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# Traditional Medicine Review

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## EDITORIAL

## PAPERS



## BOOK REVIEW



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# EDITORIAL

Today, discussions on health re-emphasise the multi dimensionality of viable solutions for better outcomes. Traditional medicines' role in health systems has always been prevalent. In the last few decades the role of these systems in addressing NCDs has been increasingly acknowledged globally. Regulations for herbal medicines are being formulated in several countries. Ayush products themselves have been witnessing a steady growth in exports. While US, EU and UAE constitute more than 50 per cent of India's Ayush exports, other regions like Africa are also attractive markets. Among Indian systems of medicine, Ayurveda constitutes a high proportion of these exports. The system is highly popular in countries like South Africa and Russia, although for reasons that may be varied. While Ayurveda is indigenous to India, other systems of medicine, albeit with roots outside India, have also received tremendous policy support. India's Unani system of medicine, for example, has emerged as a leader among countries practicing this system of medicine. This is largely driven by consistent governmental support, strategic integration into the national healthcare delivery system, and significant investments in infrastructure, education, research and pharmaceutical manufacturing.

This Issue of Traditional Medicine Review attempts at analysing global footprints of Ayush systems. Tanmay Goswami's paper on the development of Ayurveda in the Russia discusses its history, institutional development, Indo-Russian cooperation, educational and cultural exchange, the growing market for Ayurvedic products and regulatory challenges. Namrata Pathak and Sanket Chavan analyse Ayush exports to South Africa which is a major importer of Ayush pharmaceuticals, specially medicaments and medicants. The Unani System of Medicine while rooted in Greek origins and shaped by Arabic and Persian scholarship has since evolved into a structured academic and healthcare discipline in India. High priority to development of education and R&D of Unani in India reflective of the significance accorded to development of Unani industry in India. N. Zaheer Ahmad highlights the significant advancements in research and development (R&D) within Unani medicine, particularly in the areas of drug development, clinical evaluation, and integration with modern scientific methods with special focus on the role Central Council for Research in Unani Medicine (CCRUM). Quality human resources is another factor critical to the growth of Unani industry. K. Jagannathan outlines the reforms introduced in Unani medical education including the Competency-Based Dynamic Curriculum (CBDC), Minimum

Essential Standards (MES), and regulatory changes for undergraduate and postgraduate education while acknowledging the challenges such as outdated curricula, lack of scientific validation, and insufficient use of emerging technologies in addressing national health priorities and global standards of Unani medicines. As India emerges as a global frontrunner in the Unani system of medicine, driven by consistent governmental support and strategic integration into the national healthcare delivery system, Ghazala Javed and Farah Ahmad bring to light a comparative assessment of regulations and legislations in India, Iran, UAE, Bangladesh, Sri Lanka, Uzbekistan, Tajikistan, South Africa, Malaysia, USA, Canada and Australia. Finally, given that traditional medicine has a special interest in the conservation and sustainable use of biological resources owing to their contribution as key raw materials for the industry, T.C. James reviews the book 'Biological Diversity and International Law: Challenges for the Post 2020 Scenario'.

I am sure readers will find this issue of Traditional Medicine Review useful in understanding the major milestones in global expansion of Ayush systems along with the unique strength of some of the major systems currently in operation.

**Namrata Pathak**

# Ayurveda in Russia: Cultural Synergy, Wellness Integration, and Global Expansion

Tanmay Goswami*

Tanmay Goswami

***Abstract:*** Ayurveda, the millennia-old traditional medicine system of India, is gradually gaining attention in countries outside South Asia, including Russia. It is not only a medical practice but also a holistic system that focuses on the balance of body, mind, and spirit. Based on the doctrine of three doshas-Vata, Pitta, and Kapha-Ayurveda offers a personalised approach to health and well-being.

This paper explores the development of Ayurveda in the Russian context. It discusses its history in Russia, public reception, institutional development, and regulatory challenges. It also highlights the role of Indo-Russian cooperation in traditional medicine, the contribution of educational and cultural exchange, and the growing market for Ayurvedic products in Russia. Although Ayurveda is still in an early stage of development in Russia, increasing public interest, supportive partnerships, and government-level dialogues indicate strong potential for its future integration into the Russian healthcare system. The paper concludes with practical policy suggestions to sustainably integrate Ayurveda into Russia's broader healthcare ecosystem

## Introduction

Ayurveda, which means "the science of life" in Sanskrit, is a traditional medical system that originated in India more than 5,000 years ago (Patwardhan and Vaidya, 2009). It focuses on maintaining the balance of three fundamental energies—Vata, Pitta, and Kapha—to promote physical, mental, and spiritual well-being (Haque, 2024). Ayurvedic practice includes herbal medicine, dietary guidelines, yoga, detoxification treatments (panchakarma), and lifestyle changes tailored to individual needs (Jaitwar, Jatav and Verma, 2024).

Interest in Eastern healing traditions began growing rapidly in Russia in the late 1980s. This rise was influenced by the opening of borders, a growing spiritual curiosity, and a desire for alternative medical approaches. Practices

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such as yoga, meditation, and Ayurveda began to attract attention during this period (Ragozin, 2016).

Over the last few decades, the global health landscape has shifted toward integrative approaches that combine conventional and traditional systems of medicine (Song, Ang and Lee, 2022). As a result, Ayurveda has gained wider international recognition, including in Russia. It presents a unique case in the internationalisation of Ayurveda. Although the country has a strong tradition of folk healing and phytotherapy, Ayurveda was introduced largely through cultural exchanges and diplomatic efforts during the late Soviet period (Ragozin, 2016).

In recent years, growing dissatisfaction with conventional medicine, coupled with the rise of health-conscious consumerism, has contributed to the acceptance of Ayurveda among Russian citizens (Ragozin, 2016). The institutional support for Ayurveda in Russia has also grown. Wellness centres and Ayurvedic clinics have been established, especially in major cities like Moscow and St. Petersburg. In addition, collaborations between Russian and Indian academic institutions have introduced Ayurvedic education and research into their curricula. The Indian government, particularly through the Ministry of AYUSH and the Indian Council for Cultural Relations (ICCR), has played an active role in promoting Ayurveda in Russia by organising exhibitions, conferences, and exchange programs (Indian Embassy Moscow, 2015; Ramasubramanian, 2022).

The commercial presence of Ayurveda in Russia has expanded as well. There is increasing demand in Russia for Ayurvedic products such as herbal teas, cosmetics, and dietary supplements (Ragozin, 2016). However, several challenges like regulatory uncertainty about the classification of Ayurvedic products, limited awareness among mainstream healthcare providers, and the lack of standardised guidelines are major obstacles to its integration into the Russian healthcare system (Kumar, Venkatesh and Kumar, 2016).

This article explores the multi-dimensional growth of Ayurveda in Russia. It examines its historical roots, institutional development, public response, academic partnerships, and commercial expansion. It also analyses the main challenges and offers policy suggestions to help integrate Ayurveda more effectively into Russia's evolving healthcare ecosystem.

## Use of Alternative/ Complementary Healthcare in Russia

### Traditional Medicine and the Rise of Ayurveda in Russia

Russia has a longstanding tradition of folk medicine and natural therapies, particularly within rural and indigenous communities (Iarskaia-Smirnova & Romanov, 2008). During the Soviet era, although official policy strictly prioritised allopathic medicine, traditional practices such as herbalism, balneotherapy (mineral baths), and manual therapies continued under the broader category of "folk healing" (Rusinova & Brown, 2002).

In the post-Soviet period, public interest in complementary and alternative medicine saw a resurgence (Rusinova & Brown, 2002). This shift was driven by widespread public dissatisfaction with

conventional medical services due to limited access, high costs, and overuse of pharmaceuticals (Kharitonova, 2014). From the 1990s onward, Russians increasingly turned to systems such as Traditional Chinese Medicine (TCM), homoeopathy, naturopathy, and Ayurveda (Brown & Rusinova, 2002).

According to a survey conducted by VTsIOM, a Russian polling agency, approximately 52 per cent of Russians have used complementary medicine at least once. The reasons cited include distrust in the pharmaceutical lobby, a desire for gentler treatment methods, and the need for more personalised care.[1] Urban wellness centres, private clinics, and yoga frequently offer a combination of modern and traditional approaches. Ayurveda has become especially popular due to its holistic and preventive philosophy, which aligns with Russian cultural values that emphasise nature-based and personalised healing.

## Evolution of Ayurveda in Russia

The journey of Ayurveda in Russia is a unique narrative of cultural exchange, academic curiosity, and evolving healthcare perspectives. Although Ayurveda, as a codified system of Indian traditional medicine, has been practised for over 5,000 years in India, its entry into Russia is a relatively recent phenomenon (Ragozin, 2016). Yet, its growth in the Russian Federation reflects a meaningful intersection between ancient Indian knowledge and contemporary Russian healthcare needs.

The initial seeds of Ayurvedic knowledge in Russia were planted in the late 19th and early 20th centuries when Russian orientalists, Indologists and philosophers began studying Indian classical texts and Vedic sciences. However, it was during the Soviet era—especially after India and the USSR established diplomatic relations in 1947—that Ayurveda began to enter scholarly and public consciousness in a more structured form. During the Cold War, Indo-Soviet relations were strong, marked by numerous cultural and educational exchange programs. Russian scholars translated Ayurvedic texts, and Indian medical professionals were invited to lecture at institutions such as the Peoples' Friendship University of Russia (RUDN University) in Moscow (Ragozin, 2016). Despite these developments, Ayurveda remained largely absent from clinical practice due to the state's centralised control over biomedical systems. However, this foundational exchange laid the groundwork for the developments that followed.

The post-Soviet era marked a turning point. In the 1990s and early 2000s, the first Ayurvedic wellness clinics and training centres began appearing in Russian cities like Moscow, St. Petersburg, Kazan, and Novosibirsk.[2] Indian doctors conducted seminars, and early adopters among Russian practitioners began exploring Ayurvedic principles. By the mid-2000s, many clinics opened in major urban centres. The 2010s witnessed a further expansion with the introduction of Russian-language literature, online platforms, and online courses. In the 2020s, certified schools and growing wellness industry interest solidified Ayurveda's position in the Russian alternative medicine landscape.

Ayurveda has seen growing interest and integration in Russia through translations of classical texts and adoption by wellness communities. Key Ayurvedic

texts, including *Charaka Samhita* and *Ashtanga Hridayam*,[3] have been translated into Russian, and books by Indian authors on Ayurveda are widely available in bookstores. Ayurveda has gained further visibility due to endorsements from prominent Russian figures in wellness, including television personalities and athletes, who promote its benefits for detoxification, immunity, and stress relief. The Indian diaspora in cities such as Moscow and Kazan has also contributed significantly to spreading Ayurvedic knowledge through community health programs and spiritual centres. Additionally, Ayurveda has integrated with traditional Russian folk healing practices, including the use of wild herbs, sauna therapy (banya), and energy healing, resulting in a unique fusion model in certain wellness centres.

The interest in Ayurvedic education has also grown steadily in Russia. Notable institutions, such as RUDN University, First Moscow State Medical University, and the Institute of Oriental Medicine, have introduced short-term certification and diploma courses in Ayurvedic medicine. Indian universities like Gujarat Ayurveda University[4] and Banaras Hindu University have established collaborative programs, offering joint programs and scholarships for Russian students. Additionally, several Russian doctors have trained in India through Ministry of AYUSH-sponsored fellowships and returned to establish integrative Ayurvedic clinics. Due to the absence of a formal regulatory framework under Russian federal law, Ayurveda is typically practised under wellness or spa licenses. However, these centres ensure authenticity by maintaining close collaborations with Indian manufacturers and professional organisations.

Recognising the increasing demand, the Government of India has actively supported the promotion of Ayurveda in Russia. A key development in the spread of Ayurveda in Russia was the signing of a Memorandum of Understanding (MoU) on Traditional Systems of Medicine between India and Russia.[5] This aimed to promote cooperation in education, regulation, quality assurances, and clinical practice. Through the Ministry of AYUSH and the Indian Council for Cultural Relations (ICCR), numerous initiatives have been launched, including cultural festivals, academic seminars, and health exhibitions.[6] Scholarships have been extended to foreign nationals, including Russians, to pursue training in Ayurveda and related Indian systems of medicine in India. Collaborative agreements were signed between Indian and Russian institutions to support Ayurvedic education and research. Indian Ayurvedic companies began exporting herbal formulations, cosmetics, and nutraceuticals to the Russian market.

Today, cultural and wellness events in Russia have also played a major role in promoting Ayurveda. Festivals like the "Festival of India"[7], "Ayurveda Days"[8] at wellness expos, and International Yoga Day celebrations often feature Ayurvedic booths, free consultations, and live demonstrations of Ayurvedic therapies. These events draw thousands of attendees and serve as entry points for first-time exposure to Ayurveda.

Ayurvedic retreats have become increasingly popular among Russian tourists, contributing to Ayurveda's cultural prestige. Russians are increasingly travelling to India's Ayurvedic hubs, such as Kerala, Goa, Uttar Pradesh, and Rishikesh, not only for medical reasons but

also as part of luxury wellness vacations or spiritual getaways.[9,10] This trend of "Ayurveda tourism" has positioned the Ayurvedic lifestyle as an aspirational and prestigious choice, contributing to its aspirational popularity within Russian society.

Engagement with Ayurveda has become an important marker of social identity in Russia, particularly among urban elites and wellness communities. Participation in Ayurvedic practices—whether through detox regimens or consultations with Ayurvedic experts—is often seen as a sign of being globally aware, living ethically and sustainably, and belonging to a like-minded, wellness-oriented community.

## Ayurveda's Expanding Footprint in Russian Healthcare and Wellness

In recent decades, Ayurveda, with its holistic approach to well-being and emphasis on preventive care, has seen a growing wave of usage across Russia. While it is not formally incorporated into Russia's mainstream public healthcare system, its popularity has steadily increased, particularly in urban wellness, private healthcare, and lifestyle sectors.[11] Today, Ayurveda in Russia is not just used therapeutically but has also been adapted to various aspects of lifestyle, from beauty and detoxification to mental wellness and chronic disease management.

Ayurveda's clinical and therapeutic applications are gaining recognition, especially for the management of chronic and lifestyle-related conditions that often remain inadequately addressed by conventional medicine. These include digestive disorders like irritable bowel syndrome and acidity, metabolic syndromes such as obesity, diabetes, and hypothyroidism, as well as neurological conditions like insomnia, migraines, and anxiety. Additionally, Ayurveda offers remedies for musculoskeletal issues, including arthritis and back pain, as well as reproductive health concerns such as menstrual irregularities and hormonal imbalances. Ayurvedic treatments are provided at wellness centres and clinics, where patients consult trained Ayurvedic practitioners, some of whom are Indian doctors or Russian doctors trained in India. Personalised guidance on diet, herbal formulations, detox programs (panchakarma), and lifestyle modifications is central to the treatment process. Interestingly, there is also growing interest in diagnostic methods like medical astrology, particularly for conditions such as post-traumatic stress disorder (PTSD).

Ayurvedic therapies have become significant offerings in wellness resorts, spas, and health retreats across Russia, especially in major cities and tourist destinations. These centres typically offer treatments such as Abhyanga (herbal oil massage) for stress relief and rejuvenation, Shirodhara for mental relaxation and insomnia, Swedana (herbal steam therapy) for detoxification, and Udvartana (dry powder massage) for weight loss and skin conditions. Other treatments like Nasya and Netra Tarpana are used for respiratory and eye issues. These therapies are often integrated with yoga, meditation, and vegetarian diets to create a holistic Ayurvedic retreat experience that appeals to health-conscious Russians.

The growing use of Ayurvedic herbal supplements, teas, and nutritional products is another trend in Russia. Ayurvedic herbs and formulations are increasingly available

in health stores and online platforms, often marketed as dietary supplements or biologically active additives. Popular products include Triphala for digestion and detox, Ashwagandha for stress and fatigue, Chyawanprash for immunity, Shatavari for women's health, and Brahmi and Mandukaparni for cognitive function (Ragozin, 2016). Many consumers use these supplements for general wellness, energy enhancement, longevity, and disease prevention, often guided by online Ayurvedic consultations or wellness influencers.

In the realm of beauty and personal care, Ayurvedic products have carved a substantial niche in Russia's natural cosmetics market. As demand for clean, chemical-free beauty products grows, Ayurvedic skin and hair care items are increasingly popular.[12] Commonly used products include herbal face packs and masks made with neem, turmeric, sandalwood, and manjista, Ayurvedic hair oils like bhringraj and amla, anti-ageing creams with saffron and ashwagandha, and natural soaps and shampoos incorporating Ayurvedic herbs. These products are popular not only among individual consumers but also among professional aestheticians.

Yoga and Ayurveda complement each other well, and many Russians who practice yoga also incorporate Ayurvedic routines into their daily lives (Ragozin, 2016). These routines include Dinacharya (daily practices) such as tongue scraping, oil pulling, and self-massage, as well as Ayurvedic cooking that uses spices like turmeric, cumin, ginger, and ghee. Seasonal detox practices, known as Ritucharya, and the use of Ayurvedic herbs to balance doshas are also common. This integrated lifestyle approach is particularly popular among younger, urban populations, wellness bloggers, yoga instructors, and alternative medicine enthusiasts.

The accessibility of Ayurveda in Russia has grown through digital platforms, especially following the COVID-19 pandemic.[13] Online consultations with Ayurvedic practitioners, mobile apps offering wellness tips and dosha quizzes, and online courses on Ayurveda have become increasingly popular. Russian-language Ayurveda blogs, YouTube channels, and social media influencers also play an important role in educating the public and making Ayurvedic knowledge more accessible and relatable to the wider population.

## Russia's Financial Gains from Ayurveda

The rise of global wellness trends and the growing interest in natural healing practices have created significant economic opportunities for Russia within the Ayurvedic sector. Ayurveda, although a traditional Indian system of medicine, is increasingly gaining traction in Russia as both an alternative health approach and a lifestyle. This trend is contributing to substantial financial gains for the Russian economy in several key areas.

One of the primary drivers of this growth is the increasing consumer demand for natural healing. Russia, with its large health-conscious population, is seeing a shift toward plant-based solutions as more individuals seek holistic health alternatives to modern medicine. This shift is also fueling wellness tourism. If Russia strategically invests in Ayurveda-based health resorts, it can tap into the global wellness tourism market, which is expected to reach $1.8 trillion by 2025.[14]

The import and distribution of Ayurvedic products are another area where financial benefits are materialising. Ayurvedic products such as Ashwagandha, Triphala, and Chyawanprash are increasingly in demand across Russian pharmacies and online platforms (Ragozin, 2016).

The establishment of Ayurvedic education and training centres is emerging as another avenue for financial growth. Russian universities and private institutions are now offering Ayurveda and Yoga programs, both short and long-term (Acharya, 2023). These programs are not only attracting local students but also international learners, contributing to a steady income stream and fostering a skilled workforce in holistic medicine.

The cultivation of medicinal plants in Russia represents another income opportunity for the farmers. Several Ayurvedic herbs, such as Tulsi, Shatavari, and Brahmi, can be cultivated in Russian climatic zones, reducing the country's dependency on imports and also supporting the local farmers (Shikov *et al*., 2014).

## Regulations Guiding Authorisation and Sale of Traditional Medicine in Russia

In Russia, the regulation of traditional medicines, including Ayurvedic products, falls under the broader legislative framework for pharmaceuticals and health-related goods. The primary legislation, Federal Law No. 61-FZ "On the Circulation of Medicines" (2010), serves as the principal regulatory instrument overseeing the approval, registration, distribution, and sale of medicinal products in the Russian Federation.[15]

However, Ayurvedic products are not officially recognised as a separate category under Russian law. Instead, they are typically classified as dietary supplements or cosmetics, depending on their composition. This classification limits the medical claims that can be made about these products and restricts their use in clinical settings, while also imposing marketing constraints.

Regulatory oversight is handled by two key agencies: the Federal Service for Surveillance in Healthcare (Roszdravnadzor) and the Federal Service for Surveillance on Consumer Rights Protection and Human Wellbeing (Rospotrebnadzor) (Kumar, Venkatesh and Kumar, 2016). These agencies ensure that Ayurvedic products, including imports, meet stringent quality standards, including labelling, safety, and efficacy requirements. Importers of Ayurvedic medicines must submit detailed documentation, including toxicology reports and proof of compliance with Good Manufacturing Practice (GMP) standards (Kumar, Venkatesh and Kumar, 2016).

### Future of Ayush in Russia: Prospects and Challenges

The AYUSH systems—Ayurveda, Yoga & Naturopathy, Unani, Siddha, and Homoeopathy—have gained significant traction in Russia, particularly through Ayurveda and Yoga. This growth is driven by a blend of public interest in holistic wellness, cultural diplomacy, and increasing Indo-Russian collaboration in traditional medicine (Ragozin, 2016). A notable milestone in this regard was the 2019 pilot project by Russian Railways, which integrated Ayurveda into sanatoriums, marking an institutional recognition of traditional medicine in the country.

In recent years, there has been growing public interest in AYUSH therapies, especially in urban centres like Moscow and St. Petersburg.[16] Ayurveda and Yoga have become increasingly popular among health-conscious, middle-class populations, with rising demand for Ayurvedic treatments, herbal supplements, and yoga-based lifestyle therapies.[17]

Institutional collaborations have also played a significant role in promoting AYUSH systems in Russia. Several Russian educational and health institutions have partnered with Indian universities and the Ministry of AYUSH, organising seminars, workshops, and training programs that have introduced Russian students and professionals to the scientific foundations and therapeutic benefits of AYUSH systems.[18]

Furthermore, AYUSH therapies have been integrated into Russia's expanding wellness industry. Ayurvedic massage, panchakarma treatments, and yoga retreats are now common offerings at premium wellness resorts and urban wellness centres, further embedding traditional Indian healing practices within the Russian wellness sector. The Indian Embassy in Moscow, in coordination with the Ministry of AYUSH, has also been instrumental in promoting traditional Indian medicine. Through cultural festivals, trade exhibitions, and intergovernmental dialogues, they have played a pivotal role in fostering greater awareness and acceptance of AYUSH systems in Russia.

