Research Article

Integration Of Ayush And Traditional Medicine into the Global Healthcare Market

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Abstract

AYUSH—an Indian umbrella term for Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homoeopathy—has moved from a primarily domestic policy domain into an international field involving health products, clinical services, education, research, wellness and medical tourism. This paper examines how AYUSH and related traditional medicine systems can participate in global healthcare markets while protecting patients, cultural knowledge and ecological resources. A narrative policy review was conducted using World Health Organization documents, Ministry of Ayush material and selected standards-related literature. The paper argues that internationalization should not be reduced to export promotion. It requires market-specific legal classification, validated quality systems, transparent claims, qualified practitioners, pharmacovigilance, interoperable terminology and equitable partnerships. Key barriers include different regulatory categories, inconsistent product identity, contamination risks, variable evidence, overpromotion, intellectual-property disputes, language barriers and unequal access to testing facilities. India has important institutional assets, including pharmacopoeial development, research councils, international cooperation and a growing quality-assurance infrastructure. WHO's Global Traditional Medicine Strategy 2025–2034 places evidence, safety, health-system integration, sustainability and community empowerment at the centre of the international agenda [1–3]. The paper proposes a staged model: define the intervention, classify the market, validate claims, document quality, localize communication, monitor outcomes and scale responsibly. It concludes that AYUSH can make a meaningful contribution to people-centred care only when cultural legitimacy is combined with transparent evidence, proportionate regulation and ethical commercial practice.

Keywords: AYUSH; traditional medicine; Ayurveda; international marketing; standardization; regulation; evidence; global health.

1. Introduction

Traditional medicine is increasingly discussed alongside universal health coverage, preventive care, chronic-disease management, wellness, medical tourism, biodiversity and patient-centred health services. The World Health Organization (WHO) reports that traditional and complementary medicine is used and regulated in many Member States, while also identifying continuing gaps in evidence, data, quality and safety [1]. Its Global Traditional Medicine Strategy 2025–2034 sets four broad directions: strengthen the evidence base, support safe and effective care through regulation, integrate appropriate care into health systems, and optimize cross-sectoral value while empowering communities [2,3].

In this setting, AYUSH offers a distinctive Indian framework. The five systems included under the term have different histories, theories, diagnostic methods, educational traditions and therapeutic materials. A shared administrative identity can support international cooperation and recognition, but it must not imply that all AYUSH systems are interchangeable. Yoga, for example, is commonly delivered as a practice or service; Ayurveda, Siddha and Unani may involve medicinal products and practitioner care; naturopathy is often associated with lifestyle-centred approaches; and homoeopathy follows a separate intellectual and regulatory tradition.

International market participation therefore involves more than increasing exports. A product legally recognized as a medicine in India may be classified as a food supplement, cosmetic, traditional medicinal product or unapproved therapeutic product in another country. A practitioner trained in one jurisdiction may not meet the registration requirements of another. Claims permitted in one market may be prohibited in another. These differences make internationalization a governance and trust problem as much as a commercial one.

This paper examines the opportunities and constraints affecting AYUSH participation in global healthcare markets. It focuses on international marketing, standardization, regulation, evidence, safety, intellectual property and equity. Its central argument is that responsible growth depends on building systems that allow diversity of tradition while maintaining minimum, verifiable standards for identity, quality, communication and patient protection.

2. Aim and Objectives

Aim: To analyse the opportunities, challenges and policy requirements associated with integrating AYUSH and traditional medicine into the global healthcare market.

Objectives:

To describe the international context in which AYUSH products, services and knowledge systems operate.

To identify major barriers in international marketing, including claims, cultural translation, consumer trust and market heterogeneity.

To examine standardization challenges involving raw materials, manufacturing, clinical documentation and regulatory classification.

To discuss evidence, patient safety, pharmacovigilance, intellectual property, equity and environmental sustainability.

To propose a practical framework for responsible internationalization and integration.

Research questions

What opportunities and constraints shape AYUSH participation in global healthcare markets?

Which standardization challenges most affect international acceptance and patient trust?

What policy and business practices can support safe, equitable and culturally respectful integration?

3. Methodology

This paper uses a narrative, policy-oriented review. Sources were selected for institutional authority, relevance to traditional medicine governance and direct relevance to AYUSH or international market access. The main sources include WHO strategies and reports, Government of India and Ministry of Ayush documents, pharmacopoeial and quality-assurance material, and selected literature relating to herbal medicines, traditional knowledge and regulation.

