human and veterinary applications. For example, Acacia Senegal L. Willd. (Khairī) is used for treating conjunctivitis, stomatitis, and dysentery in humans, and its bark decoction is used for washing the prolapsed uterus in livestock. Similarly, Cuscuta reflexa Roxb. (Ambarbela) is employed in treating jaundice, headache, and skin diseases in humans and foot and mouth disease in livestock.

3.2 Parts Used and Preparation Methods

The most commonly used plant parts are leaves and whole plants, followed by fruits, roots, and bark. Preparation methods include pastes, decoctions, powders, juices, and water extracts, with fresh material being preferred for its potency. Traditional healers often use single-drug therapies, but polyherbal preparations are also common.

3.3 Comparative Analysis with Ayurvedic Classics

Out of the 58 plant species reported, 30 species have ethno-medicinal indications supported by classical references. However, 27 species have new therapeutic indications not described in classical Ayurvedic texts. This highlights the dynamic nature of traditional knowledge and its potential to enrich formal medical systems

4. Results and Discussion

4.1 Potential for New Drug Discovery

The identification of 27 extrapharmacopoeial plant species with unique therapeutic indications underscores the potential for new drug discovery. These plants could serve as sources for developing new treatments for various ailments, especially those resistant to conventional therapies.

4.2 Importance of Preserving Traditional Knowledge

The study emphasizes the importance of preserving traditional knowledge of medicinal plants. The knowledge held by rural and indigenous communities is invaluable, not only for cultural conservation but also for its potential contributions to modern medicine. Documenting and validating this knowledge can help bridge the gap between traditional and modern healthcare systems.

4.3 Challenges and Recommendations

One of the significant challenges faced during the study was the reluctance of traditional healers to share their knowledge, often viewed as secretive and sacred. Building trust and ensuring that this knowledge is respected and protected is crucial. Additionally, there is a need for systematic scientific validation of the therapeutic uses of these plants to ensure their safety and efficacy.

Importance of Survey Studies

Survey studies like this one are invaluable for:

- Bioprospecting: Discovering novel bioactive compounds with therapeutic potential.
- Drug Development: Providing leads for drug development based on traditional uses.
- Pharmacovigilance: Identifying potential safety concerns and interactions with conventional medicines.
- Cultural Preservation: Documenting and safeguarding traditional knowledge for future generations.
- Sustainable Healthcare: Promoting the integration of safe and effective traditional remedies into mainstream healthcare systems.

5. Conclusion

The study conducted in the Aravalli Hills of Gurugram district, Haryana, has revealed a wealth of medicinal plants used in local health traditions, many of which are not recognized in formal pharmacopoeias. These extrapharmacopoeial drugs hold significant potential for new drug discovery and development. Preserving and validating traditional knowledge is essential for harnessing this potential and ensuring that these valuable resources are not lost. Future research should focus on the scientific validation of these plants' therapeutic uses and their integration into formal healthcare systems.

REFERENCES

[1] Pandey, K., & Chaturvedi, G. (2009). Suśrut-samhitā (Vidyotini Hindi Commentary) Part 1. Chaukhambha Bharti Academy..
[2] Zhao, S. X., et al. (2012). Medicinal plant resources in Lingnan area and emergency medicine in Ge Hong zhou hou bei ji fang. Asia Pac. Tradit. Med., 8:11–12.
[3] Mishra, H. S. (2007). Studies on Herbal Drugs used as ethnomedicine by the Tharu Tribes of Kheri District (U.P. India). CSJMU Kanpur.
[4] Tiwari, C. (2019). Ethnomedicinal study of selected medicinal plants of Kunjapuri Hill w.s.r. to Nighantus. Uttarakhand Ayurved University Dehradun.
[5] Jain, A. (2020). Studies on herbal drugs used in local health traditions in Pilibhit District of Uttar Pradesh. MJPRU Bareilly University.
[6] Sharma, M. P., et al. (1992). Folklore medicinal plants of Mewat (Gurgaon district) Haryana India. Int. J. Pharmacogn., 30: 129-134.
[7] Kumar, N., & Khurana, S. M. P. (2020). Medicinal Plant's Wealth of Aravalli Hills Gurgaon District Haryana India. Res. J. Med. Plants, 14:96-103.