The lack of a dedicated legal status for traditional medicine in Russia creates challenges for practitioners and distributors. Ayurvedic clinics often operate under wellness or spa service licenses, limiting their therapeutic scope. Moreover, the sale of Ayurvedic formulations is hindered by import regulations and the absence of harmonized pharmacopoeial standards between India and Russia.[19] Language barriers, a lack of translated classical texts, and public scepticism in certain medical circles also present ongoing challenges.

To fully realise the potential of Ayurveda in Russia, several key reforms are needed. First, it is essential to establish formal legal recognition of Ayurvedic medicine and products within the Russian healthcare system. This would ensure ethical practice, product safety, and professional accountability. Second, academic integration should be promoted by introducing joint academic programs, faculty exchanges, and translated curriculum modules in Russian medical universities. This would facilitate systematic learning and research in Ayurveda. Third, bilateral frameworks should be developed through Indo-Russian agreements specifically focused on traditional medicine cooperation. These agreements should address product standardisation, practitioner training, and clinical research.

The road ahead also requires efforts to overcome regulatory ambiguity, ensure practitioner standardisation, and promote evidence-based validation of AYUSH interventions. Additionally, public awareness campaigns in multiple languages should be launched to emphasize the evidence-based benefits of Ayurvedic therapies, particularly in chronic disease management and preventive care. Such initiatives will help create a broader understanding of Ayurveda among the Russian public. Moreover, market support for Ayurvedic products can be enhanced by

streamlining import procedures and quality checks while encouraging local partnerships for manufacturing and distribution.

The future development of Ayurveda in Russia will rely on strong policy support, scientific validation, and culturally adaptive implementation. Promoting internships in India, as well as the development of certified training programs and online academies supervised by the Ministry of Health, will be crucial in bridging the knowledge gap. With the global trend increasingly shifting towards integrative medicine and lifestyle-based interventions, Ayurveda holds the potential to play a significant role in Russia's evolving healthcare and wellness sectors. Strengthening this cross-cultural bridge will not only improve public health outcomes but also further deepen the enduring relationship between India and Russia.

## Conclusion

Ayurveda in Russia has evolved from being viewed as a culturally exotic system to a gradually accepted form of complementary and preventive healthcare. Supported by Indo-Russian diplomatic ties, educational collaborations, and a growing public interest in holistic wellness, Ayurveda has successfully carved a niche for itself, particularly among Russian urban populations and wellness professionals. Despite facing regulatory and institutional challenges, the foundation for its continued expansion has been solidly established.

The usage of Ayurveda in Russia is dynamic and diverse, increasingly integrated into mainstream healthcare and wellness practices (Ragozin, 2016). It is now impacting the lives of patients, wellness seekers, and conscious consumers alike. From offering therapies for chronic diseases to providing luxury wellness experiences, Ayurveda presents a versatile system that resonates with Russia's cultural appreciation for nature-based healing. With strategic investments in awareness campaigns, regulatory frameworks, and professional training, Ayurveda is well-positioned for deeper integration and continued growth in Russia's healthcare and wellness sectors in the years to come.

**Endnotes**


1. Geohistory Today, 2007. Rejecting Professional Medicine in Contemporary Russia. Available at: https://geohistory.today/rejecting-professional-medicine-russia/?utm_source=chatgpt.com
2. DocMode, 2020. History of development of Ayurvedic medicine system in Russia. [online] Available at: https://docmode.org/history-of-development-of-ayurvedic-medicine-system-in-russia/
3. https://ayurdara.ru/knigi_i_zhurnaly_ob_ayurvede/ashtanga-hridaja-samhita/#:~:text=The%20first%20in%20Russia%2C%20comprehensive%20translation%20into%20Russian%20from%20the
4. Gujarat Ayurveda University, Jamnagar. Foreign Student in the University. Avilable at: https://ayurveduniversity.edu.in/foreign_student_university.php#:~:text=Russia%2C%20The%20Netherlands%2C%20Japan%2C%20Reunion%20Island%2C%20Sri,Ukraine%2C%20Poland%2C%20Brazil%2C%20Germany%2C%20Switzerland%2C%20Mauritius.%20M.D.
5. Press Information Bureau, 2022. Research and Development for traditional system of medicines. Available at: https://pib.gov.in/PressReleasePage.aspx?PRID=1843837
6. Embassy of India, Moscow, India-Russia Cultural Relations. Available at: https://indianembassy-moscow.gov.in/india-russia-cultural-relations.php
7. Embassy of India, Moscow, Festival of India. Available at: https://www.indianembassy-moscow.gov.in/festival-of-india-menu.php

[8] Consulate General of India, Vladivostok. Ayurveda Day 2024. Avialble at: https://www.cgivladi.gov.in/page/ayurveda-day-2024/

[9] Kerala Tourism, 2015. More Takers for Ayurveda in Russia. Kerala Tourism. Available at: https://www.keralatourism.org/newsletter/news/2015/mitt-russia/1778

[10] Business Standard, 2013. Russians tourists join sun, sand, Ayurveda quest. Business Standard, 20 January. Available at: https://www.business-standard.com/article/economy-policy/russians-tourists-join-sun-sand-ayurveda-quest-105012001064_1.html

[11] Akhter, S., 2022. In IT, not US or UK, but Russia is emerging as a nation interested in Ayurvedic solutions: Mukul Shah, Founder & CEO, LifeChart. ETHealthWorld, 14 November. Available at: https://health.economictimes.indiatimes.com/news/industry/in-it-not-us-or-uk-but-russia-is-emerging-as-a-nation-interested-in-ayurvedic-solutions-mukul-shah-founder-ceo-lifechart/95413615

[12] The Economic Times, 2005. Russians fall for Indian cosmetics. The Economic Times. Available at: https://economictimes.indiatimes.com/russians-fall-for-indian-cosmetics/articleshow/1127529.cms?from=mdr

[13] The Economic Times, 2020. Ayurvedic products, local wellness practices big hit during Covid times. Available at: https://economictimes.indiatimes.com/magazines/panache/local-wellness-practices-find-many-takers-in-covid-times/articleshow/79416118.cms?from=mdr

[14] McGroarty, B., 2022. New data on wellness tourism: Projected to hit $817 billion this year, $1.3 trillion in 2025. Global Wellness Institute, 11 January. Available at: https://globalwellnessinstitute.org/global-wellness-institute-blog/2022/01/11/industry-research-new-data-on-wellness-tourism-projected-to-hit-817-billion-this-year-1-3-trillion-in-2025/

[15] Federal Law of the Russian Federation No. 61-FZ of April 12, 2010, on Circulation of Medicines (as amended by Federal Law No. 444-FZ of December 22, 2020), Russian Federation.

[16] Kerala Tourism, 2015. More takers for Ayurveda in Russia. Available at: https://www.keralatourism.org/newsletter/news/2015/mitt-russia/1778#:~:text=%22Our%20participation%20in%20MITT%20is%20part%20of,Moscow%2C%20St%20Petersburg%20and%20Yekaterinburg%20(the%20fourth

[17] The Hindu, 2015. Ayurveda finds takers in Russia. Available at: https://www.thehindu.com/news/cities/Thiruvananthapuram/ayurveda-finds-takers-in-russia/article7047260.ece

[18] Ministry of Ayush, Partnership & Collaboration, Available at: https://ayush.gov.in/#!/international

[19] AYUSHEXCIL, 2024. IndieExport: AYUSH for the World - Market Access Handbook [pdf] Available at: https://ayushexcil.in/img/publication/IndieExport.pdf

## References


Brown, J.V. and Rusinova, N.L. 2002. "Curing and Crippling": Biomedical and alternative healing in post-Soviet Russia. *The ANNALS of the American Academy of Political and Social Science*, 583(1), pp.160–172. doi:10.1177/000271620258300110.

Haque, R. 2024. Vata, Pitta, and Kapha: Understanding their interplay in mental health disorders. *Journal of Ayurvedic Maulik Siddhant*, 1(1), pp.9–13. Available at: https://doi.org/10.33545/siddhant.2024.v1.i1.A.3

Iarskaia-Smirnova, E. and Romanov, P. 2008. Culture matters: Integration of folk medicine into healthcare in Russia. In: *Rethinking Professional Governance: International Directions in Healthcare*. Bristol: Policy Press, pp.141–154. https://doi.org/10.1332/policypress/9781861349569.003.0010

Indian Embassy Moscow. 2015. 2nd Ayurveda Congress held in Moscow. [online] Available at: https://indianembassy-moscow.gov.in/ayurveda-congress-held-in-moscow.php

Jaitwar, A.P., Jatav, R. and Verma, R. 2024. Holistic *Healing: The Principles and Practices of Ayurvedic Medicine*. Academic Guru Publishing House.

Kharitonova, V.I. 2014. Non-conventional medicine in contemporary Russia. *Medical Anthropology and Bioethics*, 1(7).

Kumar, A., Venkatesh, M.P. and Kumar, T.M.P.,2016. Regulations and challenges of herbal medicines in Russia. *International Journal of Ayurvedic and Herbal Medicine*, 6(1), pp.2149–2161.

Patwardhan, B. & Vaidya, A.D.B. 2009. Ayurveda: scientific research and publications. Current Science, 97(8), pp.1117–1121. Available at: http://www.jstor.org/stable/24111950

Ragozin, B.V. 2016. The history of the development of Ayurvedic medicine in Russia. *Ancient Science of Life*, 35(3), pp.143–149. doi:10.4103/0257-7941.179868.

Ramasubramanian, S. 2022. India-Russia Healthcare Cooperation: Progress and Prospects. *Science Diplomacy Review*, 4(1), pp.11–20.

Rusinova, N.L. and Brown, J. 2002. Curing and crippling: Bio-medical and alternative healing in post-Soviet Russia. *The Annals of the American Academy of Political and Social Science*, 583(1), pp.160–172. https://doi.org/10.1177/000271620258300110

Shikov, A.N., Pozharitskaya, O.N., Makarov, V.G., Wagner, H., Verpoorte, R. and Heinrich, M. 2014. Medicinal plants of the Russian Pharmacopoeia; their history and applications. *Journal of Ethnopharmacology*, 154(3), pp.481-536. doi:10.1016/j.jep.2014.04.007.

Song, E., Ang, L. and Lee, M.S. 2022. Increasing trends and impact of integrative medicine research: From 2012 to 2021. *Integrative Medicine Research*, 11(4), p.100884. doi:10.1016/j.imr.2022.100884.

Barrett, A.M. and Baum, S.D. 2017. A model of pathways to artificial superintelligence catastrophe for risk and decision analysis. *Journal of Experimental & Theoretical Artificial Intelligence*, 29(2), pp.397-414.

Upadhyay, T.L., Dhoke, S.P., Sah, M.K. and Vyas, H.A. 2017. Role of Pratyaksha Pareeksha for the Assessment of Prakriti, Sara And Samhanana. I*nternational Ayurvedic Medical Journal*, 3(7),:pp. 1966-1973.

# Unani Medicine in Practice: Comparative Assessment of Regulations and Legislations in Key Countries

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***Abstract:*** Unani medicine is a well-regulated system in many countries. Its practice, deeply rooted in the classical Unani tradition, is recognised under different names in countries such as Iran, China and others. India has played a key role in developing and nurturing this system and has provided a global platform by bringing together key minds during International events. This paper outlines various regulatory provisions and offers a comparative assessment of regulations and legislations in key countries, aiding the understanding of diverse landscapes and provisions governing the practice of Unani medicine in these countries. It also highlights the resurgence of interest in traditional medicine practices due to their holistic and people-centric approach and the efforts of various countries to establish regulatory frameworks for their safe practice.

## Introduction

Unani medicine, one of the oldest surviving systems of traditional medicine, is practised across a broad geographical region encompassing countries such as India, Bangladesh, Sri Lanka, China, Iran, Malaysia, and extending into Central Asia, the Middle East, Africa, and parts of Europe. In India, Bangladesh, Sri Lanka, and South Africa, it is commonly referred to as Unani Medicine or Unani Tibb, reflecting its lineage from ancient Greek and Arab medical traditions. In Iran, the practice is recognised as Persian Medicine; and in China, it is preserved as Uyghur Medicine, showcasing its adaptation within diverse sociocultural contexts. While the nomenclature varies, these practices remain rooted in the classical Unani tradition, maintaining their core theoretical foundations and therapeutic principles.

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According to the WHO Traditional Medicine Strategy 2014–2023, the integration of traditional medicine into national health systems is essential for achieving universal health coverage. The strategy emphasised the need for evidence-based policy frameworks, the integration of traditional practitioners into primary healthcare, and the regulation of traditional medicine.[1] The Strategy had a significant impact on the global landscape of traditional medicine, particularly in terms of integration, regulation, and the promotion of evidence-based practices. It significantly enhanced the recognition of traditional medicine by international health bodies, governments, and the public, helping countries appreciate the value of traditional medicine systems and incorporate them into national health policies.

The growing international interest in Unani medicine was clearly reflected by the participation of experts from around the globe in a series of international conferences organised by the Central Council for Research in Unani Medicine (CCRUM), Government of India. These conferences, held in 2018, 2020, and 2022, saw representation from countries including Bahrain, Bangladesh, China, Hungary, Israel, Portugal, Slovenia, South Africa, Sri Lanka, the United Arab Emirates, the United Kingdom, the United States, Iran, and Malaysia. Most recently, the International Conference on Innovations in Unani Medicine for Integrative Health Solutions – A Way Forward, held as part of the Unani Day 2025 celebrations on 11-12 February 2025 at Vigyan Bhawan, New Delhi, continued this tradition of global engagement. The perspectives and insights shared by international delegates have been drawn upon in the development of this article to illustrate the evolving global status, regulatory frameworks, and integration efforts related to Unani medicine in key countries.

## India

India has emerged as a global frontrunner in the Unani System of Medicine, driven by consistent governmental support and strategic integration into the national healthcare delivery system. This support is evident through significant investments in infrastructure, education, research, and pharmaceutical manufacturing. The country is home to a robust network of Unani educational institutions that offer high-quality academic programmes and actively engage in research. These institutions have undergone considerable upgrades, resulting in improved standards in education and training. Additionally, India boasts state-of-the-art research centres and well-regulated drug manufacturing units, ensuring the production of high-quality Unani medicines. India has taken a lead in the research and development of AYUSH systems and actively participates in experience-sharing initiatives with member states (Ahmed and Javed, 2022). Legislations and regulations at the national and state levels monitor public and private practitioners of Ayush systems. License to practice is issued after doing graduation and post-graduation and other higher degrees from recognised universities.[3, 4] The table No.1 gives a snapshot of the vast infrastructure for Unani medicine in India.

## Iran

Iran is among the few countries where Unani, popularly referred to as Persian medicine or Iranian traditional medicine, is formally recognised and integrated into the national healthcare framework. Traditional medicine in Iran, commonly

referred to as Iranian Traditional Medicine (ITM), shares foundational concepts with Unani medicine, such as the theory of humours, temperament, and regimental therapies. Therapies such as Hijama (cupping), herbal medicine, and dietary interventions—integral to Unani—are practised in specialised clinics and hospitals. These services are provided by physicians trained in both modern and traditional medical systems. Oversight of traditional medicine in Iran is provided by the Ministry of Health and Medical Education (MOHME), which regulates practice and accredits university programmes, ensuring practitioners of these systems receive formal academic training before entering clinical practice.[5]

The integration of traditional medicine into the academic and clinical mainstream in Iran is achieved through postgraduate education targeted at conventionally trained healthcare professionals. Only licensed medical doctors and pharmacists are eligible to enrol in specialised PhD programmes in traditional medicine and traditional pharmacy, respectively. This ensures that practitioners possess a strong foundation in biomedical sciences, enabling them to apply traditional healing principles within a scientifically rigorous and holistic framework. As a result, the practice of ITM in Iran is not only culturally authentic but also aligned with contemporary medical standards.[6]

Several leading universities in Iran have established dedicated faculties and departments for traditional medicine. For instance, the School of Persian Medicine at Iran University of Medical Sciences has been offering specialised doctoral programmes in Persian medicine and master's degrees in the history of medical sciences since 2015. Similarly, Isfahan University of Medical Sciences, launched its Department of Iranian Traditional Medicine in 2012. This department currently includes two faculty members and ten PhD candidates. It offers comprehensive education on classical concepts such as temperament theory, disease prevention, herbal pharmacology, and cupping therapy (Hijama), while also conducting ongoing research, including clinical trials, aimed at scientifically validating Persian medical interventions. Recently, an MoU between CCRUM and the School of Persian Medicine, Tehran University of Medical Sciences, Iran was signed in November 2024 for cooperation in the field of Persian and Unani Medicine. These efforts have significantly contributed to the standardisation and international

**Table 1: Unani Health Infrastructure in India**

| Hospitals/ Beds | 267/4036 |
|---|---|
| Dispensaries | 1874 |
| Registered Practitioners (IQ & NIQ)* | 51969 (41715 & 10254) |
| UG Colleges/Admission Capacity | 54/3307 |
| PG Colleges/ Admission Capacity | 20/459 |
| Exclusive PG Colleges / Admission Capacity | 4/150 |
| No. of manufacturing Units | 623 |
| * As on 01.01.2023; IQ-Institutional Qualified, NIQ- Non-institutional Qualified | |

***Source:*** Ayush in India 2023.

recognition of Iran's traditional Unani medical practices.[7]

As of recent reports, approximately 400 doctoral-level professionals have graduated in traditional medicine, and an additional 400 students are currently enrolled in such programmes across Iran. Eight universities now house dedicated faculties of traditional medicine, reflecting the country's sustained commitment to institutionalising and advancing Traditional Medicine within its healthcare and academic systems.[8]

## United Arab Emirates

The United Arab Emirates (UAE) has established itself as a regional leader in healthcare, with structured integration of Traditional, Complementary, and Alternative Medicine (TCAM)-also known as Traditional, Complementary, and Integrative Medicine (TCIM)—into mainstream care. The country is home to over 1,000 licensed TCAM practitioners, including more than 400 Ayurveda specialists, 60 Unani practitioners, 350 homoeopathy professionals, 25 naturopaths, and over 150 experts in other modalities (Alhamsi, 2024)

To ensure safety, quality, and competence in TCAM practice, including Unani medicine, the UAE has established a comprehensive regulatory framework under the purview of major health authorities, including the Dubai Health Authority (DHA), Ministry of Health and Prevention (MOHAP), and the Department of Health (DOH), Abu Dhabi. Within this framework, Unani medicine is formally recognised as a distinct discipline. Licensing practitioners are discipline-specific and subject to stringent eligibility criteria, often verified through written Prometric exams and oral assessments. To practice Unani medicine in the UAE, applicants must possess a Bachelor of Unani Medicine and Surgery (BUMS) degree, be registered to practice in their home country, and clear the UAE's official licensing assessments.[9]

The UAE actively supports the institutional integration of TCAM into hospital-based care, allowing patients to access holistic treatments in formal clinical settings. This includes not only South Asian systems such as Ayurveda and Unani but also global traditional systems like Korean Traditional Medicine and Japanese Traditional Medicine. Additionally, initiatives such as the revival of the Sheikh Zayed Centre for Herbal Research highlight the country's growing interest in indigenous herbal knowledge and evidence-based botanical medicine[10](Alhamsi, 2024).

The inclusion of Unani medicine in health insurance coverage in the UAE makes integrative healthcare more accessible and mainstream. The market for health insurance coverage of complementary and alternative therapies in the UAE is projected to grow significantly, reaching an estimated USD 469.51 million by 2030, with a compound annual growth rate (CAGR) of 17.17 per cent from 2024 to 2030.[11]

## Bangladesh

Traditional medicine plays a significant role in the healthcare settings of Bangladesh, with several recognised systems including Unani, Ayurveda, Homoeopathy, and Folk Medicine. Among these, Unani medicine remains one of the most institutionally supported and widely practiced systems, enjoying formal recognition under national health policies. The National Health Policy of Bangladesh recognises the significance of Traditional Medicine, including Ayurveda, Unani,

and Homoeopathy—as integral to the country's healthcare system. The policy aims to integrate these traditional practices into mainstream healthcare to enhance accessibility and affordability for the population.[12]

To support this integration, the government has established dedicated administrative structures: the Directorate of Homoeopathy and Traditional Medicine under the Directorate General of Health Services (DGHS)[13] oversees service delivery, while the Directorate of Alternative Medicine under the Directorate General of Medical Education (DGME)[14] supervises education and training in traditional systems. Additionally, a Line Director for Alternative Medical Care (AMC) within the DGHS monitors development projects related to Unani, Ayurvedic, and Homoeopathic medicine

The regulation of traditional medicine in Bangladesh is primarily governed by the Bangladesh Unani and Ayurvedic Practitioners Ordinance, 1983,[15] which provides the legal basis for the registration, education, and practice of both Unani and Ayurvedic systems. It mandates formal qualifications for practitioners, maintains a central register, and oversees educational curricula and examinations.[16]

In addition, the Drugs Act of 1940 and the Drugs (Control) Ordinance of 1982 extend regulatory authority to the Directorate General of Drug Administration (DGDA) for the

oversight of traditional medicinal products, including manufacturing, distribution, and quality assurance processes. These measures ensure that all recognised traditional medicines, whether Unani, Ayurvedic, or Homoeopathic, adhere to national standards for safety and efficacy.[17,18,19]

Bangladesh has made significant investments in the infrastructure supporting traditional medicine. The Government Unani and Ayurvedic Medical College and Hospital in Dhaka is the flagship institution offering education and clinical training in Unani and Ayurvedic medicine. Unani, Ayurvedic, and Homoeopathic services are also available at several district hospitals, community clinics, and through NGO-run health programmes, ensuring the widespread availability of traditional medicine. According to WHO reports, Bangladesh maintains nearly 500 traditional medicine manufacturing units, with Unani companies comprising a large portion of this sector 17 (Table 2).