The review is not presented as a systematic review, meta-analysis or primary market-size study. It does not estimate the global value of AYUSH sales, because available market figures often combine medicines, supplements, cosmetics, wellness services and tourism in ways that are not directly comparable. Instead, it analyses the conditions under which different products and services can be marketed and integrated responsibly.

For this paper, standardization is divided into four levels: identity standardization, which confirms the correct plant, mineral or other material; manufacturing standardization, which supports reproducible processing and quality; clinical standardization, which improves terminology, records and outcome reporting; and regulatory standardization, which supports comparable documentation and risk-based requirements across jurisdictions. Standardization is treated as a safety and communication tool, not as an instruction to erase legitimate cultural diversity.

4. AYUSH in the International Context

The international policy environment has moved from general recognition of traditional medicine toward accountable integration. WHO's 2019 global report was based on information from 179 Member States and addressed national frameworks, product regulation, practices, practitioners and country profiles [1]. The newer strategy connects traditional medicine with research capacity, safety monitoring, regulation, health-service delivery, sustainability and community participation [2,3].

India's institutional position is an advantage. The country has a dedicated Ministry of Ayush, research councils, educational institutions, pharmacopoeial bodies, manufacturers, practitioners and an extensive cultural network. Official material describes continuing efforts to establish pharmacognostical, physicochemical and pharmacological standards for medicinal materials [4]. International cooperation on terminology and classification is also important because care cannot be effectively compared, monitored or integrated when interventions are not consistently described [5].

The same diversity creates risks. Producers differ in laboratory capacity, documentation, manufacturing controls and interpretation of permissible claims. Informal sellers may use the language of Ayurveda or other traditions without meeting professional or quality requirements. A successful international strategy must therefore create credible differentiation: trustworthy providers should be identifiable through verifiable credentials, traceability, testing, compliant communication and accessible complaint systems.

5. Market Opportunities

Demand for traditional and complementary care is influenced by cultural familiarity, interest in holistic health, chronic symptoms, preventive routines, dissatisfaction with conventional care, affordability and the search for

stress-management tools. Health systems may also consider traditional practices when they respond to community preferences, support primary care or contribute to person-centred services. These drivers are real, but they form several markets rather than one unified market.

Table 1. *Major AYUSH market segments and their key requirements*

Segment	Illustration	Main concern	Typical requirement
Medicinal products	Herbal or classical formulations	Identity, purity, dose and interactions	Classification, GMP, testing and permitted claims
Practitioner services	Ayurvedic or Unani consultation	Qualification, scope and referral safety	Local registration, consent and records
Yoga and wellness	Yoga-based stress management	Instructor competence and safe delivery	Consumer protection and truthful advertising
Education	Degree or certificate programme	Recognition and learning outcomes	Accreditation, faculty and assessment
Research and innovation	Botanical or integrative-care research	Reproducibility, ethics and IP	Research governance and benefit-sharing

A central AYUSH identity may help with recognition, diplomacy and consumer awareness, but each segment needs its own evidence package, legal pathway and communication strategy. A yoga service should not be marketed with the same claims or controls as an orally administered medicine. Likewise, a traditional medicinal product should not be promoted as if it were merely a lifestyle accessory.

6. International Marketing Challenges

6.1 Translation and cultural communication

Traditional concepts often have no exact equivalent in biomedical terminology. Translation can make them accessible, but it can also distort them. Ethical communication should distinguish the traditional rationale for an intervention from the modern evidence supporting a particular claim. It should explain intended use, limitations, contraindications and referral conditions. A traditional term should not automatically be presented as a scientifically established diagnosis.

6.2 Claims and advertising

Claims are the bridge between a product and consumer expectation. A statement that a product supports general well-being is different from a statement that it treats diabetes, cancer or infection. In many jurisdictions, the wording, imagery and testimonials used in promotion determine whether an item is regulated as a medicine. Exporters should maintain a reviewed claims library in which every claim is linked to evidence for the exact formulation, dose, population and intended use.

6.3 Consumer trust

Authentic cultural appearance does not prove product quality. A Sanskrit name, traditional packaging or celebrity endorsement cannot replace botanical authentication, batch testing, traceability or safety information. Trust is stronger when labels identify ingredients and amounts, batch numbers, expiry dates, testing status, contraindications, practitioner credentials and a functioning system for complaints and adverse-event reporting.

6.4 Market heterogeneity

Legal categories differ across countries and sometimes within countries. Ingredients may be restricted because of toxicity, endangered-species rules, novel-food requirements, narcotics controls, pesticide limits or maximum levels of contaminants. A single formulation may require different labels, dossiers, distribution channels and promotional language in different markets.

