

#### WHERE CLASSICAL WISDOM MEETS INTELLIGENT LEARNING

## vi. Research publication portals in Ayurveda and contemporary medical science...

vi. Research publication portals in Āyurveda and contemporary medical science - DHARA, PubMed, Ayush Research Portal, Bioinformatics Centre and Research Management Informatic System

# Research Publication Portals in Āyurveda and Contemporary Medical Science

**Gateways to Evidence-Based Integration** 

### 1. DHARA (Digital Helpline for Ayurveda Research Articles)

- **Objective**: Curates peer-reviewed Ayurvedic research for academia and industry.
- Features:
  - Database: 50,000+ articles (1980-2023) across 500+ journals (e.g., Journal of Ethnopharmacology, AYU).
  - Advanced Search: Filters by dravya (herb), rasa (taste), rog (disease), or modern biomarkers (e.g., TNF-α).
  - o Global Collaboration: Links to WHO Global Index Medicus for cross-referencing.
- Key Contribution:
  - o Meta-Analysis Tools: Facilitates systematic reviews (e.g., Ashwagandha in stress management).
  - Case Study: DHARA's 2022 report on Guduchi (Tinospora cordifolia) for COVID-19 immunity influenced WHO's TM strategy.

## 2. PubMed (National Library of Medicine)

- Role: Premier biomedical database for Ayurveda-modern medicine integration.
- Ayurvedic Research Highlights:
  - Clinical Trials: 1,200+ RCTs (e.g., Curcumin for arthritis, PMID: 25618800).
  - **Pharmacology**: Mechanistic studies (e.g., *Bacopa monnieri* and BDNF upregulation, PMID: 29174974).
- Global Impact:
  - Citation Metrics: Āyurveda-related papers average 15+ citations (2023 data).
  - o Collaborative Networks: Links to ICMR, CCRAS, and Harvard Medical School studies.

#### 3. AYUSH Research Portal

- Managed By: Ministry of AYUSH.
- Scope:
  - **Publications**: 30,000+ studies (preclinical, clinical, socio-economic).
  - **Policy Documents**: White papers on Āyurveda integration in national health programs.
- Unique Features:
  - TKDL Integration: Cross-references traditional formulations with modern patents.
  - Open Access: Free downloads of Ayurvedic Pharmacopoeia of India and AFI.
- Case Study: Portal's 2021 compendium on Triphala guided FSSAI's nutraceutical regulations.

## 4. National Medicinal Plants Board (NMPB) Bioinformatics Centre

- **Objective**: Digitize ethnomedicinal data for research and conservation.
- Tools:
  - FRLHT-ENVIS Database: 8,000+ plant species with GIS-based habitat mapping.
  - PhytoChemica: Al-driven phytochemical repository (e.g., Withanolides in Ashwagandha).
- Applications:
  - Drug Discovery: Identified Berberine (from Daruharidra) as a SARS-CoV-2 M<sup>pro</sup> inhibitor.
  - **Conservation**: Red-listed 112 endangered species (e.g., *Aconitum heterophyllum*).

#### 5. Research Management Informatic System (ReMIS)

• Managed By: Ministry of AYUSH.

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#### **AYURVED BHARATI®**

- Purpose: Streamline AYUSH research projects from proposal to publication.
- Features:
  - Workflow Automation: Tracks 500+ ongoing projects (e.g., CCRAS's Ayurgenomics).
  - Data Analytics: Metrics on funding patterns (e.g., 40% grants for Prakriti-based studies).
- Impact:
  - Transparency: Public dashboards for grant disbursement (₹1,200+ crore since 2020).
  - o Collaboration Hub: Links researchers with ICMR, DBT, and industry (e.g., Himalaya Drug Company).

## 6. Comparative Analysis of Portals

Portal	Focus	Unique Feature	Global Integration
DHARA	Āyurvedic literature	Rasa-based search filters	WHO Global Index Medicus
PubMed	Biomedical integration	High-impact RCTs and reviews	NIH, Cochrane Library
AYUSH Portal	Policy-driven research	TKDL-linked patents	WHO Traditional Medicine Strategy
NMPB Bioinfo	Ethnobotany & Al	GIS-based conservation tools	GBIF (Global Biodiversity Portal)
ReMIS	Project management	Real-time funding analytics	SDG-linked project tracking

## 7. Challenges and Innovations

#### a. Challenges

- Fragmented Data: Lack of interoperability between AYUSH and modern databases.
- Quality Control: Variable peer-review standards in Ayurvedic journals.
- Language Barriers: Limited multilingual access (e.g., Sanskrit-to-English NLP tools).

#### b. Technological Innovations

- Al-Driven Curation:
  - o AyurVAHI (AYUSH-NIC): NLP tool analyzing classical texts (e.g., Charaka Samhita) for modern research cues.
- Blockchain for IP Protection:
  - **TKDL 2.0**: Immutable ledger for traditional knowledge (prevents biopiracy).

## c. Future Directions

- Global Interoperability: Align DHARA with ClinicalTrials.gov and EU Clinical Trials Register.
- Citizen Science: Crowdsourced data via apps like AYUSH Sanjivani.
- Big Data Analytics: Predictive modeling for drug repurposing (e.g., Giloy for Long COVID).

#### Conclusion

These portals are pivotal in transforming Ayurveda from a traditional system into a globally recognized, evidence-based discipline. By leveraging AI, open-access frameworks, and interdisciplinary collaboration, they address critical gaps in research accessibility, reproducibility, and commercialization. Future advancements must prioritize FAIR principles (Findable, Accessible, Interoperable, Reusable) to solidify Ayurveda's role in integrative medicine.

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