## Sri Lanka

Unani medicine holds a recognised place within Sri Lanka's pluralistic healthcare system, where it is practised alongside Ayurveda, Siddha, and Deshiya Chikitsa. Introduced centuries ago by Arab traders and settlers, especially in coastal areas like Beruwala, Unani has since been integrated into the country's healthcare and educational institutions (Ekanayake and Wanniarachchi, 2022).

The Ayurveda Act No. 31 of 1961 provides the legal foundation for traditional medicine in Sri Lanka, explicitly recognising Unani under its definition and governing the registration of practitioners, educational institutions, and oversight of medicinal products. The formal institutionalisation of Unani medicine began in 1929 with the establishment of the College of Indigenous

**Table 2: Traditional Medicine Infrastructure in Bangladesh**

| Category | Details |
|---|---|
| Government Institutes | Govt. Unani & Ayurvedic Medical College & Hospital, Dhaka |
| | Govt. Tibbiya (Unani Diploma) College, Sylhet |
| Private Institutes | Graduate College: Faculty of Unani & Ayurvedic Medicine, Hamdard University, Dhaka (1) |
| | Unani and Ayurvedic Diploma Colleges: 22 |
| Manufacturing Companies | Unani Medicine: 269 |
| | Ayurvedic Medicine: 172 |
| | Herbal Medicine: 29 |
| Registered Practitioners | BUMS (Bachelor of Unani Medicine and Surgery): 350 |
| | BAMS (Bachelor of Ayurvedic Medicine and Surgery): 304 |
| | DUMS (Diploma in Unani Medicine and Surgery): 1750 |
| | DAMS (Diploma in Ayurvedic Medicine and Surgery): 800 |

***Source:*** Traditional Systems of Medicine of BIMSTEC Member States. – Nonthaburi : Department of Thai Traditional and Complementary Medicine, Ministry of Public Health, 2015https://bimstec.org/images/publication_pdf_file/1696657369_Traditional%20Systems%20of%20Medicine%20of%20BIMSTEC-Resized%20with%20pass.pdf

Medicine, which included Unani alongside Ayurveda and Siddha systems. The Institute of Indigenous Medicine at the University of Colombo offers undergraduate and postgraduate programmes in Unani medicine, including Bachelor of Unani Medicine and Surgery (BUMS) degrees and MD programmes in specialities such as Moalijath (General Medicine), Amraz-e-Niswan (Gynaecology), and Ilmul Advia (Pharmacology).

## Uzbekistan

Unani medicine, shares significant commonalities with the traditional medical practices of Uzbekistan. Avicenna's Canon of Medicine, one of the most important classical texts of Unani Medicines, is influential in both Unani and traditional medicine practices of Central Asia, including Uzbekistan (Azimov, 2022).

In recent years, Uzbekistan has witnessed a resurgence in traditional medicine, regaining public trust through natural treatment methods akin to Unani practices. Uzbek traditional medicine encompasses preventive, diagnostic, and therapeutic approaches based on ancestral experiences and validated through traditional usage. Recognising its value, the Uzbek government has taken significant steps to integrate traditional medicine into the modern healthcare system. Since 2018, traditional medicine has been acknowledged as an independent branch of medicine, with efforts underway to create a complementary relationship with modern medical practices.

To facilitate this integration, the Ministry of Health issued directives for all polyclinics to establish traditional medicine units. These units focus on disease prevention, treatment of chronic conditions, and training specialists, while also addressing the issue of unqualified practitioners. The establishment of the Scientific and Practical Centre of Traditional Medicine further highlights the Uzbek

Government's commitment to regulate and promote traditional medicine.

Currently, traditional medical services in Uzbekistan are categorised into four methods: invasive (e.g., acupuncture, hijama), non-invasive (e.g., manual therapy), biologically invasive (e.g., homoeopathy), and dietary/herbal treatments (e.g., phytotherapy). Among these, herbal medicine remains the most prevalent, reflecting the country's rich biodiversity and cultural reliance on plant-based remedies[20] (Abduraimov, *et al*, 2023).

Despite these advancements, challenges persist in fully integrating traditional medicine with modern healthcare. Issues such as the lack of scientific validation for certain traditional methods, insufficient research facilities, and a shortage of qualified practitioners hinder progress. Addressing these challenges is crucial for enhancing public health outcomes and reducing healthcare costs, as traditional medicine offers cost-effective solutions that can bolster immunity and decrease disease prevalence.

## Tajikistan

Following the enactment of the Code of Health Care of the Republic of Tajikistan in 2017, the previous Law "On Traditional Medicine" (No. 73, December 9, 2004) ceased to be valid, as stipulated in Article 222 of the new Code. The updated legal framework now regulates traditional medicine practices under the broader health legislation.

Under the current Code, traditional medicine is defined as a segment of the health sector utilising methods of health improvement, disease prevention, diagnosis, and treatment based on knowledge and experience established by national traditions. Practitioners, referred to as folk healers, are required to obtain certification and operate within the scope of approved methods and remedies. The Code mandates that these practitioners adhere to regulations concerning the application of traditional medical methods and the use of traditional medicines, which should be registered in the State Medicinal Register of the Republic of Tajikistan. Additionally, practitioners are obligated to maintain medical documentation, report certain diseases to health authorities, and enhance their professional knowledge every five years. The use of unapproved methods or remedies, as well as mass medical sessions by folk healers, is prohibited.[21, 22]

In recent years, Tajikistan has taken steps to strengthen its traditional medicine sector through international collaboration. A. A key milestone was the signing of an MoU in 2018 between the Central Council for Research in Unani Medicine, Ministry of Ayush, New Delhi and Avicenna Tajik State Medical University for cooperation. This MoU has facilitated regular exchange of expertise in the field of traditional medicine.

A forum was held in July 2024 between the Ministry of Health of Tajikistan and representatives from Chengdu University of Traditional Medicine emphasised cooperation in training, research, and the development of accreditation systems for traditional medicine practitioners.[23]

Despite the existence of a legal framework for traditional medicine, challenges remain in ensuring practitioner compliance and effective regulation. However, Tajikistan's sustained partnerships, particularly in Unani medicine, demonstrate its commitment to

integrating this system more meaningfully into its national healthcare strategy.

## South Africa

In South Africa, Unani Tibb (UT) has developed as part of a broader movement toward integrating indigenous knowledge systems and complementary medicine into the national healthcare landscape. The evolution of health policy is shaped by legislative frameworks like the Health Act and the proposed National Health Insurance (NHI) Bill. The country's commitment to "Health for All" is embodied in its efforts to harmonise public and private sectors through the NHI, providing equitable access to both conventional and traditional medical systems. [24]

Unani Tibb is formally recognised as a Complementary and Alternative Medicine (CAM) system under the Allied Health Professions Council of South Africa (AHPCSA). It is grouped with Ayurveda, Traditional Chinese Medicine, and Acupuncture within the Professional Board for Ayurveda, Chinese Medicine, and Acupuncture, and Unani-Tibb (PBACMU). The AHPCSA plays a crucial regulatory role—ensuring public safety, evaluating training institutions, setting standard operating procedures (SOPs), and advising the Department of Health.[25, 26]

A significant contributor to Unani Medicine's growth in South Africa is the Ibn Sina Institute of Tibb, established in 1997. This institute has been instrumental in promoting Unani Tibb through academic partnerships with prominent institutions in India. In 2001, the Institute successfully achieved the formal recognition of Unani Tibb by the AHPCSA, positioning it within South Africa's legal and educational frameworks for CAM. [27] In collaboration with the University of the Western Cape (UWC), the Ibn Sina Institute of Tibb helped establish a Bachelor of Complementary Medicine (BCM) degree with specialisation in Unani Tibb, offered through UWC's School of Natural Medicine since 2003.26 The Institute in addition offers the eTibb Healthy Living course, an online programme designed for individuals interested in applying Unani Tibb principles for personal and family health. The course covers the foundational Six Lifestyle Factors of Tibb, further promoting community-level health literacy and engagement. [28]

A Unani chair was established at the University of Western Cape under the MoU signed by the University with CCRUM. Academic programmes, the development of Unani teaching modules was undertaken by the chair.

The practice of Unani Tibb in South Africa is multifaceted and deeply embedded in Indigenous Knowledge Systems (IKS). Practitioners often operate in underserved communities, and many are dual-qualified—registered nurses, allopathic doctors, or allied health professionals, offering a hybrid model of care. Ethnographic studies highlight that a significant portion of UT practitioners are women, and many bring spiritual care into their clinical practice, emphasising holistic treatment that spans physical, emotional, and spiritual dimensions.

While these structural elements provide legitimacy and governance, full integration of Unani Tibb into mainstream healthcare remains a work in progress, calling for continued policy reform and institutional collaboration[29, 30] (Hoosen *et al*, 2023)

## Malaysia

In Malaysia, Unani medicine is regulated within the broader framework for Traditional and Complementary Medicine (T&CM) under the supervision of the Ministry of Health. The Traditional and Complementary Medicine (T&CM) Blueprint 2018–2027 provides the strategic direction for integrating traditional systems into the national healthcare system. Through this framework, the government aims to strengthen governance, improve quality and safety of services and products, promote professional development and encourage the scientific validation of Unani therapies, ensuring their safe and effective use.[31] With the enforcement of the Traditional and Complementary Medicine Act 2016 (Act 775), practitioners are required to be registered and adhere to specific professional guidelines. The practice of Unani Medicine is officially recognised under this Act. This legislative framework represents a significant milestone in the formalisation of traditional medical practices in the country. The Act serves to elevate the status of traditional and complementary medicine (T&CM), legalise and standardise its therapeutic methodologies, and enhance public confidence in its safety and efficacy.

Individuals intending to practice T&CM in any of the recognised practice areas, including Unani Medicine, are required to apply for provisional registration with the Traditional and Complementary Medicine Council. This involves submitting a prescribed application form to the Registrar. Upon provisional registration, practitioners must complete a mandatory residency period of not less than one year at a hospital or institution approved by the Council. This residency is intended to ensure clinical competency and adherence to the professional standards established under the Act. [32]

The governance of medicinal materials and products is managed through stringent quality control and registration processes under the National Pharmaceutical Regulatory Agency (NPRA), ensuring the safety and efficacy of T&CM products in the market.[33]

The regulations for Education and Training in T & CM aim to standardise academic and skills-based qualification pathways by accrediting institutions and ensuring curriculum alignment with national healthcare goals. Research in T & CM emphasises the integration of scientific inquiry into T&CM to build an evidence base that supports clinical practice and policy development. This includes collaborative research initiatives and funding for studies aimed at validating

**Table 3: Recognised Practice Areas Under the T&CM Act 2016**

| | |
|---|---|
| 1 | Traditional Malay medicine |
| 2 | Traditional Chinese medicine |
| 3 | Traditional Indian medicine -Ayurveda, Unani Medicine, Siddha, Yoga & Naturopathy |
| 4 | Homeopathy |
| 5 | Chiropractic |
| 6 | Osteopathy |
| 7 | Islamic medical practice |

***Source:*** The T&CM Act 2016.

traditional therapies and understanding their mechanisms.[34]

The Guidelines for Traditional and Complementary Medicine (T&CM) Healthcare Facilities and Services in Malaysia, published by the Ministry of Health Malaysia, serve as a comprehensive framework to ensure the safe, effective, and standardised delivery of T&CM services nationwide. These guidelines provide detailed protocols for the establishment, operation, and management of T&CM facilities, emphasising compliance with regulatory standards, practitioner qualifications, and patient safety measures. They are designed to assist T&CM practitioners and facility owners in aligning their services with national healthcare objectives, thereby promoting the integration of traditional practices within the broader Malaysian healthcare system.[35]

As of recent reports, selected T&CM services are integrated into 15 Hospitals of the Ministry of Health across the country, providing patients with access to complementary therapies alongside conventional medical treatments. Additionally, the provision of Traditional Postnatal Services is widespread, with 133 health clinics and 87 rural clinics offering these services.

## The United States

In the United States, the regulation of traditional medicine, including Unani practices, varies significantly across states. In the majority of states, there are no specific licensing requirements or regulatory frameworks exclusively governing traditional medical systems. However, a number of states—including California, Idaho, Minnesota, New Mexico, and Rhode Island- have enacted "Health Freedom Acts" that provide a legal framework for the practice of complementary and alternative medicine by unlicensed practitioners. These laws protect traditional medicine practices, provided they remain within defined boundaries and do not infringe upon the legally protected scope of practice of licensed health care professionals.

While these laws do not formally define a scope of practice for traditional medicine, certain activities remain restricted. For instance, the use of the title "Doctor" is legally reserved for licensed practitioners in medicine, osteopathy, chiropractic, or naturopathy. Additionally, diagnosing medical conditions using conventional biomedical terminology or interfering with the treatment plans prescribed by licensed physicians is generally prohibited. Unani practitioners may offer services within the permissible scope under these provisions. One prominent Unani therapy, Hijama or cupping therapy, has gained widespread popularity in the U.S. (Cohen and Eisenberg, 2002).

## Canada

In Canada, the regulation of traditional medicine varies by province, as healthcare is governed at the provincial level. There is no federal licensing framework specifically for traditional systems of medicine such as Unani; however, various complementary and alternative health practices are permitted under provincial legislation, provided they do not contravene regulated health acts. Unani practitioners can legally practice in Canada and often register as Holistic Practitioners, particularly in provinces like Ontario where such practitioners are recognised within the scope of complementary healthcare.

Holistic practitioners typically operate within wellness or holistic centres and provide a range of therapeutic services, including Unani treatments. Although formal licensing is not mandated across all provinces, it is essential for Unani practitioners to register with local or provincial holistic health boards—especially in Ontario—to ensure compliance and professional legitimacy.[36, 37, 38]

## Australia

In Australia, there are currently no statutory regulations prohibiting individuals from practicing traditional medicine systems, including Unani. However, only certain complementary health professions—such as Chinese medicine, chiropractic, and osteopathy—are regulated under the Australian Health Practitioner Regulation Agency (AHPRA) through national boards. Traditional medicine practitioners not governed by AHPRA can still legally practice, provided they do not engage in protected medical acts, make unfounded health claims, or misrepresent themselves as registered medical professionals. For Unani and similar systems, it is advisable for practitioners to become members of a professional body such as the Traditional Medicine Society of Australia or the Australian Traditional Medicine Society (ATMS). These associations offer accreditation, professional development, and advocacy, enhancing both practitioner credibility and public trust.[39, 40, 41]

## Mauritius

Mauritius recognises Unani medicine as part of its traditional medical systems. The practice is governed by the Traditional Medicines Act, formerly known as the Ayurvedic and Other Traditional Medicines Act of 1989.[42] This legislation provides for the registration and regulation of practitioners in traditional medicine systems, including Unani, Ayurveda, Homoeopathy, and Chinese medicine. The Traditional Medicine Board (TMB), operating under the Ministry of Health and Wellness, oversees the registration and discipline of traditional medicine practitioners. While Ayurveda has been integrated into the public health system since 1998, Unani medicine is primarily practised in the private sector. To practice Unani Medicine in Mauritius, Unani practitioners are required to register with the TMB to legally offer their services and adhere to the regulations set forth in the Traditional Medicines Act.[43]

India has signed an MoU with Mauritius on cooperation in the field of the traditional system of medicine and Homoeopathy.[44] It envisages exchange of experts, supply of traditional medicinal substances, joint research and development and recognition of the traditional systems of health and medicine in both countries. It also aims at promoting and popularising various Indian traditional systems which fall under Ayush.

## The United Kingdom

In the United Kingdom, Unani medicine is legally permitted to be practised; however, it is not subject to statutory regulation. Unani medicine falls under the broader category of Complementary and Alternative Medicine (CAM) in the UK. Except for chiropractic, there is no statutory professional regulation for CAM treatments in the UK. Anyone can legally practice Unani medicine, regardless of formal qualifications or experience. Practitioners are not legally required to adhere to specific standards of practice or to join any professional association or register.

Several types of Complementary and Alternative Medicine (CAM) are supported by voluntary registers, some of which are accredited by the Professional Standards Authority for Health and Social Care (PSA). These registers or professional associations offer practitioners the option to join, typically requiring specific qualifications and a commitment to uphold defined standards of practice.

PSA-accredited voluntary registers include organisations such as:

- The British Acupuncture Council
- The Complementary and Natural Healthcare Council
- The International Federation of Aromatherapists

Accreditation by the PSA signifies that these organisations meet rigorous standards designed to support public confidence and help individuals make informed choices when selecting a qualified CAM practitioner.[45]

The Medicines and Healthcare products Regulatory Agency (MHRA) oversees the regulation of medicinal products in the UK. Herbal products, including those used in Unani medicine, are subject to the Human Medicines Regulations 2012. Products must meet standards of safety and quality, and traditional herbal medicinal products are required to demonstrate plausible efficacy alongside other criteria.[46]

## Conclusion

As seen above, the unani medicine has a global presence. Being one of the oldest traditional medicine system, it has established itself in various regions, imbibing the cultural context of that area. Moreover, Unani Medicine's recognition and institutional support vary globally. South Asia serves as a prominent hub for Unani medicine, due to the region's rich cultural and historical ties to traditional healing systems and its abundant biodiversity of medicinal plants. Countries such as India, Bangladesh, Sri Lanka, Iran, Malaysia, South Africa and Mauritius have integrated Unani medicine into their national healthcare strategies, acknowledging its contribution to public health and its potential in addressing contemporary health challenges. Institutional recognition has further been solidified through the establishment of educational institutions, regulatory bodies, and formal inclusion in public health policies and programmes. Countries like Uzbekistan are reviving and a resurgence in traditional medicine has been observed to build trust in public with the help of methods similar to Unani practices. Tajikistan is enhancing its traditional medicine through international collaborations. Although the practice of traditional medicine is not regulated-through legal provisions in countries like the USA, Canada, Australia, and United Kingdom, they have provided enabling provisions for all traditional medicine practices, including Unani medicine.

This highlights the resurgence of interest in traditional medicine practices due to its holistic and people-centric approach and efforts of various countries to provide regulatory provision for its safe practice.

**Endnotes**


1. WHO traditional medicine strategy: 2014-2023. Available at: https://www.who.int/publications/i/item/9789241506096
2. https://pib.gov.in/PressReleasePage.aspx?PRID=2101306
3. https://www.who.int/news/item/25-03-2022-who-establishes-the-global-centre-for-traditional-medicine-in-india
4. World Health Organization, 2019. WHO Global Report on Traditional and

Complementary Medicine 2019. Geneva: WHO. Available at: https://apps.who.int/iris/handle/10665/312342

5 Iran University of Medical Sciences | IUMS Schools. Available at: https://en.iums.ac.ir/IUMS-Schools/School-of-Persian-Medicine

6 Persian Medicine / About Persian Medicine Department | Isfahan University of Medical Sciences. Available at: https://mui.ac.ir/en/school-med/about-persian-medicine-department

7 Tehran Times. Eight faculties of traditional medicine operating in universities. Available at: https://www.tehrantimes.com/news/478435/Eight-faculties-of-traditional-medicine-operating-in-universities

8 Department of Health, Abu Dhabi. Requirements and Considerations for TCAM. Available at: https://www.doh.gov.ae/en/pqr/tcam

9 The Official Portal of the UAE Government. Alternative Medicine. Available at: https://u.ae/en/information-and-services/health-and-fitness/alternative-medicine

10 Health Insurance for UAE Complementary and Alternative Therapy Market Size, Share and Trends Analysis Report by Treatment (2024–2030). Available at: https://www.researchandmarkets.com/reports/6009939/health-insurance-uae-complementary-alternative?utm_source=GNE&utm_medium=PressRelease&utm_code=l4x7jg&utm_campaign=2015400+-+UAE+Health+Insurance+for+Complementary+and+Alternative+Therapy+(Physiotherapy%2c+Homeopathy%2c+Ayurveda%2c+Naturopathy%2c+Psychology%2c+Chiropractic%2c+Acupuncture%2c+Osteopathy)+Market+Analysis+Report+2024-2030&utm_exec=chdomspi

11 https://old.dghs.gov.bd/index.php/en/component/content/article?id=456

12 http://dgme.teletalk.com.bd/

13 http://bdcode.gov.bd/upload/bdcode-act/2020-11-18-17-29-02-660_Ordinance_No_XXXII_of_1983_fin.pdf

14 http://app.mohfw.gov.bd/index.php?option=com_content&view=article&id=74&Itemid=92&lang=en

15 Bangladesh Unani and Ayurvedic Practitioners Ordinance 1983. Available at: http://bdlaws.minlaw.gov.bd/act-details-645.html

16 https://iris.who.int/bitstream/handle/10665/208214/9789290617051_eng.pdf?sequence=1&isAllowed=y

17 World Health Organization (WHO), 2014. WHO Global Report on Traditional and Complementary Medicine.

18 Directorate General of Drug Administration (DGDA), 2015. Unani QC Test Criteria. Available at: https://www.dgdagov.info

19 https://ayurveda.gov.lk/national-policy-for-traditional-medical-systemstms-of-srilanka2023-2033/

20 https://pmc.ncbi.nlm.nih.gov/articles/PMC1045871

21 Code of health care of the Republic of Tajikistan. Available at: https://cis-legislation.com/document.fwx?rgn=97585

22 Law of the Republic of Tajikistan , About traditional medicine. Available at: https://cis-legislation.com/document.fwx?rgn=8295

23 https://www.tajmedun.tj/en/news/university/forum-on-cooperation-and-exchange-of-experience-between-tajikistan-and-china-in-the-field-of-traditi/?

24 National Health Insurance (NHI) Bill - Parliament of South Africa Retrieved from https://www.parliament.gov.za/project-event-details/5

25 Allied Health Professions Council of South Africa (AHPCSA), 2024. CPD Guidelines 2024–2025. Available at: https://ahpcsa.co.za

26 Republic of South Africa, Department of Health, 2017. National Health Insurance Policy: Towards Universal Health Coverage. Available at: https://www.health.gov.za

27 Ibn Sina Institute of Tibb. (2024). About Us. Available at: https://tibb.co.za/

28 BCM Complementary Medicine: Unani Tibb | UWC, 2025. Available at: BCM Complementary Medicine: Unani Tibb | 2025 | UWC.