This increases costs and can disadvantage small producers unless shared compliance facilities and technical assistance are available.

6.5 Digital marketing and misinformation

Social media and online marketplaces expand access but also make misleading claims easy to circulate. Influencer testimonials may be persuasive without being representative or clinically meaningful. Responsible

digital communication should identify commercial relationships, avoid guaranteed outcomes, provide safety information and direct users to qualified professionals when symptoms may indicate serious disease.

7. Standardization and Quality Assurance

Medicinal plants vary according to species, chemotype, geography, soil, climate, harvest time, storage and processing. Common names can conceal substitution or adulteration. Multi-ingredient preparations add further variation because the quality of each ingredient, extraction method, excipient, packaging and storage condition can affect the final product. Consequently, a product name alone does not establish reproducible identity or quality.

Pharmacopoeial standards can define identity tests, purity limits, contaminants, marker compounds, dosage forms and analytical methods. Indian institutions have developed standards covering external examination, microscopy, physicochemical parameters and pharmacological characteristics for a substantial number of drugs [4]. International acceptance, however, also depends on validated methods, competent laboratories, reference materials, stability evidence and alignment with the destination country's rules.

Good Manufacturing Practice should cover supplier qualification, raw-material authentication, sanitation, water quality, process validation, in-process testing, packaging, stability, storage, distribution and recall. Testing may need to address microbial contamination, heavy metals, pesticides, aflatoxins, undeclared pharmaceuticals and identity markers. A certificate of analysis is meaningful only when the laboratory is competent, the method is appropriate and the sample represents the batch.

7.1 What should be standardized?

Table 2. *Minimum standardization versus diversity that may remain*

Area	Minimum standardization	Diversity that may remain
Products	Identity, contaminants, manufacturing, label and shelf life	Regional materia medica and recognized classical lineages
Practitioners	Education, ethics, scope, records and referral	Different pedagogies and clinical explanations
Research	Outcome definitions, reporting and safety monitoring	Traditional theories and explanatory models
Services	Consent, hygiene, emergency procedures and complaints	Language, ritual and culturally appropriate practices

The distinction is important. Minimum standards can make products and services safer without requiring every tradition to adopt one uniform philosophy. The aim is comparability at the level of safety, documentation and outcomes, not the forced elimination of meaningful differences.

8. Regulation, Evidence and Patient Safety

Regulation makes benefits more credible and harms more visible. It should be proportionate to risk. A low-risk yoga class, a topical cosmetic and an orally administered multi-herb product should not face identical requirements, but each needs safeguards appropriate to its potential harm. Risk-based regulation can avoid both under-regulation, which exposes consumers, and excessive requirements that drive useful practices into informal channels.

Evidence debates are often polarized. One position treats traditional use as sufficient proof for every modern claim; another assumes that only one biomedical trial design can evaluate every traditional intervention. A more useful approach combines historical and observational evidence, pharmacological and toxicological studies, pragmatic clinical trials, implementation

research, patient-reported outcomes and real-world safety data. Methods should fit the question, while claims must not exceed the evidence actually produced [1,2,6].

Safety includes direct and indirect harms. Direct harms include toxicity, contamination, dosing errors and interactions. Indirect harms include delayed diagnosis, replacement of effective treatment, false reassurance and financial exploitation. Extra safeguards may be needed for children, pregnant people, older adults and

people with liver, kidney or immune conditions. Practitioners should record concurrent medicines and explain when AYUSH care is complementary rather than a substitute for urgent or proven treatment.
Pharmacovigilance is particularly important when products are used outside their country of origin. Patients, pharmacists, practitioners and manufacturers should be able to report adverse events. Batch numbers, product identifiers and multilingual reporting forms improve signal detection. WHO has published guidance on safety monitoring of herbal medicines, while India has developed quality and pharmacovigilance initiatives within the AYUSH framework [7,8].