29 South African Department of Health, 2024. Ethics in Health Research: Principles, Processes and Structures (3rd ed.). https://www.health.gov.za/wp-content/

uploads/2024/05/NDoH-2024-Health-Research-Guidelines-3rdEdition-v0.1.pd

30 World Health Organization, 2004. Traditional Medicine in Asia. https://apps.who.int/iris/bitstream/handle/10665/206025/B0104.pdf

31 Ministry of Health Malaysia, 2020. Traditional and Complementary Medicine Blueprint 2018–2027. https://hq.moh.gov.my/tcm/ms/upload/TCMBlueprint_HealthCare.pdf

32 Traditional and Complementary Medicine Act 2016 (Act 775). Laws of Malaysia. Published by the Commissioner of Law Revision, Malaysia under the Authority of the Revision of Laws Act 1968. Available at: https://www.moH.gov.my

33 National Pharmaceutical Regulatory Agency (NPRA), 2021. Regulatory Control of Natural Products. https://www.npra.gov.my/index.php/en/guidelines-for-natural-products.html

34 Ministry of Health Malaysia, 2022. Annual Report: Traditional and Complementary Medicine Division. Available at: https://hq.moh.gov.my/tcm/en/index.php/annualreport

35 Official portal of traditional and Complementary Medicine division, Malaysia https://hq.moh.gov.my/tcm/en/

36 Public Health Agency of Canada, 2020. Complementary and Alternative Health Care in Canada. Available at: https://www.canada.ca

37 Canadian Association of Natural Nutritional Practitioners (CANNP), 2023. Becoming a Holistic Practitioner in Ontario. Available at: https://www.cannp.ca

38 Toronto, Holistic practitioner (https://www.toronto.ca/services-payments/permits-licences-bylaws/holistic-centre-and-practitioner-reikki-aromatherapy-or-massage-therapy/holistic-practitioner/ )

39 AHPRA (Australian Health Practitioner Regulation Agency), 2023. Regulation of Health Professions. Available at: https://www.ahpra.gov.au

40 Australian Traditional Medicine Society (ATMS), 2024. About Us. Available at: https://www.atms.com.au

41 Therapeutic Goods Administration, 2022. Regulation basics for complementary medicines. Available at: https://www.tga.gov.au

42 https://health.govmu.org/health/wp-content/uploads/2023/03/AYURVEDIC-AND-OTHER-TRADITIONAL-MEDICINES-ACT-1990.pdf

43 https://health.govmu.org/health/wp-content/uploads/2024/09/AYURVEDIC-SERVICES-DOCUMENT.pdf

44 https://www.pmindia.gov.in/en/news_updates/memorandum-of-understanding-on-cooperation-in-traditional-systems-of-medicine-and-homoeopathy-between-india-and-mauritius/

45 https://www.nhs.uk/conditions/complementary-and-alternative-medicine/

46 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/872742/GN8_FINAL_10_03_2020__combined_.pdf

## References


Abduraimov, O.S., Li, W., Shomurodov, H.F. and Feng, Y. 2023. The main medicinal plants in arid regions of Uzbekistan and their traditional use in folk medicine. Plants (Basel), 12(16), p.2950. doi:10.3390/plants12162950. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10458710/

Ahmed, F. and Javed, G. 2022. Unani Medicine – An Overview of Indian Scenario and Prospects for Globalisation. *Traditional Medicine Review*, 2(2), October, pp.41-51. Available at https://fitm.ris.org.in/index.php/en/journals-n-newsletters/traditional-medicine-review

Alshamsi, A.I. 2024. A review of the United Arab Emirates healthcare systems on medical tourism and accreditation. *Frontiers in Health Services*, 4, p.1329252. https://doi.org/10.3389/frhs.2024.1329252. Available at: https://pmc.ncbi.nlm.nih.gov/articles/PMC10915079/

Azimov, K. 2022. The history of the Unani medicine in Central Asia. *International Journal of Multidisciplinary Research and Analysis*, 4, pp.473–476. Available at: https://www.researchgate.net/publication/360805786_The_History_og_the_Unani_Medicinein_Central_Asia

Cohen, M.H. and Eisenberg, D.M. 2002. Potential physician malpractice liability associated

with complementary and integrative medical therapies. *Annals of Internal Medicine*, 136(8), pp.596–603. https://doi.org/10.7326/0003-4819-136-8-200204160-00011

Ekanayake, P.R. and Wanniarachchi, I. 2022. Historical pathway of medical pluralism in Sri Lanka. *Sabaragamuwa University Journal*, 7. Available at: https://fim.cmb.ac.lk/about-unani-section/

Hoosen, M., Roman, N.V., Mthembu, T.G. and Naseer, M. 2023. Unani Tibb practitioners' perceptions and attitudes towards spirituality and spiritual care in Unani Tibb practice in South Africa. *BMC Complementary Medicine and Therapies*, 23, pp.1–10. https://doi.org/10.1186/s12906-023-04000-2

# Ayush Trade Between India and South Africa: Trends and Opportunities

Namrata Pathak* and Sanket Chavan**

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***Abstract:*** South Africa is the second-largest economy on the African continent and remains India's second-largest Sub-Saharan trading partnerIndia and South Africa also share a rich history of the use of traditional medicines in healthcare delivery. Both countries have made emphatic efforts towards integrative healthcare systems, which support utilisation of both modern and traditional medicines. While India has long ensured legislations and policies for mainstreaming of traditional medicine, pharmaceuticals and services, South Africa has made considerable progress in the last two decades to develop standards and guidelines for recognition of traditional healers and other complementary medicine systems, including Ayurveda. These complementarities, along with robust trade partnerships,have created a substantial space for bilateral cooperation in trade and capacity building of the sector. South Africa is already an important region for Ayush exports. The value of Ayush exports to South Africa was USD 16.47 million, constituting the largest share (22.07 per cent) of Ayush exports to Africa (USD 74.58 million) in 2023. This paperis an attempt to understand the regulatory framework of South Africa's Traditional and Complementary Medicine, trade between India and South Africa and prospect for Ayush.

## Introduction

Like other middle-income countries, South Africa also facing growing concern of non-communicable diseases (NCD) burden in South Africa. Rising NCDs like ischemic heart disease, respiratory infections, diabetes and cardiovascular diseases are some important epidemiological challenges prevailing in the country besides the communicable disease burden of HIV/AIDS. South Africa's evolving demographic and epidemiological profile has been creating opportunities for pharmaceutical companies, especially those that manufacture treatments

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for noncommunicable diseases.[1] It is the largest pharmaceuticals market of Sub-Saharan Africa, although it relies heavily on pharmaceutical imports to meet domestic demand for certain medicines. India has a visible presence in pharmaceuticals imports in South Africa. South Africa imported 29.05 per cent of all its pharmaceuticals (under HS Chapter 30) from India in 2023, followed by Germany (10.43 per cent), Belgium (10.29 per cent). A government initiative to support the domestic industry places pharmaceutical manufacturing units with a local presence at an advantage. Some Indian firms like Cipla,[2] Sun Pharma[3] and Lupin[4] have adopted market entry strategies by setting up units in South Africa, to counter this competitive advantage enjoyed by local drug makers.

South Africa is the second-largest economy in Africa[5] and the main market and source of manufactured goods for neighbouring countries[6] in the region. It has for long been considered the 'gateway to Africa' (Scholvin and Draper, 2012) It is well integrated into the regional economic infrastructure through the Southern African Development Community (SADC) and the Southern African Customs Union (SACU) agreement with Botswana, Namibia, Lesotho, and eSwatini (Swaziland). Hence, exporters often look to South Africa as a launching platform to enter the other African markets.

## Prevalence of Traditional Health Practices and Alternative/ Complementary Medicine Practices

There are roughly speaking about 200,000 practitioners of traditional medicine in South Africa.[7] Gqalenii *et al*. (2007) estimate 185,477 traditional health practitioners (THPs) in South Africa affiliated to approximately 100 organisations. However, while traditional medicine usage is high, claims of more than 70 per cent usage by the WHO haveoften been contested. The 2003 South Africa Demographic and Health Survey, published by the South African Medical Research Council and the Department of Health,[8] reported that 5.2 per cent of respondents had sought care from a traditional healer and 6 per cent reported to have sought care from a faith healer. 38.6 per cent consulting with a public health facility, further 29.7 per cent consulting with a private health facility and 12.3 per cent consulted a pharmacist.[9] Despite these counter arguments, it cannot be denied that the assistance of the traditional healers has been embedded in the health seeking practice of South Africa. Besides the role of THPs, the

**Table 1: Registered Complementary Medicine Practitioners in South Africa**

| System | No. of registered practitioners |
|---|---|
| Acupuncture | 65 |
| Ayurveda | 16 |
| Traditional Chinese Medicine | 168 |
| Homeopathy | 565 |
| Naturopathy | 92 |
| Phytotherapy | 41 |
| Unani Tibb | 70 |

***Source:*** Allied Health Professions Council of South Africa, 2014.[10]

use of other traditional and alternatives medical practices is also prevalent. It was estimated that, 1 to 19 per cent of the South African population uses Traditional and Complementary Medicines (T&CM) practices, including Ayurvedic medicine, accupuncture, chiropractic, herbal medicines, homeopathy, naturopathy, osteopathy, traditional Chinese medicine, Unani medicine and other practices such as therapeutic aromatherapy, therapeutic massage therapy and therapeutic reflexology (AHPCSA, 2010). The rising wellness movement worldwide is also reason for attracting consumers towards complementary medicine systems in South Africa.

### Significance of Indian Origin Community in South Africa

Around one million which is about three per cent of South Africa's total population is the Indian origin.[11] With a comparatively higher standard of living and purchasing power being aided by a lower level of poverty (6 per cent in 2017)[12], the community may be inferred to be driving demand for India's Ayush exports to South Africa.

## India's AyushTrade with South Africa: Trends and Patterns

Traditional medicine in India and South Africa plays an important role in the economic development of the respective countries. Both countries are also endowed with a comparative advantage of biological resources. With medicinal plants often forming the key raw material for traditional medicines, the vast reserves of biological diversity in both countries serve as critical sources of medicinal plants. These also constitute a component of the export basket of the two countries. India has established strong footprints in the traditional medicine trade with South Africa and enjoys a trade surplus. However, South Africa's exports of some commodities such as medicinal plants havebeen rising over the years. A key feature of India's Ayush exports to South Africa is that they have been aligning with the vertical value chain process, particularly in the herbal pharmaceutical sector would steer the export performance of the Indian herbal medicinal exports in the coming years. Despite its impressive growth, Ayush exports have been an overlooked sector, holding tremendous potential for growth. Although broadly there have been indications of an increase in exports of Ayush products from India, quantification of the volume and value of exports of Ayush products is difficult due to a lack of proper and complete identification of HS product codes. There are different forms of products that constitute the Ayush export basket, ranging from drugs, herbs, extracts, cosmetics and nutraceuticals. Some products from HS Chapters 12, 13, and 30 that can be classified under the Ayush basket can be analysed. The exports ofthese Ayush products reported an increasing trend in terms of the volume. It should be noted that in the present analysis, specific focus has been given on plant raw materials (classified under Chapter 12), extracts (Chapter 13) and Ayush pharmaceuticals (Chapter 30). Ayush products are also consumed in the form of nutraceuticals, food supplements, spices and cosmetics, and they go via HS chapters 21, 29, etc. However, it is challenging to separate out Ayush components from those Chapters due to the lack of define codes. Hence, the present estimate may understate the actual exports of India to South Africa in Ayush products.

## South Africa's share in Ayush Exports to Africa

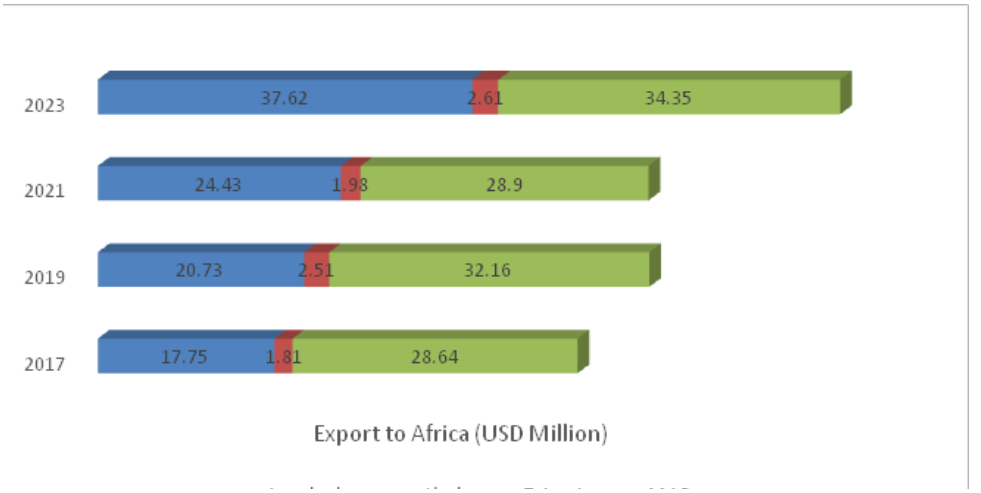
In 2023, India's total Ayush exports to worldwide amounted to USD 1.02 billion, with exports to Africa reaching USD 74.58 million, representing 7.3 per cent of India's global exports. However, the sectoral breakdown reveal thatAyush pharmaceuticals'dominate exports to Africa. In 2023, Ayushmedicants and medicaments exports to Africa contribute 18.73 per cent of India's global Ayush pharmaceuticals exports. MAPs exports were 7.89 per cent of global exports, while extracts exports to Africa are negligible at 0.61 per cent. In 2023, Ayush pharmaceuticals made up the majority of India's Ayush exports to Africa, accounting for 50.44 per cent with MAPs following closely at 46.06 per cent and Extractsrepresented a smaller share of 3.50 per cent of total Ayush exports to Africa.

India maintains a robust trade relationship with South Africa, marked by both exports and imports, though the balance favors India with a trade surplus. South Africa accounted for the largest portion of India's exports to Africa, at 22.07 per cent, in 2023. From 2017 to 2023, exports to South Africa grew at a compound annual growth rate (CAGR) of 11.26 per cent.

## Composition of Ayush Export Basket: Surging Pharmaceutical Exports

Figure 1 illustrates that, all sub-component of Ayush exports have shown a consistent growth over the studied period. This includes the abnormal period of the COVID pandemic. In 2023, Ayush pharmaceuticals contributed 57.44 per cent of the total Ayush exports. Medicinal plants being a key sub-sector of Ayush, accounted for 35.22 per cent of total Ayush exports to South Africa followed by extracts at 7.35 per cent. However, MAPs exports have grown at a modest rate of 0.80 per cent between 2017 and 2023, whereas Ayush pharmaceuticals experienced the highest CAGR of 25.95 per cent. Although the share of extracts declined in 2021, it rebounded and has grown at a CAGR of 7.35 per cent from 2017 to 2023. This suggests that India's exports are increasingly focused on higher-value finished goods rather than raw materials.

**Figure 1: Ayush Exports from India to Africa (in USD Million)**




*Source:* Authors' compilation based on Directorate General of Commercial Intelligence and Statistics (DGCI&S)

### Trends in Ayush Pharmaceuticals Exports

In 2023, Ayurveda dominates the total Ayush pharmaceuticals exports to Africa accounting for 96.89 per cent, followed by Homoeopathy and Unani medicines. A similar trend was seen in the case of South Africa, where Ayurvedic medicine accounts for nearly 99 per cent of India's total AYUSH exports. However, Unani medicines exports have increased withCAGR of 15.16 per cent between 2017 and 2023. Manufacturers of Unani, Siddha, and Homeopathy medicines could explore strategic marketing opportunities to capitalize on the significant growth potential of these products in the South African market.

### MAP Trade with South Africa

India maintains a vibrant trade in MAPs with South Africa. In 2023, India's MAP exports to South Africa were valued at USD 5.8 million, with exports growing at a CAGR of 0.80 per cent between 2017 and 2023.MAPs is also the dominant subs-sector in terms of imports, constituting more than 97 per cent of total India's imports in 2023, the rest being followed by extracts. Currently, imports of MAPs from South Africa are relatively small, accounting for only 1.62 per cent of total imports from the African region in 2023. However, imports of MAPs from South Africa have grown at a CAGR of 9.39 per cent from 2017 to 2023. Despite India having a trade surplus in MAPs, the increase in imports indicates that they are often classified under various HS codes in the "others" category, making it difficult to clearly assess the specific types of MAPs being imported.

South Africa's total exports of plant parts under HS-1211 have increased from USD 5.32 million to USD 13.48 million during 2013 to 2023 with CAGR of 9.74 per cent. In the same period, imports of these plant parts have grown from USD 3.06 million toUSD 3.75 millionwith a CAGR of 2.05 per cent.

## T&CM Regulatory Profile: Authorisation and Sale of Goods and Services

South Africa's regulation on T&CM is partly the same as for modern pharmaceuticals. However, the regulatory landscape is fast evolving with clear guidelines for complementary medicines. The South African Health Products Regulatory

**Figure 2: Ayush Exports from India to South Africa**

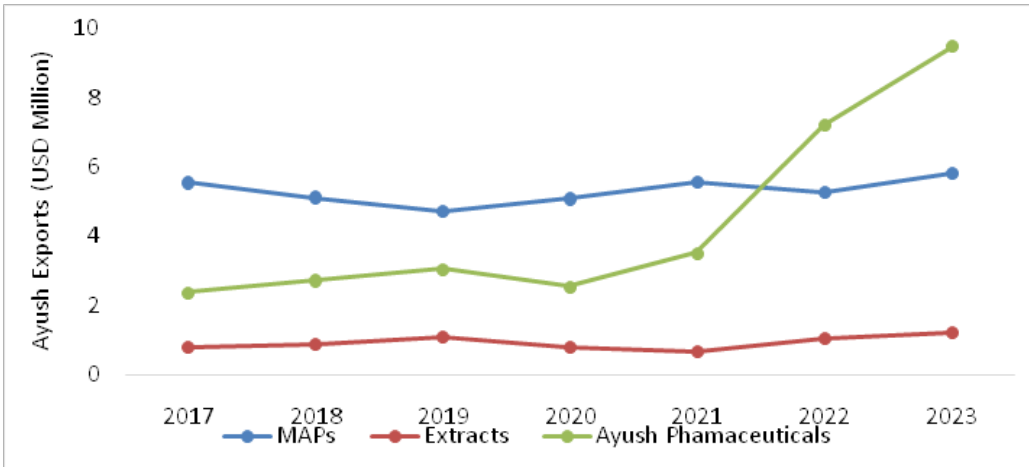


**Table 2: Ayush Pharmaceuticals Export to South Africa (in USD million)**

| Systems | 2017 | 2019 | 2021 | 2023 |
|---|---|---|---|---|
| Ayurveda | 2.33 | 2.62 | 2.97 | 2.44 |
| Unani | 0.03 | 0.09 | 0.03 | 0.05 |
| Siddha | 0 | 0 | 0 | 0 |
| Homoeopathy | 0.01 | 0.01 | 0.03 | 0.03 |

***Source:*** Authors' compilation based on Directorate General of Commercial Intelligence and Statistics (DGCI&S)

Authority (SAHPRA) is the regulatory authority for the T&CM medicine. Entering the market typically involves partnering with a well-established and experienced distributor, as participation in government tenders requires distributors and representatives to have robust Broad-Based Black Economic Empowerment (B-BBEE) credentials.[13]

## Legislation and Regulations for Complementary Medicines in South Africa

**Law:** The Medicines and Related Substance Act, 1965 (Act 101 of 1965) (referred to as "General Regulations")

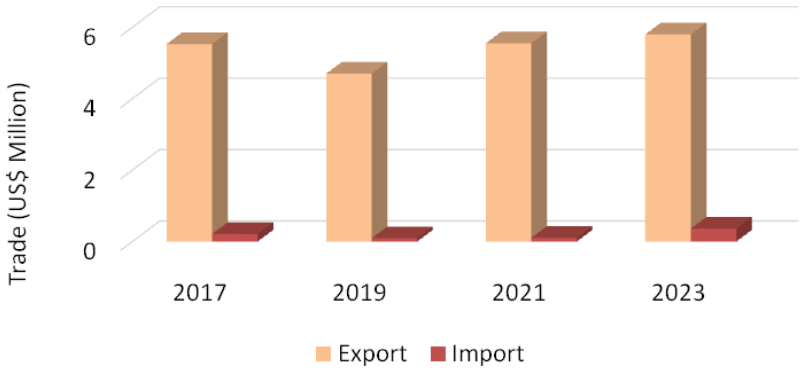
### *Registration/Authorisation body:* SAHPRA

The Medicines and Related Substance Act, 1965 (Act 101 of 1965) (referred to as "General Regulations"), by an amendment in 2013, established a new category (D), i.e. Complementary Medicines. The medicines which fall under this definition include 'Aromatherapy, Ayurveda, Homoeopathy, Traditional Chinese Medicine, Unani Tibb and Western Herbal Medicine',[14] as well as combination products. Guideline for registration of Complementary Medicines (Quality, Safety and Efficacy) that was initially introduceed in 2011 have undergone several revisions, the latest one being published in 2020.[15]

Some of the key conditions for registration include the following:

- Products are to be manufactured, imported, exported, wholesaled or distributed by a holder of a relevant licence;[16] However, while all entities involved in the manufacture, distribution, imports/exports of healthcare products must be get

**Figure 3: MAPs Trade Between India and South Africa**




***Source:*** Authors' compilation based on Directorate General of Commercial Intelligence and Statistics (DGCI&S)

licensed/registered by SAHPRA, only authorised representatives resident in South Africa may apply for registration of products.
- Products are specifically to be compliant with the requirements on false advertisement prevention under Section 20[17] and regulations on labelling of medicines intended for human use.[18]
- Labelling and claims to be made as per the clinical trials/studies data submitted. These are regulated based on the risks involved, where, for example, the labelling claims for high-risk medicines would include requirements of clinical data and indications supported by pharmacopoeia, monographs, historical texts or citations in reports.[19] For most Complementary medicines, indications would be based on low risk, which includes 'general health enhancement without any reference to specific diseases; Health maintenance; or relief of minor symptoms (not related to a disease or disorder)'.[20]

Based on the system of medicine, WHO monographs on selected medicinal plants, the German pharmacopoeia, the Chinese pharmacopoeia, the Ayurveda pharmacopoeia of India, the Unani pharmacopoeia of India, and the EU's European pharmacopoeia are permitted to be used as references.[21] The GMP regulations for conventional pharmaceuticals also apply to Complementary medicines.

## Legislation and Regulations T&CM Services in South Africa

**Laws:**

- Chiropractors, Homoeopaths and Allied Health Service Professions Second Amendment Act of 1982[22]
- Traditional Health Practitioners Act, 2007.[23]

**StatutoryRegulatory Body:**

- Allied Health Professions Council of South Africa (AHPCSA)
- Traditional Healers Council ( interim)

The national law on Complementary medicine practice is titled the Chiropractors, Homoeopaths and Allied Health Service Professions Second Amendment Act of 1982.[24] T&CM practitioners are regulated under this law. The Allied Health Professions Council of South Africa (AHPCSA), a regulatory body, which issues the licence required to practise. The South African Traditional Health Practitioners Act of 2007, recognises the THPs as part of the health care system. The Act defines a THP as individual who is registered under this Act at the South African Department of Health, to perform functions, activities, processes or services based on a 'traditional philosophy, which includes the utilisation of traditional medicine or traditional practice, as well as the physical or mental preparation of an individual for puberty, adulthood, pregnancy, childbirth, and death'.[25] The Act includes herbalists (*izinyanga or amaxhwele*), diviners (*izangoma* or *amagqirha*), traditional surgeons (*iingcibi*) who mainly do circumcisions, and traditional birth attendants (*ababelethisi or abazalisi*) under the THP category.[26] The THPs are, however, not institutionalised in South Africa into the mainstream primary health care systems, although an interim Traditional Healers Council as part of the Department of Health is in the process of being developed.[27]

Students of T&CM can obtain both bachelor's and master's degrees at the

university level. The Government also officially recognises a training programme for T&CM technicians or equivalent (not at university level). CM practices such as acupuncture, chiropractic, homoeopathic medicines, naturopathy and osteopathy are partially covered by private health insurance.[28]

## Traditional Knowledge Protection in South Africa

National Environmental Management: Biodiversity Act, 2004,[29] is the relevant legislation with regard to TK protection in South Africa. Additionally, the Patent Amendment Act 2005 (Act No.20 of 2005)[30] regulates patent disclosure with regard to TK. Bagley identifies the following four components in the South African framework for TK protection:

- Bio-prospecting and ABS laws and regulations regarding biological resources and associated indigenous traditional knowledge
- Collection, documentation and publication of TK
- IP protection through substantive patent examination and source of origin disclosure requirement
- Sui generis protection through a new bill.[31]

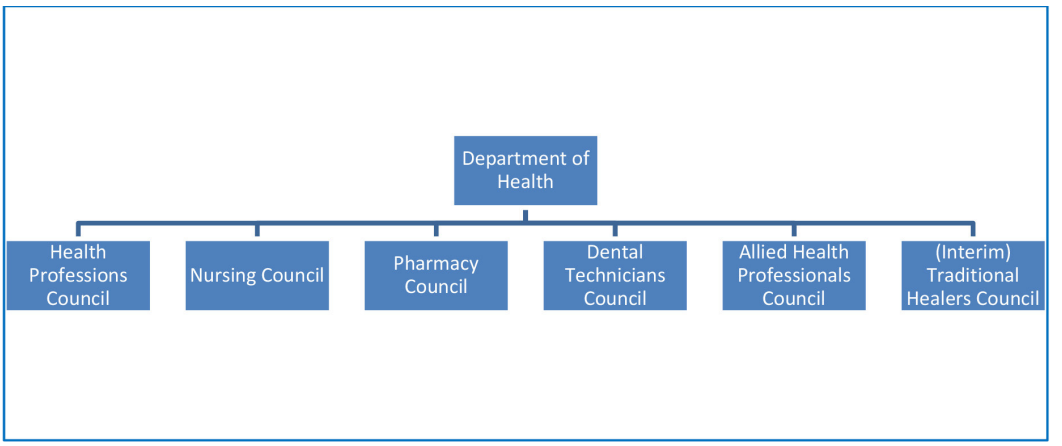
South Africa is also one of the countries that excludes essentially biological processes for the production of plants from the purview of IPRs. The South African Patents Act (57/1978) states that a patent will not be granted for any variety of plant, though new plant varieties are protected exclusively under the Plant Breeders' Rights Act (15/1976).[32] However, genetically modified plants could be subject matter under the Patents Act as they are not strictly classed as new varieties of plants.

The South AfricanBiodiversity Act No. 10 of 2004, along with other regulations and the National Biodiversity Strategy and Action Plan regulate ABS implementation in the country.[33] A new bill has been under discussion since 2013.

## Medicinal Plants Sector in South Africa

At present, over 2100 South African plant species are utilised for traditional medicine, of which a one third are commonly traded in the markets.[34] Both formal and informal medicinal plant

**Figure 4: Health Professional Councils under the Department of Health, South Africa**




***Source:*** Department of Health, South Africa

markets coexist. In different cultures of the region, herbal medicine is known by various terms: mushonga in Venda, sehlare in Sepedi, muthi in Zulu, and mayeza in Xhosa. (Mbendana *et al*., 2019). There is no available data on how many muthi shops are there in Africa, but it is developing as commercialised hub in South Africa. Business transactions and species variety are significantly greater in formal and muthi markets compared to informal street traders. Typically, raw herbal products are traded in informal and street markets, while processed herbal products are more common in formal and muthi shops (Ndou *et al*., 2019). Informal market traders source their products from the wild, whereas muthi traders obtain medicinal plants from farmers, the wild, and cooperatives. 74 per cent of informal trade is dominated by women, and 80 per cent of which belongs to rural areas.

Approximately 2,062 indigenous plant species, representing 10 per cent of the total flora, have been documented for use in alternative medicine (Williams *et al*., 2013), with an estimated consumption of 35 to 70 thousand tonnes ((Mander&Le Breton, 2006). Around USD 371.4 million per year income is estimated to be generated from the medicinal plants trade and their products, with a value of USD 74.25 million from medicinal plants trade (Mander *et al*., 2007;Van and Prinsloo, 2018). The provinces of KwaZulu-Natal, Gauteng, Eastern Cape, Mpumalanga, and Limpopo are key hubs for medicinal plant trade, accounting for 37 per cent of the total trade in South Africa (Williams *et al*., 2013).

Three major markets, Warwick Triangle and Ezimbuzini markets from Durban and Faraday market from Johannesburg, generate an estimated trade of US$ 3 million (Mpelangwa *et al*., 2021). In Durban, 1,500 tonnes of medicinal plants are traded annually. The annual trade in the Faraday market of Johannesburg is estimated to be 491 to 851 tonnes annually (Williams, 2003). Another important market is Limpopo province. Around 231 species are traded in muthi shops of Limpopo Province. (Moeng 2010). In Eastern Cape province, 166 medicinal plant species are traded annually with 525 tonnes of quantum and valued at around USD 2.35 million (Dold and Cocks, 2002).

Major medicinal plant speciessuch as Aloe ferox, Agathosma spp., Harpagophytumprocumbens, Pelargonium sidoides, Xysmalobiumundulatum, Glycyrrhiza spp., Origanum spp., Salvia spp., Euphorbia resinifera and Siphonochilusaethiopicus are exported by South Africa (Vashist&Kumar, 2004). Aloe ferox is considered South Africa's main wild-harvested export (Chen *et al*, 2012). From 2006 to 2015, Europe was the major export market, followed by the Americas and Africa, and the Gauteng province is the major supplier from South Africa (Department of Agriculture, Forestry and Fishery; South Africa, 2016). Due to a shortage in domestic supply, South Africa imports from neighboring countries, especially from Mozambique (Vashist and Kumar, 2004). South Africa's total exports of plant parts under HS-1211 raised to USD 13.48 million in 2023 from USD 5.32 million in 2013, with a 9.74 per cent CAGR. Conversely, imports of these plant parts totaled USD 3.75 million, up from USD 3.06 million during same period with a CAGR of 2.05 per cent.

For India, it may be of valuable to examine the commonly traded medicinal plants in both countries. Given the

challenges faced by the Ayush industry in securing a reliable supply of medicinal plants, exploring potential sourcing opportunities from South Africa may be a worthwhile consideration.

## Key Challenges in Market Authorisation for Ayush in South Africa

Fundamental weakness of South Africa is the country's regulatory aspect or

**Table 3: Common Medicinal Plants Traded in South African and Indian Markets**

| No | Family | Botanical Name | Part used | Medicinal uses | Common name in India |
|---|---|---|---|---|---|
| 1 | Acantaceace | *Asystasia gangetica* (L.) T.Anderson | Leaves | Blood pressure control | Lavana-valli |
| 3 | Apiaceae | *Foeniculum vulgar* Mill | Leaves | Cramp, Stomachache and arthitis | Saunf, Sonp |
| 4 | Apocynaceae | *Catharanthus roseus* (L.) G. Don | Roots, flower, seeds | High Blood Pressure | Sadabahar, Nayantara |
| 5 | Acoraceae | *Acorus calamus* L. | Root | Tuberculosis | Bach |
| 6 | Asphodelaceae | *Taraxacum officinale* (L.) Weber ex F.H. Wigg | Flowers, leaves, roots, whole plant | Tuberculosis | Dulal, Barau |
| 7 | | *Matricaria chamomilla* L. | Flower, leaves | diphtheria and Tuberculosis | Babunphul |
| 8 | | *Lactuca sativa* L. | Whole plant | Tuberculosis | Kahu, Salad |
| 9 | Brassicaceae/ Capparaceae | *Capparis sepiaria* L. var. subglabra (Oliv) DeWolf | Roots | Protection from lightning and nose bleed | Kaliakara (Ben.) |
| 10 | Cannabaceae | *Trema orientalis* (L.) Blume | Leaves and fruit | bacterial pneumonia | Indian Nettle tree, jivan |
| 11 | Chenopodiaceae | *Chenopodium ambrosioides* L. | Leaves | bacterial pneumonia | Khatua |
| 12 | Euphorbiaceae | *Ricinus Communis* L. | Leaves, seeds and fruit | Pain, stomachache, headche | Erandi |
| 13 | Fabaceae | *Acacia nilotica* (L.) Delile | Root | Tuberculosis | Kirkar, Babula |
| 14 | | *Arachis hypogaea* | Leaves, seed | Blood pressure control | Mung-phali |
| 15 | | T*rifolium pratense* L. | Flowers | Tuberculosis and Cough | Trepatra, Chit-batto (Punjab), Red clover (English) |
| 16 | | *Indigofera tinctoria* L. | Flowers | Whooping cough | Nil, Nilika |
| 17 | | *Dichrostachys cinerea* (L.) Wight &Arn. | Leaves and roots | Tuberculosis and bacterial pneumonia | Kheri, Vartuli |
| 18 | | *Pelargonium graveolens L'Herit.* | Leaves | Tuberculosis | Rose-Scented Geranium |
| 19 | Lamiaceae | *Mentha aquatic* L. | Leaves, stem, seed | High blood pressure | Water Mint (Eng.) |

*Continued...*

*Continued...*

| | | | | | |
|---|---|---|---|---|---|
| 20 | | *Mentha longifolia* (L.) Huds. | Leaves, stem, | High blood pressure,TB, whooping cough and diphtheria | Jungli pudina |
| 21 | | *Thymus vulgaris* L. | Leaves | Whooping cough | Thyme |
| 22 | | *Thymus serpyllum* L. | Leaves and flowers | Whooping cough | Banajwain |
| 23 | Lauraceae | *Cinnamomum Camphora* (L.) Sieb. | Gum | | Kapur |
| 24 | | *Cinnamomum verum J. Presl.* | Leaves. Essential oil | Tuberculosis , bacterial pneumonia | Dalchini |
| 25 | Moraceae | *Ficus carica* L | Leaves and roots | diphtheria | Anjir |
| 26 | Myrtaceae | *Eucalyptus globulus* Labill. | Leaves | Tuberculosis and diphtheria | Yukeliptas, Eucalyptus |
| 28 | Rosaceae | *Prunus persica* (L.) Batsch | Leaves | Whooping cough | Aru, Shaftalu |
| 29 | | *Prunus cerasus* L | Leaf | Tuberculosis | Alubalu |
| 30 | Solanaceae | *Withaniasomnifera* (L.) Dunal | Root | Tuberculosis | , Ashwagandha |
| 31 | | *Solanum nigrum* L. | Leaves | Tuberculosis | Makoi |
| 32 | | *Datura stramonium* L. | Leaves | Backache, headache | Dhatura |
| 33 | Sapindaceae | *Dodonaea viscosa* (L.) Jacq. | Leaves, twigs | Tuberculosis and diphtheria | Sanatta, Sinatha |

***Source:*** Pathak and Chavan (2025).

uncertain regulatory policies and slow approval process. Decision-making by provincial bodies in South Africa hasa large degree of variation, thereby affecting the medicines available on state-level formularies.[35] In order to adapt to this business environment, strategies aimed at regional and provincial-level authorisation institutions would have to be designed. Further, while entering into market requires nominating a reputable and experienced distributor, in order to participate in Government-issued tenders, distributors and representatives must have strong Broad-Based Black Economic Empowerment (B-BBEE) credentials.[36]

## Prospects for Ayush: Way Forward

- *Major market for Ayush in Africa:* South Africa held the largest share of Indian Ayush exports (22.07 per cent) to Africa in 2023. The noteworthy point is that,during 2023 Ayush pharmaceuticals export to Africa accounted 18.73 per cent of India's global Ayush pharmaceuticals exports, highlighting the growing demand of Ayush pharmaceuticals in Africa. The country is, therefore, strategically important for Ayushas it could act as a gateway to entry into other countries in the Africa region. Therefore, exploring bilateral collaboration with South

Africa within the broader traditional medicine sector could enhance Ayush's growth potential across the African continent too.

- *Opportunities for growth in export of Unani, Homoeopathy and Siddha:* In 2023, Ayurveda pharmaceuticals have dominated Ayush pharmaceuticals exports to South Africa with 99.15 per cent of total exports in 2023, followed by Homoeopathy and Unani medicines. Though the share of Unani medicine is less,but over the period from 2017 to 2023 it has grown by impressive CAGR of 15.16 per cent. It may be a single that, there is a growing market for Unani, Siddha and Homoeopathy pharmaceuticals, which are yet to be tapped.

- *Opportunities for trade in medicinal plants:* In both the countries, over 32 medicinal plants species are common in usage and tradein domestic markets. Considering the concern of sustainable supply of medicinal plants and the rising Indian Ayush sector, opportunities for sourcingedicinal plants from South Africa may be explored. Currently, India's imports of MAPs and extracts from South Africa are relatively small, amounting to USD 0.36 million in 2023. However, it is promising to note that imports of MAPs have grown at a CAGR of 9.39 per cent from 2017 to 2023. While the trade balance in MAPs still favors India, with exports valued at USD 5.8 million in 2023, growth has been modest, at CAGR of 0.80 per cent from 2017 to 2023. This demonstrates the possibility of a dynamic trade relation with South Africa, one that benefits both countries.

- *Indian community a market linkage asset:* Again, the Indian origin population in South Africa which is around one million and constitutes a share of about 3 per cent of South Africa's population.[37] It is the flag bearer for promoting Ayush, driving the consumption, sales, and advocacy of Ayush systems in South Africa. More than 15 centres of Ayurveda (in varying scales) operate in South Africa at the moment. Exports of Unani medicines have also grown substantially over the period from 2017 and 2023 with CAGR of 15.16 per cent. Market entry for Ayush requires regulatory requirements of authorised representatives resident in South Africa. The Indian origin community in South Africacan be leveraged to facilitate easier access to the aforementioned requirements.

- *Well defined laws and regulations for allied health products and services:* The regulatory environment is rapidly changing, with clear guidelines now in place for complementary medicines. This category is specifically regulated by the South African Health Products Regulatory Authority (SAHPRA), which is responsible for its registration and evaluation. Entry into the market usually requires appointing a reputable and experienced distributor, in order to participate in Government issued tenders; distributors and representatives must have strong Broad-Based Black Economic Empowerment (B-BBEE) credentials.[38] Similarly,practitioners of traditional and complementary practices are regulated under this law. The Allied Health Professions Council of South Africa (AHPCSA), a authorised body to issue the licence required to practise. The use of health

practitioners may be harnessed for the growth of Ayush in South Africa.

- *Research Initiatives/collaborations:* Bilateral co-operations often function as a gateway to larger cooperation initiatives. Research cooperation is one such area.South Africa contributes the majority of collaboration output with India and it is also playing an significant role as an intercontinental collaborating partner. The National Reference Centre for African Traditional Medicine for African Traditional Medicines (NRCATM), established in SA in collaboration with CSIR, India and Medical Research Council, UK, is one such initiative. However, it is not known if Ayush-related collaborative research has been initiated with South Africa. This may be considered as a part of Ayush's broader outreach on health and science-related development cooperation with South Africa.

**Endnotes**

1 Pharmaceuticals Export Promotion Council of India (Set up by Ministry of Commerce & Industry, Government of India) REGULATORY & MARKET PROFILE OF SOUTH AFRICA , 2018

2 Cipla.https://www.cipla.co.za/

3 Sunpharma. https://sunpharma.com/south-africa/

4 Lupin. https://www.lupin.com/lupins-subsidiary-in-south-africa-announces-commercial-agreement-with-creso-pharma-for-hemp-oil-based-cannaqix/

5 African development bank group, 2023 south africacombined country strategy paper 2023-2028 and country portfolio performance review 2023https://www.afdb.org/en/documents/south-africa-combined-country-strategy-paper-2023-2028-and-country-portfolio-performance-review-2023

6 African development bank group, 2023 south africacombined country strategy paper 2023-2028 and country portfolio performance review 2023https://www.afdb.org/en/documents/south-africa-combined-country-strategy-paper-2023-2028-and-country-portfolio-performance-review-2023

7 Institutionalisation of African traditional medicine in South Africa: Healing powers of the law?* Christa Rautenbach s based on a paper delivered by the author at the 7th Greek Conference "Facing change in law, medicine and science: Rights, justice and the individual" held at Corfu from 26 September to 2 October 2009

8 South Africa Demograohic and Health survey, 2023. Medical Research Concil, Department of Health. Available at https://dhsprogram.com/pubs/pdf/fr206/fr206.pdf

9 Ibid

10 Allied Health Professions Council of South Africa, 2014. Available at https://www.compcom.co.za/wp-content/uploads/2020/03/ahpcsa_competition_commission.pdf.

11 Consulate General. of India. https://www.cgidurban.gov.in/page/india-south-africa-relations/

12 The Indian Express, 19 July, 2024.https://indianexpress.com/article/world/poverty-level-of-indian-origin-people-in-s-africa-decreases-4808916/

13 South Africa- Country Commercial Guide. https://www.trade.gov/country-commercial-guides/south-africa-healthcare-medical-devices-and-pharmaceuticals

14 South African Health Products Regulatory Council. https://www.sahpra.org.za/complementary-medicines/

15 Complementary Medicines - Discipline-Specific Safety and Efficacy. 2020. South African Health Products Regulatory Authority. Available at .https://www.sahpra.org.za/wp-content/uploads/2020/04/7.01_CMs_SE_DS_Jan2020_v3_1..pdf

16 Contemplated in section 22C(1)(b) of the Medicines Act at the end of the timeframe specified herein

17 Section 20 Publication or distribution of false advertisements concerning medicines, medical devices or IVD

18 Regulations 10, 11, 12 and 42 of MEDICINES AND RELATED SUBSTANCES ACT, 1965

[19] African Health Products Regulatory Authority.https://www.sahpra.org.za/complementary-medicines/

[20] African Health Products Regulatory Authority. https://www.sahpra.org.za/complementary-medicines/

[21] African Health Products Regulatory Authority. https://www.sahpra.org.za/complementary-medicines/

[22] Chiropractors, Homeopaths and Allied Health Service Professions Second Amendmenk Act, 2000. Available at https://www.gov.za/documents/chiropractors-homeopaths-and-allied-health-service-professions-second-amendment-act

[23] Traditional Health Practitioners Act, 2007. No. 22 of 2007.Availabe at https://www.gov.za/sites/default/files/gcis_document/201409/a22-07.pdf

[24] Chiropractors, Homeopaths and Allied Health Service Professions Second Amendmenk Act, 2000. Available at https://www.gov.za/documents/chiropractors-homeopaths-and-allied-health-service-professions-second-amendment-act

[25] Traditional Health Practitioners Act, 2007

[26] Traditional Health Practitioners Act, 2007

[27] NcebaGqaleni, IndresMoodley, Heidi Kruger, Abigail Ntuli, Heather McLeodiv.2007. Traditional and Complementary Medicine South African Health Review , https://www.hst.org.za/publications/Pages/HST-SOUTH-AFRICAN-HEALTH-REVIEW-2007.aspx

[28] Registration and Licensing Requirements  Regulatory Authority : South African Health Products Regulatory Authority (SAHPRA)  Website of regulatory Authority : http://www.mccza.com/

[29] Kameri-Mbote, P. 2003. Community, farmers and breeders rights in Africa: towards a legal framework for sui generis legislation, Univeristy of Nairobi Law Journal. p101.Available at http://www.farmersrights.org/pdf/Africa/South%20Africa/South%20Africa-biodiv04.pdf

[30] Patents Amendment Act 2005. http://www.wipo.int/wipolex/en/text.jsp?file_id=179614

[31] Bagley, Margo A. Toward an Effective Indigenous Knowledge Protection Regime: Case Study of South Africa. CIGI Paper No. 207 – December 2018. Centre for International Governance Innovation. Waterloo, Canada.