9. Intellectual Property, Equity and Sustainability

Traditional knowledge does not fit neatly into intellectual-property systems designed around identifiable inventors and novel inventions. Communities may have used plants and practices for generations, yet commercial products can be patented or branded by outside actors. Risks include misappropriation, inequitable benefit-sharing and loss of community control. India's Traditional Knowledge Digital Library is a major defensive example because it documents prior art that can help challenge inappropriate patents [9].
Documentation is not the same as consent. Communities should participate in decisions about what knowledge is recorded, who can access it and how benefits are distributed. The Convention on Biological Diversity and the Nagoya Protocol provide important international principles for access and benefit-sharing where applicable [10,11]. Ethical commercialization should include community engagement, fair contracts, attribution and protection for sacred or confidential knowledge.
Equity also concerns affordability and ecological supply. Export demand can raise prices for local users or encourage unsustainable harvesting. Cultivation, traceable sourcing, fair procurement and biodiversity monitoring should be integrated into market strategy. Success should therefore be measured not only by export revenue, but also by patient access, community benefits, practitioner livelihoods and ecological outcomes.

10. Strategic Framework for Responsible Integration

A practical market-entry model can be organized into seven linked stages. First, define the intervention precisely as a product, service, practitioner pathway or educational offering. Second, classify it under the target country's law before investing in promotion. Third, build an evidence and safety dossier proportionate to risk. Fourth, verify identity, manufacturing and documentation. Fifth, localize language, labels, claims and referral information. Sixth, establish post-market monitoring and complaints procedures. Seventh, expand only when quality, safety and outcome data support the proposed claims.

10.1 Staged implementation model

Discovery: map the target country's law, consumer need, competitors, practitioner rules, reimbursement and prohibited claims.
Preparation: authenticate materials, establish GMP controls, compile safety information, obtain local regulatory advice and design traceable packaging.
Pilot: enter through a limited channel such as a licensed clinic, university partnership or compliant distributor.
Scale: expand only after reviewing complaints, adverse events, quality deviations and outcome information.
Integration: seek inclusion in education, clinical pathways, health information systems or reimbursement only when evidence and governance justify it.

10.2 Responsible marketing mix

Table 3. *Responsible marketing mix for international AYUSH activity*

Element	Responsible approach
Product	Clear identity, consistent quality, appropriate dosage form, traceability and safety information.
Price	Transparent pricing that reflects quality without exploiting cultural demand or restricting essential access.
Place	Licensed, monitored channels with trained personnel and proper storage.

Element	Responsible approach
Promotion	Accurate claims, culturally respectful language, disclosure of uncertainty and no guaranteed cures.
Proof	Evidence matched to the claim, independent testing, practitioner credentials and post-market monitoring.

11. Discussion

The main finding is that AYUSH internationalization is a coordination problem. Researchers, practitioners, regulators, manufacturers, marketers, communities, environmental authorities and patients hold different kinds of knowledge and face different risks. A company may improve manufacturing but still make unlawful claims; a university may publish a trial but fail to establish scalable quality control; and a regulator may authorize a product without ensuring fair community benefit.

The second finding is that standardization can enable diversity rather than eliminate it. Minimum standards help distinguish a documented formulation from an imitation, a qualified practitioner from an online influencer and a monitored service from an unsafe one. At the same time, imposing one universal clinical template may remove the explanatory and cultural features that make traditional systems meaningful. The appropriate target is comparability in safety, documentation and outcomes, not forced uniformity of worldview.

The third finding is that marketing credibility depends on institutional credibility. International consumers and regulators increasingly expect evidence, transparent supply chains, sustainability and ethical conduct. Pharmacopoeial work, international terminology cooperation and WHO's global strategy provide useful foundations [2–5]. Their effect will be strongest when translated into accessible databases, competent laboratories, practitioner registers, harmonized labels and dependable post-market surveillance.

The fourth finding concerns a possible two-tier market. Premium products sold in high-income countries may receive extensive testing and polished branding, while lower-income consumers may receive poorly documented products or informal services. Responsible internationalization should improve quality in domestic and export markets at the same time. Safety should not become a luxury feature reserved for international customers.

12. Recommendations

1. Establish an AYUSH internationalization observatory to track country-specific laws, claims, ingredients, recalls, adverse events, standards and access requirements.
2. Develop modular evidence dossiers distinguishing traditional-use evidence, laboratory evidence, clinical evidence, safety evidence and real-world outcomes.
3. Expand shared testing and regulatory-support facilities so small and medium producers can meet international requirements without weakening standards.
4. Introduce multilingual labels and digital product passports containing identity, ingredients, batch information, testing, dosage, contraindications and reporting channels.
5. Create competency requirements for practitioners working internationally, including ethics, biomedical red flags, referral, communication, records and local law.
6. Use a tiered claims system separating wellness, traditional-use, structure/function and disease-treatment claims, with independent review of high-risk claims.
7. Make pharmacovigilance routine in every export and clinic programme, including serious-event reporting and rapid recall procedures.
8. Protect traditional knowledge through documentation with community consent, defensive publication where appropriate and access-and-benefit-sharing agreements.
9. Make sustainability part of market access through cultivated supply, traceability, biodiversity safeguards and fair procurement.
10. Use a balanced scorecard covering approvals, quality deviations, adverse events, patient-reported outcomes, equity, community benefits and ecological indicators.