[32] The International Union for the Protection of New Varieties of Plants. https://www.upov.int/upovlex/en/profile.jsp?code=ZA

[33] https://abs-sustainabledevelopment.net/country/south-africa/

[34] Traditional Medicine and Iwt in Southern Africa: A Roaring Trade?.2019. The oxford Martine Prohramme on Wildlife Tradehttps://www.illegalwildlifetrade.net/2019/04/08/traditional-medicine-and-iwt-in-southern-africa-a-roaring-trade/

[35] Regulatory & Market Profile of South Africa. Pharmaceuticals Export Promotion Council of India. Available at https://pharmexcil.com/uploadfile/ufiles/South_Africa_Regulatory_Market_Profile.pdf

[36] South Africa-Country Commercial Guide. International TrdeAdmistration. https://www.trade.gov/country-commercial-guides/south-africa-healthcare-medical-devices-and-pharmaceuticals

[37] Consulate General of India. https://www.cgidurban.gov.in/page/india-south-africa-relations/

[38] South Africa-Country Commercial Guide. International TrdeAdmistration. https://www.trade.gov/country-commercial-guides/south-africa-healthcare-medical-devices-and-pharmaceuticals

## References


Chen, W., Van Wyk, B.E., Vermaak, I. and Viljoen, A.M. 2012. Cape aloes—A review of the phytochemistry, pharmacology and commercialisation of Aloe ferox. *Phytochemistry Letters*, 5(1), pp.1-12.

Department of Agriculture, Forestry and Fishery, Republic of South Africa, 2016, A Profile of the South African Medicinal Plants Market Value Chain. Available at https://www.nda.agric.za/doaDev/sideMenu/Marketing/Annual%20Publications/Commodity%20Profiles/field%20crops/Medical%20Plants%20Market%20Value%20Chain%20Profile%202016%20-%20Copy.pdf.

Dold, A.P. and Cocks, M.L. 2002. The trade in medicinal plants in the Eastern Cape

Province, *South Africa. South African Journal of Science*, 98(11), pp.589-597.

Halilu, E.M. 2022. Cultivation and conservation of African medicinal plants for pharmaceutical research and socio-economic development. In Medicinal plants. IntechOpen.

Mander, M., Ntuli, L., Diederichs, N. and Mavundla, K. 2007. Economics of the traditional medicine trade in South Africa care delivery. *South African health review*, 2007(1), pp.189-196.

Moeng, T.E. 2010. An investigation into the trade of medicinal plants by muthi shops and street vendors in the Limpopo province, South Africa (Doctoral dissertation).

Mbendana, D., Mamabolo, K., Truter, M., Kritzinger, Q. and Ndhlala, A.R. 2019. Practices at herbal (muthi) markets in Gauteng, South Africa and their impact on the health of the consumers: A case study of KwaMai-Mai and Marabastadmuthi markets. *South African Journal of Botany*, 126, pp.30-39.

Mpelangwa, E.M., Makindara, J.R., Sørensen, O.J. and Bengesi, K.M.K. 2022. The value chain of traded products of medicinal plants in Tanzania: the emerging role of formulators. *African Journal of Economic and Management Studies*, 13(1), pp.1-14.

Ndou, P., Taruvinga, B., Mofokeng, M.M., Kruger, F., Du Plooy, C.P. and Venter, S.L. 2019. Value chain analysis of medicinal plants in South Africa. *Ethno-Medicine*,13(4), pp.226-236.

N. Gqaleni, I. Moodley, H. Kruger, A. Ntuli, H. McLeod. 2007. Traditional and complementary medicine care delivery. *South African health review*

Pathak, N., & Chavan, S. 2025. Traditional Medicine in South Africa: Prospects for Ayush. Policy Brief, No. 115, Research and Information Systems for Developing Countries, New Delhi. Available at; https://www.ris.org.in/sites/default/files/Publication/Policy%20brief-115%20Dr%20Namrata%20Pathak%20and%20Sanket%20Chavan.pdf

Scholvin, S., & Draper, P. 2012. The gateway to Africa? Geography and South Africa's role as an economic hinge joint between Africa and the world. *South African Journal of International Affairs*, 19(3), 381–400. https://doi.org/10.1080/10220461.2012.740321

Vasisht, K. and Kumar, V. 2004. Compendium of medicinal and aromatic plants Africa. Earth, environmental and marine sciences and technologies. Area Science Park, Trieste, Italy: ICS-UNIDO.

Van Wyk, A.S. and Prinsloo, G. 2018. Medicinal plant harvesting, sustainability and cultivation in South Africa. *Biological Conservation*, 227, pp.335-342.

Williams, V.L. 2003. Hawkers of health: an investigation of the Faraday Street traditional medicine market in Johannesburg, Gauteng (p. 128). Johannesburg: University of the Witwatersrand.

Williams, V.L., Victor, J.E. and Crouch, N.R. 2013. Red listed medicinal plants of South Africa: status, trends, and assessment challenges. *South African Journal of Botany*, 86, pp.23-35.

# Unani Medical Education in India: Prospects and Challenge

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***Abstract:*** The Unani System of Medicine (USM) is one of the oldest traditional medical systems, rooted in Greek origins and shaped by Arabic and Persian scholarship. In India, Unani gained prominence under Islamic rule and has since evolved into a structured academic and healthcare discipline. This article examines the historical trajectory, institutional development, and current status of Unani medical education in India. It outlines reforms introduced by the National Commission for Indian System of Medicine (NCISM), including the Competency-Based Dynamic Curriculum (CBDC), Minimum Essential Standards (MES), and regulatory changes for undergraduate and postgraduate education. It also highlights new frameworks for entrance exams, teacher eligibility, and research promotion. Despite advancements, the Unani education system faces challenges such as outdated curricula, lack of scientific validation, and insufficient use of emerging technologies. Addressing these issues is vital for aligning Unani education with national health priorities and global standards.

***Keywords***: Unani Medicine, Traditional Medicine, Unani Education, Competency-Based Curriculum, MES Regulations, Integrative Medicine, Medical Education Reform, Alternative Medicine.

## Introduction

Following India's independence, the state recognized Unani medicine as part of its broader healthcare strategy through the formal establishment of the Department of Indian Systems of Medicine and Homeopathy. This department was later upgraded and renamed as the Ministry of AYUSH in 2014, giving dedicated focus to the development of Ayurveda, Yoga, Unani, Siddha, and Homoeopathy systems of medicine. The Ministry has since expanded its regulatory and policy framework to promote Unani through bodies such as the National Commission for Indian System of Medicine (NCISM), the Central Council for Research

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in Unani Medicine (CCRUM), and the Pharmacopoeial Laboratory for Indian Medicine (PLIM) (Central Council for Research in Unani Medicine, 2016). India today stands as the global center of Unani education and research, offering structured undergraduate (BUMS) and postgraduate programs in 58 institutions nationwide.[1]

Quality medical education is essential for producing competent healthcare providers who can meet the needs of a diverse population. Recognizing this, the Government of India has introduced several initiatives to enhance the standard of Unani education, ensuring that graduates are well-equipped to deliver effective and safe healthcare. The paper discusses these key initiatives aimed at strengthening the educational foundation of the Unani system.

## Evolution of Unani Medical Education in India

The Unani System of Medicine (USM), originating in ancient Greece and evolving through Persian and Arabic scientific traditions, represents one of the world's oldest documented medical systems still in active practice today (Amreen *et al*., 2024). Its foundational concepts emerged from Hippocratic teachings in 5th-century BCE Greece and were further expanded through the scholarly works of Galen, Rhazes (Al-Razi), and Avicenna (Kleisiaris *et al*., 2014).

The arrival of Unani medicine in India dates back to the 8th century, when it was introduced through Persian and Arab traders and scholars.[2] It flourished under the patronage of successive Islamic dynasties—including the Khiljis, Tughlaqs, and Mughals—who institutionalized the system by employing Unani scholars as court physicians and establishing centers of learning.ii Despite a period of decline under colonial rule, Unani survived due to its enduring popularity and the commitment of families like the Sharifis of Delhi and the Nizams of Hyderabad. The nationalist physician Hakim Ajmal Khan played a pivotal role in the early 20th century, founding institutions such as the Ayurvedic and Unani Tibbia College and the Hindustani Dawakhana, which safeguarded the legacy of Unani during challenging times.ii

Since independence, the Unani system of medicine, along with other traditional systems like Ayurveda, has significantly grown in India (Ansari *et al*., 2024, p. 71). Numerous educational institutions for Unani medicine have been established across the country. The first academic institute for the Unani system was set up at the Oriental College of Lahore in 1872 during British India, followed by the Ayurvedic and Tibbi College in Delhi in 1886 (Poulakou-Rebelakou *et al*., 2015). Other key academic institutions such as the Government Tibbi College of Patna, Ajmal Khan Tibbia College of Aligarh, Jamia Tibbia of Delhi, and Nizamia Tibbia College of Hyderabad were established in the 1920s and 1930s (Poulakou-Rebelakou *et al*., 2015).

## Current Status of Unani Medical Education in India

Presently, the country has adequately growing infrastructure of academic institutions of Unani System of Medicine.[3] The Unani education system in India is currently regulated by the National Commission for Indian System of Medicine (NCISM), an independent body under the Government of India.[4] There are currently 58 Unani colleges in India offering a five and a half year undergraduate course,

Bachelor of Unani Medicine and Surgery (BUMS), which includes subjects like Unani pharmacology, pharmacy, regimental therapy, history of Unani medicine, anatomy, physiology, and modern medical subjects (NCISM,2023). Postgraduate courses such as MD or MS are available in various disciplines like *Mu'ālajāt* (General Medicine), *'Ilm al-Adwiya* (Pharmacology), *Tahaffuzi wa Samaji* Tib (Preventive and Social Medicine), *'Ilm al-Qabālat wa Amrād-i-Niswān* (Obstetrics and Gynaecology), *'Ilm al-Saidla* (Pharmacy), *Kulliyat* (Fundamentals), *'Ilāj bi'l Tadbīr* (Regimenal Therapy), *'Ilm al-Jarāhat* (Surgery), *Amrād-i-Jild wa Tazeeniyāt* (Dermatology and Cosmetology), and *Mahiyāt al-Amrād* (Pathology) (Ansari et al., 2024, p. 71). Furthermore, the National Institute of Unani Medicine in Bengaluru, affiliated with Rajiv Gandhi University of Health Sciences, offers PhD programs in *Mu'ālajāt* (Medicine) and *'Ilm al-Adwiya* (Pharmacology).[5]

## Promoting Quality Education in Unani: Key Policy and Regulatory Initiatives

### Role of NCISM and the Board of Unani, Siddha, and Sowa-Rigpa

The National Commission for Indian System of Medicine (NCISM), constituted under the National Commission for Indian System of Medicine Act, 2020, plays a major role in promoting and regulating medical education in traditional Indian systems, including Unani medicine.[6] The Commission focuses on improving access to quality, affordable medical education while ensuring the availability of skilled practitioners across India. It encourages such medical professionals to adopt the latest medical research in their work. NCISM ensures regular, transparent assessments of medical institutions and maintains a medical register for the Indian System of Medicine in India. It upholds high ethical standards across medical services, is adaptable to changing needs, and has an effective grievance redressal system for related mattersvi.

According to Section 26 of the NCISM Act, the Board of Unani, Siddha and Sowa-Rigpa, functioning under the NCISM, regulates Unani medical education, practice, and research. It has established standards for undergraduate and postgraduate education and introduced the Competency Based Dynamic Curriculum (CBDC). The Board has issued guidelines for setting up medical institutions, defined minimum standards for courses and examinations, and set norms for infrastructure, faculty, and quality of education and research. It also mandates annual disclosures by institutions, supports faculty development and research programmes, and grants recognition to Unani medical qualifications.

### Reforms in Unani Undergraduate Program

The Unani undergraduate program has undergone significant reforms starting from the academic year (A.Y.) 2021-2022 to enhance the quality of education and training. A key change has been the introduction of a 1:2 ratio between lecture and non-lecture hours in the curriculum. Non-lecture hours now consist of 70 per cent practical training and 30 per cent demonstrative or activity-based teaching, aimed at promoting psychomotor skills and hands-on learning. Additionally, the Competency-Based Dynamic Curriculum (CBDC) was implemented to promote competencies at various levels, ensuring that students develop practical skills relevant to the field.

An elective program has also been introduced, wherein students are encouraged to pursue online elective courses outside regular teaching hours. A minimum of three elective courses must be completed in each professional session, totaling nine electives before the final university examination. Furthermore, clinical training now begins in the first professional session, offering early clinical exposure and additional training hours related to subject-specific clinical practices.

In line with modern advancements, the curriculum now incorporates the supplementation of modern scientific and technological developments under the provisions of the MSE regulations 2022. A new formative assessment system has been introduced, which includes nine periodical assessments and two term tests in each professional session, allowing students to correct and improve their competencies over time. Moreover, regulations now mandate six months of clinical training for interns in modern medicine hospitals, providing them with exposure to contemporary clinical approaches and practices. To ensure the overall wellness of students, the regulations also mandate physical training and recreational hours for all Unani medical students.

The MES regulations for Unani medical institutions (2023) outline essential requirements to enhance the quality of education, research, and infrastructure within undergraduate Unani institutions, aiming to create an ideal educational ecosystem.[7] The annual student intake capacity has been increased with four intake slabs (60, 100, 150, and 200 students). Institutions must establish an IT cell and infrastructure to support digital facilities, such as a digital library, smart classrooms, hospital management systems compatible with national health standards, biometric attendance, integrated learning management systems, virtual laboratories, and research documentation tools.

Additionally, institutions are required to establish a Human Resource Development Cell (HRDC) to provide comprehensive, regular training for faculty and staff based on NCISM guidelines. To support students, a Career Development and Placement Cell is mandated, aiming to guide students in academic, emotional, social, and career growth. Furthermore, a Grievance Redressal Cell (GRC) must be set up to handle complaints and suggestions. A Pharmacovigilance Cell is introduced to monitor adverse drug reactions (ADR) and ensure proper documentation and reporting.

In line with UGC requirements, Unani institutions must also have a Complaint Against Sexual Harassment (CASH) Cell, Anti-ragging Cell, and security mechanisms to promote a safe and supportive environment. The Internal Quality Assurance Cell (IQAC) is responsible for reviewing and promoting quality across all institutional processes. Additionally, clinical infrastructure requirements include the establishment of procedure rooms in OPDs, mandatory OPDs for preventive and public health care, and specialized OPDs for poison management. A screening OPD, coupled with a referral system, ensures students gain practical experience in patient care and specialties. Finally, institutions must establish a comprehensive Ilaj bit Tadabeer section, including physiotherapy, yoga, and holistic treatment units, to provide procedural management and holistic care for patients.

The Competency-Based Dynamic Curriculum (CBDC) for Unani undergraduate programs, framed by the Board of Unani, Siddha, and Sowa-Rigpa (BUSS) under the NCISM Act, ensures that education in Unani medicine meets standardized learning outcomes, practical skill development, and evidence-based training.[8] This curriculum integrates traditional Unani wisdom with modern advancements to enhance the quality of medical education, clinical proficiency, and ethical practice, aligning with both national and global healthcare needs. The CBDC is structured around graduate attributes, program and course outcomes, learning objectives, and teaching methods, emphasizing practical training, clinical exposure, critical thinking, and problem-solving. In line with the National Education Policy (NEP) 2020, the CBDC focuses on holistic development, interdisciplinary education, and competency-based learning. It ensures that graduates are clinically competent, socially responsible, and equipped with ethical values. The curriculum includes practical training, research, digital learning, and ethical medical practice, providing students with comprehensive skill development beyond theoretical knowledge.

## Reforms in Unani Postgraduate Program

The Unani postgraduate programs have undergone significant educational reforms as per the PG MSE/MESR regulations 2024. A new Department of Integrative Health and Translational Research has been established to manage dissertation activities, including guide allotment, plagiarism checks, and coordination of research facilities such as laboratories and committees. The introduction of a new postgraduate program, "Tibbul Quanoon and Ilmul Samoom," addresses a recognized need in the field, bringing the total number of postgraduate programs to 15. The education pattern has been shifted to a semester system, with six semesters spread across three years. Each semester consists of 25 credits, equating to 750 notional learning hours, with a focus on a mix of teaching, practical training, and experiential learning.

The curriculum follows a competency-based dynamic model, where research methodology and biostatistics are introduced in the first semester, and core subjects are taught in semesters 3 to 6. Postgraduate students must complete both domain-specific and capacity enhancement electives, with a total of 12 electives required over the three years. These electives will be conducted online, similar to undergraduate programs. Formative assessments are carried out at the end of each module, and the Semester Grade Point Average (SGPA) is used to assess student performance, with a minimum of 60 per cent required for eligibility to appear in summative assessments. Additionally, a molecular biology lab and photochemistry lab have been introduced to support advanced research in Ilmul Advia, Ilmul Saidla, and Mahiyatul Amraze. Finally, a rating system for PG institutions has been implemented, ensuring continuous quality improvement across programs.

## Promoting R&D culture in Unani UG and PG education

The Unani undergraduate program has introduced several initiatives to strengthen research and development (R&D) within medical institutions. One of the key developments is the establishment of a Research, Innovation, and Entrepreneurship Cell (RIC) in every

Unani institution.[9] This cell is responsible for overseeing research activities, technology transfer, commercialization, intellectual property rights (IPR), research publications, and entrepreneurship development, fostering a culture of innovation. Additionally, to support practical research in herbal medicine, each institution is required to maintain a Herbal Garden with QR Codes.[10] These QR codes provide students with detailed information about plant species, including their medicinal properties and phytochemical data, facilitating hands-on learning and research.

Another significant initiative the introduction of a Pharmacovigilance Cell ensures the collection, documentation, and analysis of adverse drug reactions (ADR), with reports sent to regional and national pharmacovigilance centers. This system enhances the safety and effectiveness of Unani medicines through evidence-based practices. Finally, pharmacognosy labs and quality testing laboratories have been mandated to enable students to engage in research focused on plant identification, pharmacological screening, and testing the quality and safety of Unani drugs. These combined efforts aim to create a dynamic research environment, promoting innovation and development in the field of Unani medicine.

### Initiatives to Strengthen the Quality of Educators in Unani Medical Education

To ensure the availability of qualified and competent educators in Unani medical education, several initiatives have been introduced by the National Commission for Indian System of Medicine (NCISM). One such step is the introduction of the "Professor of Practice" in postgraduate programmes. This role brings in experienced non-academic professionals to enhance practical learning through domain-specific expertise.[11]

To ensure standardization and quality in Unani medical education and practice, NCISM has introduced a series of national-level examinations and regulatory measures. The Commission currently conducts seven national examinations, including NEET-UG, AIAPGET, NEET, NTET, NEET-Sowa Rigpa, NEET-Pre Tib, and NEET-Pre Ayurveda. Among these, a dedicated entrance test—NEET-Pre Tib—has been introduced from the academic year 2024–2025 to regulate admissions into the Pre-Tib course offered by select Unani institutions. This ensures uniformity in the academic foundation of students entering the undergraduate programme.[12] In addition, a National Exit Test (NExT) is implemented for all systems of medicine, including Unani. This test will be mandatory for graduates to obtain registration and a license to practice.[13] To enhance teaching quality, the National Teachers Eligibility Test (NTET) has been introduced for Unani postgraduates from 2024–2025 onwards. Clearing this test is now a prerequisite for entering the teaching profession.[14] Furthermore, recognition of UG and PG Unani degrees by the Board of Unani, Siddha, and Sowa-Rigpa is mandatory for registration and licensure, as well as for pursuing higher studies. All these combined efforts aim to elevate the overall quality, standardization, and regulation of Unani medical education and practice.

## Promoting Innovations in Unani

Innovation initiatives in Unani medicine have been actively promoted by NCISM through various interventions. To foster evidence-based Indian Unani practices

globally, the Commission introduced a publication grant, enabling students, faculty, and practitioners to reimburse publication costs for research in indexed journals.[15] Additionally, undergraduate students benefit from a Rs 50,000 studentship program, administered in collaboration with the Central Council for Research in Unani Medicine (CCRUM). This financial support mechanism is aimed at cultivating research skills and encouraging future research leadership.[16] The Commission also supports entrepreneurship development through training programs and operational guidelines for Research Innovation and Entrepreneurship Cells (RIC) in Unani institutions.[17] Furthermore, the Commission emphasizes publication ethics by conducting workshops for postgraduate guides on scientific writing, research integrity, and publication ethics, ensuring high standards in Unani research.[18] The Commission also identifies Unani innovators and provides training on IPR, technology transfer, and commercialisation. This support is offered in collaboration with AICTE, the Research Innovation Cell of the Ministry of Education, and KAPILA.[19]

## Other Initiatives

In an effort to enhance the administration and quality of Unani medical education, NCISM, in collaboration with the National Institute of Educational Planning and Administration (NIEPA), New Delhi, provided orientation to the principals of Unani medical institutions on educational administration.[20] This training focused on the key aspects of management and leadership, emphasizing strategic planning, resource organization, and oversight to ensure effective teaching and learning environments. Additionally, the Commission developed a mechanism within the NCISM online platform to issue a unique Ayush ID to Unani students immediately after their admission to the undergraduate program to streamline the education lifecycle management system. Moreover, the World Health Organization (WHO) has published standard terminologies for Unani medicine, integrated into the International Classification of Diseases (ICD-11) under module 2, setting benchmarks for Unani practice and training.[21] These standard terminologies are also accessible on the NAMASTE portal further promoting the standardization and recognition of Unani medicine.[22]

## Challenges in Unani Medical Education in India

Unani medical education in India faces a multitude of challenges spanning academic, infrastructural, scientific, and systemic dimensions. A major concern is the lack of authentic research and scientific validation; most studies are confined to translations of classical texts rather than evidence-based clinical and experimental research to validate Unani principles and treatments (Ghazali, 2020; Urooj, 2020). The existing curriculum is outdated, with minimal incorporation of modern scientific insights, thus limiting its relevance to contemporary medical discourse (Ghazali, 2020). Moreover, the quality and standardization of Unani drugs remain suboptimal due to seasonal variations in raw materials, inadequate quality control, and obsolete extraction techniques, thereby affecting both education and clinical practice (Ghazali, 2020).

There is limited integration of modern scientific methods in Unani pharmacology and clinical practice,

which restricts understanding of dosage, pharmacodynamics, and herb-drug interactions (Urooj, 2020). Clinical trials in Unani are also constrained by conceptual differences in diagnosis (e.g., mizaj or temperament), lack of standardized protocols, and poor documentation, which hinder the development of a robust evidence base (Urooj, 2020). The system also suffers from poor public recognition and underutilization, partly due to inadequate awareness and insufficient health education efforts (Khan *et al*., 2022).

Institutionally, challenges include a shortage of postgraduate institutions to expand specialties, lack of advanced infrastructure, fragmented research initiatives, and limited innovations. The adoption of modern technology in education remains minimal, with insufficient use of tools like artificial intelligence (AI), augmented reality (AR), and virtual reality (VR) that could potentially transform pedagogical practices. Furthermore, Unani pharmacy education lacks structured academic pathways such as Bachelor's, Master's, and Doctoral programs, which limits the development of a skilled pharmaceutical workforce (Ghazali, 2020). Practitioners face additional hurdles such as low income, minimal state recognition, and professional dissatisfaction, prompting some to shift towards practicing modern medicine—further eroding the authenticity and continuity of the Unani system (Ghazali, 2020).

## Way Forward and Conclusion

Revitalizing Unani education calls for more than policy amendments—it demands sincere, collective efforts by policymakers, educators, and students (Itrat, 2018). Reforms must align with clear educational objectives. Modernizing the curriculum and integrating scientific research are essential to make Unani education more relevant. Updated syllabi should reflect both classical knowledge and current biomedical advances (Ghazali, 2020). Institutions need better infrastructure and access to modern teaching tools, such as AR, VR, and AI-based platforms, to enhance learning and understanding of Unani principles.

Research must shift from textual analysis to scientific validation, including clinical trials and standardization of medicines (Urooj, 2020). Strengthening pharmacy education through specialized degrees can help build a skilled workforce for Unani industries. Public awareness campaigns and better utilization of Unani services should also be encouraged (Khan *et al*., 2022).

Ultimately, reforms must be practiced—not just planned. Only then can the Unani system regain its place as a credible and respected stream of medicine. The revival of the Unani system of medicine requires dedication, consistent effort, and a shared commitment from all stakeholders to improve its quality and relevance.

**Endnotes**

1. National Commission for Indian System of Medicine, 2023, List of Unani colleges across country as on 12.12.2023. https://ncismindia.org
2. Central Council for Research in Unani Medicine, Origin and Development, Ministry of AYUSH, Government of India, https://ccrum.res.in/UserView/index?mid=1411.
3. Rais-ur-Rahman and Central Council for Research in Unani Medicine, 2016. Unani medicine in India – An overview. Revised edn. New Delhi: Ministry of AYUSH, Government of India.

4 National Commission for Indian System of Medicine, 2025. National Commission for Indian Syetem of Medicine. Available at: https://ncismindia.org

5 National Institute of Unani Medicine, 2025. National Institute of Unani Medicine. Available at: http://www.nium.in

6 Ministry of Law and Justice, Government of India, 2020. The National Commission for Indian System of Medicine Act, 2020. Act No. 14 of 2020. Available at: https://www.indiacode.nic.in/handle/123456789/15622?locale=en

7 National Commission for Indian System of Medicine (NCISM), 2023. Draft of National Commission for Indian System of Medicine (Minimum Essential Standards, Assessment and Rating for Undergraduate Unani Colleges and Attached Teaching Hospitals) Regulations, 2023. Available at: https://ncismindia.org/All%20ASUS%20College%20for%20New%20application%20(1).pdf

8 National Commission for Indian System of Medicine (NCISM), 2024. Framework: Assessment & Rating of Ayurveda, Siddha and Unani Colleges. Available at: https://ncismindia.org/Framework-Assessment-Rating-of-Ayurveda-Siddha-and-Unani-Colleges.pdf

9 National Commission for Indian System of Medicine (NCISM), 2025. Guidelines for the Functionality of "Research and Innovation Cell" of Unani/Siddha Colleges or Institutions in "Entrepreneurship Development. Available at: https://ncismindia.org/Guidelines%20for%20Research%20and%20Innovation%20Cell.pdf

10 National Commission for Indian System of Medicine (NCISM), 2023. Draft of National Commission for Indian System of Medicine (Minimum Essential Standards for Postgraduate Institutions and Minimum Standards for Post Graduate Education in Unani Medicine) Regulations, 2023. Available at: https://ncismindia.org/INVITED%20COMMENTS%20AND%20SUGGESTIONS%20ON%20UNANI%20PG%20REGULAION%202023.pdf

11 University Grants Commission (UGC), Professor of Practice Portal. Available at: https://pop.ugc.ac.in/

12 National Commission for Indian System of Medicine (NCISM), 2024. National Eligibility-Cum-Entrance Test – Pre-Tib. Available at: https://ncismindia.org/necet-pretib.php

13 Press Information Bureau (PIB), 2024. National Exit Test (NExT) for Ayush to be Effective from 2021-2022 Batch: Union Minister of Ayush Shri Prataprao Jadhav. Available at: https://pib.gov.in/PressReleasePage.aspx?PRID=2052339#:~:text=The%20NExT%20is%20a%20key,Unani%2C%20and%20Sowa%2DRigpa

14 National Commission for Indian System of Medicine (NCISM), National Teachers' Eligibility Test. Available at: https://ncismindia.org/ntet.php

15 National Commission for Indian System of Medicine (NCISM), 2023. NCISM Schemes: Financial Assistance for Research & Publication. Available at: https://ncismindia.org/NCISM%20Schemes%20for%20financial%20assistance%20Brochure%20(4).pdf

16 Central Council for Research in Unani Medicine (CCRUM), CCRUM–Studentship Program for Unani Research (SPUR). Available at: https://www.ccrum-spur.org/#:~:text=About%20CCRUM%2DSPUR&text=The%20Guide/%20Institution%20must%20provide,two%20months%20duration%20(Total%20Rs.

17 National Institute for Micro, Small and Medium Enterprises (ni-msme), Training of Trainers on Entrepreneurship Development. Available at: https://www.nimsme.gov.in/programme/e490e50accec57a8a2820ddc115bd8fd

18 Central Council for Research in Unani Medicine (CCRUM), Linking Education with Research. Available at: https://ccrum.res.in/ViewData/Multiple?mid=1544#:~:text=The%20meetings%20of%20Board%20of%20Studies%20and,Council%20of%20Indian%20Medicine%2C%20which%20is%20a

19 Ministry of AYUSH, Government of India, 2025. Efforts to make 'Viksit Bharat' by 2047 in AYUSH sector. Rajya Sabha Starred Question No. 125, answered on 11 March 2025. Available at: https://sansad.

in/getFile/annex/267/AS125_HqRQbe.pdf?source=pqars

[20] National Institute of Educational Planning and Administration (NIEPA), 2024. Capacity Development Programme in Educational Planning and Administration for the Principals of Ayurveda, Unani, Siddha and Sowa-Rigpa Colleges, 2024. Available at: https://www.niepa.ac.in/download/prog_ant_brochure/NCISM/NCISM_%2008-12%20Jan%202024_Batch-9%20(3).pdf

[21] Press Information Bureau (PIB), Delhi, 2024. WHO launches ICD-11, Traditional Medicine Module 2, Available at: https://pib.gov.in/PressReleasePage.aspx?PRID=1994921

[22] Ministry of AYUSH, Government of India, 2017. WHO Standard Unani Terminologies. Available at: https://namstp.ayush.gov.in/#/satunani

## References


Amreen, A., Saleem, M.N. and Siddiqui, A.I. 2024. Transforming pharmacy education in Unani system of medicine: A critical evaluation of ancient, present, and future, *Universal Journal of Pharmaceutical Research*, 9(6), pp.68–76. Available at: https://doi.org/10.22270/ujpr.v9i6.1242

Ansari, A. P., Anwar, N., & Ahmed, K. K. 2024. Current status of Unani medicine in India. *Journal of Ayurvedic and Herbal Medicine*, 10(3), pp.70-72. Available at: https://doi.org/10.31254/jahm.2024.10301

Central Council for Research in Unani Medicine. 2016. Unani medicine in India – An overview. Ministry of AYUSH, Government of India.

Ghazali, S.A. 2020. The challenges, problems and possibilities of Unani system of medicine, *International Journal of Creative Research Thoughts* (IJCRT), 8(7), pp. 2072.

Khan, A.A., Janardhanan, R., Kishore, J., Awasthi, A.A., Parveen, S., Saeed, S., Shannawaz, M. and Selvamurthy, W. 2022. Awareness and utilization of Unani medicine among the adult population from East Delhi: A cross-sectional survey, *Journal of Pharmacy and Bioallied Sciences*, 14(3), pp. 157–161. doi:10.4103/jpbs.jpbs_229_22.

Kleisiaris, C.F., Sfakianakis, C. and Papathanasiou, I.V. 2014. Healthcare practices in ancient Greece: The Hippocratic ideal, *Journal of Medical Ethics and History of Medicine*, 7(1), pp.1–5.

NCISM & Quality Council of India (QCI). 2024. Assessment & rating of Ayurveda, Siddha and Unani colleges. New Delhi: National Commission for Indian System of Medicine.

NCISM, 2023. National Commission for Indian System of Medicine (Minimum Essential Standards, Assessment and Rating for Undergraduate Unani Colleges and Attached Teaching Hospitals) Regulations, 2023.

Parveen, A., Ahmad, M., Parveen, B. 2022. The traditional system of Unani medicine, its origin, evolution and Indianisation: A critical appraisal, *Indian Journal of Traditional Knowledge*, 21(3), pp.511–521.

Poulakou-Rebelakou, E., Karamanou, M., & George, A. 2015. The impact of ancient Greek medicine in India: The birth of Unani medicine, Acta Medico-Historica Adriatica, 13(2), pp.323-328.

Urooj, M. 2020. Clinical trials of Unani medicine: Challenges and way forward, *Journal of Acupuncture & Traditional Medicine*, 3, pp. 007.

# Research & Development in Unani Medicine: A Scientific Journey

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***Abstract :*** Unani medicine, with its holistic approach, has gained increasing recognition and momentum in recent years. This paper examines the significant advancements in research and development (R&D) within Unani medicine, particularly in the areas of drug development, clinical evaluation, and integration with modern scientific methods. The Central Council for Research in Unani Medicine (CCRUM) has played a key role in driving these developments, including the drug standardisation, the creation of Standard Treatment Guidelines (STGs) for musculoskeletal disorders, and the integration of Unani medicine into international healthcare frameworks. Moreover, technological innovations such as mobile applications and evidence-based research, particularly during the COVID-19 pandemic, have further advanced the accessibility and popularity of Unani medicine. Looking forward, a strategic focus on strengthening interdisciplinary research, investing in technological innovations, and increasing public awareness will help to propel the field. This paper underscores the importance of a strategic framework that bridges traditional wisdom with modern scientific advancements to ensure the growth and acceptance of Unani medicine within global healthcare systems.

***Keywords:*** Unani Medicine, Research and Development, CCRUM, Integrative Approach, Standardisation, AYUSH, Technology Integration, Clinical Research

## Introduction

Unani medicine is an ancient system of medicine which, since the 8th century, is well established and flourishing in India. This holistic practice is founded on the principles of mizaj (temperament) and akhlat (humours), emphasising the balance of bodily fluids to maintain health and treat ailments. Unani medicine acknowledges that physical, mental, psychological, emotional, and spiritual factors collectively influence health and disease, emphasising that individuals are responsible for actively maintaining their overall well-being (Lloyd, 2009), (Ansari, 2020). Over time, this

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traditional healing system became deeply embedded in Indian culture and widely embraced by the population. Today, it is officially recognised and regulated by the Ministry of Ayush, Government of India. Unani medicine is an integral part of the healthcare systems in countries like Bangladesh, Iran, Sri Lanka, South Africa, the United Arab Emirates, and Malaysia (Lloyd, 2009; WHO, 2022; Devis, 2018)

The Ministry of Ayush was established on 9th November 2014 with the vision of reviving and advancing the rich knowledge of ancient medical systems while ensuring the comprehensive development and widespread promotion of Ayush healthcare systems.[1] It supports traditional and indigenous systems of medicine, including Ayurveda, Yoga & Naturopathy, Unani, Siddha, Sowa-Rigpa, and Homoeopathy through policy formulation, health care institutions, public awareness campaigns, and educational initiatives. Additionally, the Ministry fosters research and innovation within the Ayush sector to strengthen the evidence base, improve quality standards, and enhance the global relevance of traditional Indian medicine.

## Need for R&D in Unani

There is a strong need for research and development in the Unani system of medicine to ensure its relevance and effectiveness in today's evidence-based healthcare environment. Itrat & Khan (2016) emphasizes that, like any other healthcare system, Unani medicine must be supported by scientific evidence at all levels—from diagnosis to treatment decisions. In their view, esearch is needed not only to prove the effectiveness of Unani treatments but also to explain and validate its core concepts and theories Given the holistic nature of Unani medicine and its distinct principles, compared to the reductionist approach of modern biomedicine, they argue that the research methods must be chosen carefully by involving experts from both fields. Itrat (2016) further adds that updating the research and documentation process according to Unani principles can help the system become more evidence-based and acceptable in modern healthcare . He suggests that methods such as reverse pharmacology, pharmacoepidemiology, retrospective treatment-outcome surveys, and whole-system research can be useful in this process

While updating research methods is crucial, there is also a pressing need to generate robust scientific evidence on the safety and efficacy of Unani formulations. Although many Unani medicines have been used for centuries and have shown effectiveness with minimal side effects, Parveen *et al*. (2020) note that scientific validation is essential for broader global acceptance Despite its vast therapeutic potential, the system remains underutilised, partly due to the lack of organised and large-scale research (Khan *et al*., 2018). Continuous research is essential to support the system's growth, compare the effects of different drugs and doses, study drug interactions, and develop new medicines (Khan *et al*., 2018). Furthermore, Hashi (2021) argues that ,research can play a significant role in translating core Unani concepts such as - mizaj, tabi'at, and asbab-e-sitta zaruriya- into terms understandable within the scientific frameworks. India, with the largest number of Unani institutions, offers great opportunities for such research. However, Hashi emphasizes that this potential is still underexploited and requires

more coordinated efforts. Strengthening research in Unani medicine will not only help in facing new health challenges but also make the system more competitive and respected among global healthcare systems.

## Global Research on Unani

At the international level, significant initiatives have been undertaken to strengthen the research and development of Unani medicine and enhance its global outreach. A major step in this direction was the signing of a Memorandum of Understanding (MoU) between the then Department of AYUSH, Government of India, and the Department of Pharmacognosy, University of Mississippi, USA. This led to the establishment of the National Centre for Natural Products Research at the University of Mississippi (White *et al*., 2017). Under this initiative, over 13,000 Indian herbs were subjected to scientific investigation over a span of five years, indicating a strong research collaboration (Department of AYUSH, 2013).

The Indo-US Centre for Research in Indian Systems of Medicine[2] was also set up at the University of Mississippi. The Centre aims to promote research-based evidence on the efficacy of medicines from Ayurveda, Unani, and Siddha systems, and to popularise these systems through joint scientific studies, information dissemination, and public advocacy.[3] Another major global initiative is the Global Unani Medicine and Research Foundation (GUMRF), which was launched in Chicago and is incorporated under US law. The foundation operates through regional offices across Asia, Europe, the Middle East, Africa, and Australia. Its key objective is to provide a platform for Unani practitioners, researchers, and supporters to pool resources—both institutional and financial—to support research and healthcare initiatives and promote the global relevance of Unani medicine (Mir *et al*., 2017).

## Evolution of R&D in the Unani System of Medicine in India

The Unani System of Medicine, rooted in Greco-Arabic traditions, has evolved significantly over the centuries, particularly in India. This evolution has been driven by the contributions of visionary figures who integrated traditional practices with scientific advancements. One such visionary was Hakīm Ajmal Khān (1868–1927), an eminent physician and educationist who played a crucial role in modernising the Unani system. His efforts led to the establishment of the Ayurvedic and Unani Tibbia College in New Delhi, which was inaugurated in 1921.[4] This college was equipped with modern facilities, including an operation theatre, isolation ward, and research wing, and became a central hub for education, research, and practice in Unani medicine. His vision for the modernisation of the system laid the foundation for future developments (Department of AYUSH, 2013).

The next significant phase of development in the Unani system came with Hakīm ʻAbd al-Hamīd (1908–1999), who revolutionised the production of Unani medicines on a larger scale.[5] He established Hamdard Dawakhana, which not only served the domestic market but also expanded the reach of Unani medicines globally. His initiative also led to the establishment of Jamia Hamdard, originally the Institute of History of

Medicine & Medical Research, which became instrumental in advancing research on Unani drug manufacturing and quality control (Ministry of AYUSH, 2016). These efforts contributed to the broader acceptance and scientific validation of Unani medicine.

Further advancements were made by Hakīm M.A. Razzāq (1931–1992), who played a pivotal role in shaping the future of Unani research in India. As the first Director of the Central Council for Research in Unani Medicine (CCRUM), he focused on the scientific exploration of the Unani system. His leadership helped establish the National Institute of Unani Medicine in Bengaluru, which became a key institution for research and development in the field (Department of AYUSH, 2013).

The development of Unani medicine was also advanced by the work of Dr. Salīm al-Zamān Siddīqī, a chemist who was encouraged by Hakīm Ajmal Khān to undertake chemical studies on medicinal plants. In 1931, Siddīqī isolated Ajmaline from the plant Rauwolfia serpentina Linn., which proved to be an effective anti-arrhythmic agent (Department of AYUSH, 2013).This discovery highlighted the potential of Unani herbs in modern medicine and paved the way for further research into the pharmacological properties of Unani plants. Over the years, additional alkaloids such as Ajmalinine and Ajmalicine were isolated, demonstrating the therapeutic potential of Unani medicines for cardiovascular and mental health conditions.

Academic institutions such as Ajmal Khan Tibbiya College at Aligarh Muslim University have also played a key role in advancing Unani medicine. Since its founding in 1927, the college has produced more than 100 scientific theses, contributing to the body of knowledge on Unani medicine (Ministry of AYUSH, 2016).Ibn Sīnā Academy in Aligarh,[6] which focuses on collecting manuscripts and conducting literary research, is another important institution that preserves the legacy of Unani medicine while continuing to foster its development in modern times. Several national institutions, including the National Institute of Unani Medicine in Bangalore, Aligarh Muslim University, Jamia Hamdard in New Delhi, and Government Nizamia Tibbi College in Hyderabad, have also contributed to R&D through postgraduate research, producing over 1,000 theses in various disciplines of Unani Medicine (Ministry of AYUSH, 2016)

Complementing these academic contributions, a wide range of research publications in Unani medicine have contributed to its scientific foundation, covering areas such as clinical pharmacology, drug standardisation, and medicinal plants used in Unani. Notable studies include Fazil *et al*. (2011) on temperament assessment in diabetes mellitus patients, Goyal *et al*. (2010) on the cardioprotective effects of Khameera Abresham Hakim Arshad Wala, and Mustafa *et al*. (2012) evaluating the hypoglycemic activity of Achillea millefolium. Drug standardisation efforts have been supported by works such as Rasheed *et al*. (2012) on Abresham and Akbar *et al*. (2008) on the scientific validation of the manufacturing method of Raughan-e-Banafsha. These contributions, published in journals like the Indian Journal of Traditional Knowledge, Indian Journal of Unani Medicine, Hippocratic

Journal of Unani Medicine, and Journal of Ethnopharmacology, reflect the growing academic rigour in Unani R&D.

## National Research Initiatives in Unani Medicine in India

At the national level, the Government of India launched the AYUSH Research Portal,[7] developed by the National Institute of Indian Medical Heritage (NIIMH), to act as a comprehensive digital repository of AYUSH-related scientific research. The portal contains over 1,900 research articles and supports searches by title, author, institution, or journal, thus significantly enhancing the accessibility and visibility of Unani research outputs (Department of AYUSH, 2013)

Another major initiative is the Traditional Knowledge Digital Library (TKDL),[8] a collaborative effort between the Ministry of AYUSH and the Council of Scientific and Industrial Research (CSIR). The TKDL has compiled a database of 1,54,015 Unani formulations till April 2013 (Department of AYUSH, 2013) and made them accessible in a patent-compatible format in multiple languages. This initiative plays a crucial role in preventing biopiracy by enabling global patent offices to refer to traditional Indian knowledge systems during patent evaluation, thereby protecting classical Unani formulations from misappropriation.[9]

The government's proposal to establish the All India Institute of Unani Medicine signifies a deepened commitment to R&D in the sector.[10] The institute aims to provide advanced healthcare, promote postgraduate and doctoral education, and encourage global research collaborations in Unani medicine.

The National Institute of Unani Medicine (NIUM) in Bengaluru and the Central Council for Research in Unani Medicine (CCRUM) in New Delhi are two premier institutions spearheading education and research in the Unani system of medicine under the Ministry of AYUSH. NIUM serves as a model institute for postgraduate education, research, and clinical training in Unani medicine. Functioning since 2004, it offers MD courses in ten disciplines and initiated India's first PhD programme in Unani medicine in 2014–15.[11] The institute regularly conducts CMEs, workshops, and academic collaborations with reputed institutions such as NIMHANS and Al-Ameen College of Pharmacy, enhancing both teaching and research standards in the field.