13. Conclusion

AYUSH and other traditional medicine systems have a legitimate opportunity to contribute to global healthcare, wellness and health-system innovation. That opportunity will not be secured by cultural visibility or export promotion alone. It depends on translating concepts without distortion, controlling quality across

variable biological materials, matching claims to evidence, protecting patients, respecting knowledge holders and cooperating with regulators.

The most credible future is responsible integration: evidence-informed, risk-proportionate, culturally respectful, environmentally sustainable and transparent about uncertainty. If India and international partners connect pharmacopoeial standards, practitioner competence, modern research, interoperable terminology and ethical marketing, AYUSH may become a stronger contributor to people-centred care. If safeguards are neglected, rapid expansion could magnify misinformation, harm and distrust. Global success should therefore be measured not simply by market share, but by safe value for patients and fair value for the communities and ecosystems that sustain traditional medicine.

Abbreviations

AYUSH: Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homoeopathy; GMP: Good Manufacturing Practice; IP: Intellectual Property; PCIM&H: Pharmacopoeia Commission for Indian Medicine and Homoeopathy; TCIM: Traditional, Complementary and Integrative Medicine; WHO: World Health Organization.

References

1. World Health Organization. WHO global report on traditional and complementary medicine 2019. Geneva: World Health Organization; 2019.
2. World Health Organization. Global traditional medicine strategy 2025–2034. Geneva: World Health Organization; 2025.
3. World Health Organization. Traditional, complementary and integrative medicine: global strategies. Geneva: WHO; 2025.
4. Central Council for Research in Homoeopathy, Ministry of Ayush. Annual report 2023–24. New Delhi: Ministry of Ayush; 2024.
5. Ministry of Ayush, Government of India. Annual report 2023–24. New Delhi: Ministry of Ayush; 2024.
6. World Health Organization. General guidelines for methodologies on research and evaluation of traditional medicine. Geneva: WHO; 2000.
7. World Health Organization. WHO guidelines on safety monitoring of herbal medicines in pharmacovigilance systems. Geneva: WHO; 2004.
8. World Health Organization. WHO guidelines on good manufacturing practices for herbal medicines. Geneva: WHO; 2007.
9. World Intellectual Property Organization. Traditional knowledge. Geneva: WIPO; 2024.
10. Secretariat of the Convention on Biological Diversity. Convention on Biological Diversity. Montreal: CBD Secretariat; 1992.
11. Secretariat of the Convention on Biological Diversity. Nagoya Protocol on access and benefit-sharing. Montreal: CBD Secretariat; 2011.
12. World Health Organization. Guidelines for assessing quality of herbal medicines with reference to contaminants and residues. Geneva: WHO; 2007.
13. World Health Organization. Guidelines on good agricultural and collection practices for medicinal plants. Geneva: WHO; 2003.
14. World Health Organization. Guidelines for the assessment of herbal medicines. Geneva: WHO; 1991.
15. World Health Organization. WHO monographs on selected medicinal plants. Vol. 1. Geneva: WHO; 1999.
16. World Health Organization. Benchmarks for training in Ayurveda. Geneva: WHO; 2010.
17. World Health Organization. Benchmarks for training in yoga. Geneva: WHO; 2010.
18. Pharmacopoeia Commission for Indian Medicine and Homoeopathy. Ayurvedic, Siddha and Unani pharmacopoeial standards. Ghaziabad: PCIM&H; 2024.
19. Ministry of Ayush, Government of India. Ayush Oushadhi Gunvatta evam Uttpadan Samvardhan Yojana: scheme guidelines. New Delhi: Ministry of Ayush; 2022.
20. Government of India. National health policy 2017. New Delhi: Ministry of Health and Family Welfare; 2017.
21. National Institute of Ayurveda. Research, education and international cooperation in Ayurveda. Jaipur: NIA; 2023.
22. World Health Organization. WHO traditional medicine strategy 2014–2023. Geneva: WHO; 2013.
23. NITI Aayog. Strategic roadmap for making Ayurveda global. New Delhi: Government of India; 2026.
24. World Health Organization. Traditional medicine and health systems: regulatory and policy considerations. Geneva: WHO; 2023.

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