CCRUM coordinates a nationwide research network with 24 centres, including major institutes in Hyderabad and Lucknow, and regional centres in cities such as Srinagar, Chennai, and Kolkata.[12] It focuses on clinical research, drug standardisation, literary studies, and medicinal plant cultivation. Notably, the Central Research Institute of Unani Medicine (CRIUM), Hyderabad,[13] is CCRUM's largest centre, conducting comprehensive studies including physiological and psychological aspects of diseases. The Lucknow Institute has contributed to Unani research in oral health and medicinal plant cultivation. In Srinagar, the institute has become a key centre for treating bronchial asthma and other conditions through mobile clinical research and IEC activities.[14] The Chennai centre, equipped with modern diagnostic labs, has undertaken studies on Unani treatments for conditions such

as hepatitis, rheumatoid arthritis, diabetes, and malaria, as well as immunomodulatory and cosmeceutical effects of traditional drugs.[15]

## Key Research Initiatives of CCRUM

The Central Council for Research in Unani Medicine (CCRUM), established in 1978, is an autonomous body under the Ministry of Ayush and is actively monitoring and facilitating the advancements in Unani medicine to ensure holistic growth in the sector.[16] The Council is committed to promote research, development and innovation in Unani Medicine. By encouraging evidence-based studies and scientific validation, the Council aims to integrate Unani medicine into the mainstream healthcare system. Through its initiatives, the Council seeks to enhance the global recognition, accessibility, and credibility of Unani medicine, contributing to the broader vision of holistic and traditional healthcare.[17]

In line with these objectives, the Council's research programmes are diverse and strategically designed to validate the Unani system scientifically and make its benefits widely accessible. Emphasising national healthcare priorities, the Council also focuses on providing research-based health services and promoting Unani medicine through education and awareness initiatives. The Council conducts its research through a network of 24 institutions across India via Intra Mural Research (IMR),[18] along with collaborative and extramural research supported by the Ministry of Ayush. Its goal is to scientifically validate Unani medicine's principles, products, and therapies by integrating traditional

**Table No. 1: Achievements of the Drug Standardisation Research Programme (2014-2024).**

| DRUG STANDARDISATION RESEARCH PROGRAMME | |
|---|---|
| **Studies Carried Out** | **No of drugs** |
| Developed Physico-chemical Standards for Unani Compound formulation | 215 |
| Developed Physico-chemical Standards for Unani Single Drugs | 160 |
| Developed the Pharmacopoeial Monographs of Compound Formulation | 200 |
| Chemical investigation of Medicinal plants | 30 |
| Developed the Pharmacopoeial Monographs of Single Drugs | 80 |
| Revision of Unani formulations included in National Formulary of Unani Medicine, Part- I- VI as per the mandate of Scientific Board, PCIM&H | NFUM, Part- I & IV, consisting of 607 formulations |
| Revision of pharmacopoeial monographs of single drugs included in Unani Pharmacopoeia of India, Part-I, Vol. I-VI as per the mandate of Scientific Board, PCIM&H | UPI, Part-I, Vol. I-III, consisting of 140 monographs |
| Publication of new pharmacopoeial monographs | UPI, Part-I, Vol. VII, consisting of 40 single drug monographs |

***Source:*** Author's compilation.

**Table No. 2: NUMBER OF PHARMACOPOEIA/ FORMULARY PUBLISHED (2014-2024)**

| S. No. | Name of Document | Year of Publication | No. of Monographs/ Formulations |
|---|---|---|---|
| 1. | Unani Pharmacopoeia of India, Part-II, Vol.-III | 2016 | 50 Monographs of Compound Formulations |
| 2. | Unani Pharmacopoeia of India, Part-II, Vol.-IV | 2019 | 50 Monographs of Compound Formulations |
| 3. | Revised National Formulary of Unani Medicine, Part-IV | 2022 | 166 Formulations |
| 4. | Unani Pharmacopoeia of India, Part-I, Vol.-VII | 2023 | 40 Monographs of Single Drugs |

***Source:*** Author's compilation.

knowledge with modern technology. Emphasising collaboration, the Council strives to develop safe, effective solutions to enhance the global acceptance of Unani medicine.

As part of this comprehensive effort, the Drug Standardisation Research Programme of CCRUM aims to establish pharmacopoeial standards for both single drugs and compound formulations listed in the National Formulary of Unani Medicine and the Essential Drug List.[19] The process adheres to the guidelines of the Pharmacopoeia Commission for Indian Medicine and Homoeopathy (PCIM&H) and the Unani Pharmacopoeia Committee. It includes the development of Standard Operating Procedures (SOPs) for the preparation of Unani formulations, along with rigorous testing of drug samples for parameters such as heavy metals, microbial load, aflatoxins, and pesticide residues to ensure their quality, safety, and efficacy. This programme is currently being implemented at six peripheral institutes of CCRUM (CCRUM, 2022).

The Preclinical Research Programme of CCRUM focuses on the toxicological and pharmacological evaluation of both classical Unani drugs and newly developed drugs. Comprehensive safety and toxicity assessments have been carried out, alongside pharmacological evaluations that highlight the therapeutic potential of various Unani formulations in areas such as anti-diabetic, anti-cancer, anti-inflammatory, analgesic, antipyretic, antidepressant, anti-epileptic, anti-hyperlipidemic, antimalarial, anthelmintic, hepatoprotective, nephroprotective, and cognitive-enhancing effects. These studies are primarily conducted at two peripheral

**Table No. 3: Achievements of the Pre-Clinical Programme (2014-2024).**

| PRECLINICAL STUDIES | |
|---|---|
| Total no. of Completed projects | 44 |
| Total no. of ongoing projects | 28 |
| New Allotment (2024-25) | 06 |

***Source:*** Author's compilation.

centres—NRIUMSD in Hyderabad and RRIUM in Srinagar.[20]

Complementing this, the Clinical Research Programme of CCRUM focuses on validating the safety and efficacy of classical Unani drugs and developing new formulations for emerging diseases.[21] Research spans drug-specific and disease-specific interventions, with special emphasis on fast-acting Unani drugs in areas of traditional strength. Multi-centric randomised controlled trials have evaluated Unani formulations for conditions like vitiligo, psoriasis, eczema, rheumatoid arthritis, asthma, sinusitis, kala azar, filariasis, diabetes, and hypertension.

As a result, significant progress has been made, particularly in treating skin disorders, musculoskeletal conditions, and respiratory ailments. Clinical studies also cover neurological, gastrointestinal, lifestyle-related, and cognitive disorders, including the use of Unani medicine as adjunct therapy in chronic illnesses like cancer and tuberculosis. The Council has also worked on validating Unani principles and drug efficacy. So far, it has received 19 patents and 10 approvals from the National Biodiversity Authority. The programme is implemented through 19 clinical centres (CCRUM, 2022).

**Table No. 4: Achievements of the Clinical Research Programme (2014-2024).**

| CLINICAL RESEARCH PROGRAMME | | |
|---|---|---|
| Clinical validation of Pharmacopoeial drugs | Total no. of completed projects | 69 (78 Drugs) |
| | Ongoing projects | 67 (82 Drugs) |
| New Investigational Drugs | Total no. of completed projects (RCTs) | 03 |
| | Ongoing projects (RCTs) | 09 |
| IMR Projects | Total no. of completed projects | 14 |
| | Ongoing projects | 15 |
| Expression of Interest scheme | Completed projects | 12 |
| | Ongoing projects | 44 |
| | New projects | 20 |

***Source:*** Author's compilation.

In addition, the Fundamental Research Programme aims to scientifically validate the core concepts of Unani medicine by examining them through modern parameters like genetics, biochemistry, physiology, and pathology. This initiative seeks to bridge traditional theories with contemporary biological science. To date, 25 projects have been completed and 12 are ongoing (CCRUM, 2022).

Equally important is the Validation of Ilaj bi'l Tadbir (Regimenal Therapies) programme, under which CCRUM is working to scientifically evaluate traditional Unani regimens such as cupping (Hijama), leech therapy (Irsal-i-Alaq), venesection (Fasd), massage (Dalk), Turkish baths (Hammam), and

irrigation (Natul). Clinical studies have shown encouraging results for Hijama in treating musculoskeletal disorders and for Irsal-i-Alaq in conditions like vitiligo, psoriasis, gout, rheumatoid arthritis, and osteoarthritis (El Hasbani, Jawad & Uthman, 2021)

Furthermore, the Survey and Cultivation of Medicinal Plants Programme is central to CCRUM's drug research.[22] It conducts nationwide surveys to document medicinal flora and gather traditional ethnopharmacological knowledge from tribal and rural communities, while cultivating key Unani plants like Asgandh, Babchi, Kutki, and Khulanjan using standardised agronomic practices. Over 100 surveys have been conducted across 97 forest divisions. The programme has yielded over 200 scientific publications, 18 books and monographs, and conserved around 450 plant species in herbal gardens across five peripheral institutes of CCRUM (CCRUM, 2022).

**Table No.5: Achievement of the Survey and Cultivation of Medicinal Plants programme (2014-2024).**

| SURVEY AND CULTIVATION OF MEDICINAL PLANTS PROGRAMME | |
|---|---|
| **Achievements / Outcomes** | **2014-2024** |
| No. of Survey Tour | 104 |
| Forest Division Covered | 97 |
| No. of Plants specimens Collected | 25410 |
| No. of Plant species Identified | 2371 |
| No. of Herbarium sheets mounted | 14122 |
| No. of Herbarium sheets digitised | 3059 |
| No. of Folklore claims collected | 3037 |
| No. of index cards compiled | 4260 |
| No. of saplings | 20726 |
| Quantity of crude drugs collected (in Kg) | 23005 |
| Cultivation of Plants (Nos) / Produce (in Kg) | 110/2100 |
| Maintenance of Medicinal plants including Endemic, Exotic, Rare, Endangered, Threatened and High-altitude plants in Herbal Gardens for conservation and demonstration purpose | 450 |

***Source:*** Author's compilation.

In Addition, the Literary Research Programme of CCRUM, conducted through the Hakim Ajmal Khan Institute at Jamia Millia Islamia, focuses on preserving and promoting classical Unani texts. The Council has translated 62 volumes from 24 seminal Arabic and Persian works into Urdu, making Unani knowledge more accessible. Key translations include texts by Ibn al-Baytar, Razi, Ibn Rushd, Ibn Hubal, Ibn Zuhr, and Azam Khan.[23]

Lastly, the Outreach Activities of CCRUM focus on improving healthcare accessibility and awareness, particularly in underserved communities. Through the co-location of Unani medical centres in tertiary care hospitals across Delhi,

**Table No. 6: Achievements of the Literary Research Programme (2014-2024)**

| Projects completed | No. of Books |
|---|---|
| Translation/edited reprint of Unani classical books | 15 |
| Compilation of books | 10 |
| Development of Standard Unani treatment guidelines for common diseases (130 diseases) | Volume- I & II |
| Drug/disease based compendia | 06 |
| Documentation of classical Information on different topics | 11 |
| Preparation of IEC booklets | 24 |
| Contribution in WHO projects<br>• Compilation and review of draft on International terminologies of Unani Medicine<br>• Development of modules of Traditional Medicine 2 (TM2 [Ayurveda, Siddha, Unani] ) for inclusion in International Classification of Diseases (ICD-11) | 02 |
| Integration of Unani medicine into Systematized Nomenclature of Medicine Clinical Terms (SNOMED-CT) | 03 |
| Miscellaneous, e.g. work related to NAMASTE-P, AHMIS and COVID-19 | 03 |
| **Total** | **76** |

***Source:*** Author's compilation.

specialised treatment for conditions like vitiligo, eczema, and diabetes is provided. The Mobile Clinical Research Programme[24] extends Unani healthcare to rural, urban slum, and SC/ST populations, delivering treatment directly to patients' homes. The School Health Programme promotes student health and hygiene, offering health check-ups and Unani treatments in rural and slum schools. Additionally, the Special Component Plan under Scheduled Caste Sub-plan (S) CSP and Tribal Sub-plan (TSP) enhances healthcare access for SC and ST communities (CCRUM, 2022).

## Important Initiatives of CCRUM in Strengthening R&D and New Drug Development

The Central Council for Research in Unani Medicine (CCRUM) has undertaken several key initiatives to strengthen research and development (R&D) and promote new drug development in Unani medicine. One major step in this direction has been the NABH accreditation of six peripheral institutes, underscoring the Council's commitment to ethical clinical trials, patient safety, and high standards of healthcare. This accreditation enhances credibility among researchers and regulatory bodies, facilitating the reliable evaluation of Unani therapies.[25] In addition, CCRUM's laboratories have received NABL accreditation[26]—eight for medical testing and three for drug testing—ensuring adherence to international benchmarks for quality management and technical proficiency.

In line with its efforts to promote evidence-based traditional medicine and align it with contemporary pharmaceutical practices, CCRUM has also focused

on developing new dosage forms. A notable example is a collaborative study with the Department of Saidla, Faculty of Unani Medicine, Aligarh Muslim University, which reformulated traditional compounds like Ma'jün Dabéd al-Ward and Ma'jün-i Falāsifa into sugar-free, stable tablet forms (CCRUM 2020). This transformation aimed to enhance patient compliance and therapeutic effectiveness while undergoing rigorous physico-chemical and pharmacological testing. Furthermore, additional projects under this initiative include the preparation and evaluation of sugar-free Khamira-e-Gaozaban Sada for its immunomodulatory potential in bipolar disorder, sugar-free Unani formulations for COVID-19-related disorders, the development of dispersible Unani tablets for immunomodulatory and anticancer adjuvant use, and the creation of intranasal nano-formulations using anti-epileptic herbs. Together, these efforts illustrate CCRUM's commitment to integrating traditional Unani wisdom with modern scientific advancements, ensuring its relevance in contemporary healthcare.

To advance the scientific validation of traditional Unani therapies, CCRUM adopts a reverse pharmacology model. Unlike conventional drug development, this method begins with clinical observations and proceeds to laboratory validation in three phases: Experiential Phase Exploratory phase and Experimental phase.This trans-disciplinary approach holds significant promise for discovering new natural therapies. (Patwardhan, 2015; Bhushan, 2010; Vaidya, 2006; Wilcox, 2011).

In addition, CCRUM collaborates with leading national and international institutions to strengthen Unani medicine through interdisciplinary research in areas like cancer, lifestyle disorders, viral infections, and nanotechnology. Such collaborations help generate robust evidence on the safety and efficacy of Unani treatments, especially where in-house capabilities are limited. Global collaborations include Hamdard University (Bangladesh), Avicenna Tajik State Medical University, University of the Western Cape (South Africa), and Tehran University of Medical Sciences, reinforcing Unani medicine's relevance in contemporary healthcare and new drug development.

Parallelly, CCRUM actively works to commercialise its research outcomes for wider public benefit. Through an MoU with NRDC, the Council has licensed its patented products to reputed Unani industries. Dehlvi Naturals has received rights to market a herbo-mineral Unani toothpaste effective in promoting oral hygiene and preventing periodontal diseases. Hamdard Laboratories was granted a license for a Unani regimen for vitiligo, comprising a capsule (UNIM-001) and a topical powder (UNIM-003), clinically proven to arrest progression and promote re-pigmentation. Additionally, efforts are also ongoing to commercialise "Capsule Nazla," a clinically tested herbal remedy for the common cold.

To further strengthen R&D in Unani medicine, CCRUM has established Institutional Multidisciplinary Research Advisory Committees (IMRAC) at its peripheral institutes, bringing together experts from Unani medicine, biochemistry, pathology, botany, and chemistry to integrate traditional knowledge with modern science. Alongside this, the Council also links education with research

through postgraduate and doctoral programmes at NRIUMSD, Hyderabad (affiliated with KNRUHS), and RRIUM, Srinagar (affiliated with the University of Kashmir). In a similar vein, to foster young researchers, CCRUM launched the Studentship Programme for Unani Research (SPUR) on August 7, 2024, offering 25 BUMS students hands-on research experience.

To enhance holistic health, CCRUM is promoting healthy living through the development of Unani Aahaar, a nutritional approach rooted in Unani dietary principles. As part of this initiative, the Council has developed and introduced a range of Unani-based food products, which include Hareera (a nutrient-rich porridge for recovery), Unani Qahwa (an immunity-boosting drink with saffron, cardamom and almonds), Halwa Gheekwar (an aloe vera-based winter tonic), Gulqand, and Amla Murabba. Moreover, in collaboration with Bhaskaracharya College (University of Delhi) and Jamia Hamdard, CCRUM has also launched barley-based innovations such as Talbeena cookies, flakes, instant porridge, and fortified barley water. These products offer therapeutic benefits, including weight management, cardiovascular health, and diabetes control, while being gluten-free, trans-fat-free, and suitable for all age groups.

With the goal of standardisation, CCRUM has developed and implemented a Standard Operating Procedure (SOP) for Hijāma (cupping therapy) to ensure consistency, hygiene, and safe clinical practice, reinforcing effective treatment protocols (CCRUM, 2024). As part of the Directorate General of Health Services (DGHS) initiative, CCRUM has developed Standard Treatment Guidelines (STGs) for musculoskeletal disorders in Unani Medicine. These guidelines aim to standardise and scientifically inform care. Currently, efforts are underway to expand this initiative with the release of STGs for metabolic disorders (Ayush Vertical, 2024).

In keeping with technological advancements, CCRUM is embracing the digital revolution by launching five mobile apps focused on Single Unani Drugs, Unani Treatment Guidelines, Know Your Mizaj, Common Remedies in Unani Medicine, and Unani Murakkabat (formulations). These apps aim to provide Unani practitioners with easy access to vital information. Simultaneously, CCRUM has partnered with the WHO to develop benchmarks for Unani training, practice, and international terminology. An important milestone is the publication of the International Standard Unani Terminologies, which includes 4,028 terms. Furthermore, CCRUM has successfully incorporated Unani morbidity codes into the ICD-11 TM 2 module,[27] Chapter 26, marking a critical step in the global recognition of Unani Medicine and its integration into modern healthcare systems.

Notably, during the COVID-19 pandemic, CCRUM played a proactive role by promoting Unani-based preventive strategies, public awareness, and immunity-boosting strategies.[28] The Council conducted several studies to contribute to evidence-based research for new drug development. These included population-based research on Unani prophylactic interventions, in-silico screening of formulations against SARS-CoV-2, and the standardisation of Ayush and Unani Joshanda, all of

which supported potential therapeutic developments.

## CCRUM's Strategic Vision for Advancing R&D in Unani Medicine

CCRUM has unveiled its Research Policy 2025, setting a clear path to guide the development and enhancement of Unani medicine through strategic research initiatives. The policy highlights several key priorities, including the exploration of new medicinal plants, clinical trials on lesser-known plants to treat various diseases, and the validation of classical formulations for new therapeutic uses. It also emphasises innovative drug combinations, inspired by traditional folk practices, and the reformulation of classical drugs into modern dosage forms. Other key areas of focus include clinical validation of regimenal therapies like Mundij-Mushil, studying Unani treatments as supportive therapies alongside conventional drugs to reduce side effects and improve quality of life, and Emphasising Unani approaches to disease prevention and health promotion. (CCRUM, 2025)

Looking toward the future, CCRUM envisions a forward-looking future that blends time-tested wisdom with emerging technologies to create a globally relevant and scientifically validated system of holistic health. A key focus is to elevate Unani medicine through robust clinical trials, pharmacological research, and translational studies, ensuring it meets modern healthcare standards. By reinforcing empirical evidence, the Council seeks to enhance trust, acceptance, and integration of Unani practices worldwide. Efforts are also underway to protect and propagate medicinal flora through sustainable cultivation practices, including the development of medicinal plant farms, conservation banks, and digital repositories to safeguard plant diversity. CCRUM embraces advanced technologies such as artificial intelligence, machine learning, and big data to support diagnosis, treatment personalisation, and research advancements, aiming to build intelligent digital systems for improved clinical decision-making and patient care. Expanding Unani's global presence through partnerships, research exchanges, and health diplomacy is a key objective, along with aligning with international norms for drug approval, therapeutic efficacy, and education. The Council is further focused on discovering new medicines by applying modern tools such as reverse pharmacology, molecular biology, and bioinformatics, building upon the foundational knowledge of the Unani pharmacopoeia.

## Conclusion

Despite the significant strides made, challenges in the field of R&D in Unani medicine still remain. Establishing universally recognised regulatory frameworks and enhancing public awareness about the scientific validation of Unani treatments are crucial for its broader acceptance and integration. Furthermore, the development of new dosage forms and quality control mechanisms has improved the accessibility and therapeutic potential of Unani medicines. However, more efforts are needed to establish standardised guidelines for product development, ensure uniformity in formulations, and enhance the scalability of production to meet growing global demands.

In order to ensure more growth, a strategic roadmap is essential, focusing

on addressing regulatory challenges, strengthening scientific validation, and fostering global collaborations. For establishing Unani medicine as a reliable and effective part of global healthcare, strengthening interdisciplinary research, investing in technological innovations, and increasing public awareness are essential factors. Future initiatives should focus on refining research methodologies, bridging traditional wisdom with modern scientific advancements, and fostering the sustainable growth of Unani medicine as a complementary and integrative healthcare system.

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**Endnotes**

1 Ministry of Ayush, Government of India, Available at: https://ayush.gov.in/

2 Central Council for Research in Unani Medicine, Major Landmarks, Central Council for Research in Unani Medicine, Available at: https://ccrum.res.in/UserView/index?mid=1415

3 Centre for Research in Indian Systems of Medicine, About Us, Centre for Research in Indian Systems of Medicine, Available at: https://crism.net/about_us.htm#:~:text=The%20primary%20mission%20of%20the,Department%20of%20AYUSH%20and%20NCNPR

4 Department of Scientific and Industrial Research, Unani System of Medicine: Introduction, Available at: https://www.dsir.gov.in/sites/default/files/2019-10/ISM_USM_Intro.pdf

5 Hamdard National Foundation, Hakeem Abdul Hameed (1908-1999), Available at: https://www.hamdardfoundation.in/our-founder

6 https://www.ibnsinaacademy.org/

7 Ministry of Ayush, Government of India, AYUSH Research Portal, Ministry of Ayush, Available at: https://ayushportal.nic.in/

8 Council of Scientific and Industrial Research (CSIR), Traditional Knowledge Digital Library, Traditional Knowledge Digital Library, Available at: https://www.tkdl.res.in/tkdl/langdefault/common/Home.asp?GL=Eng

9 Council of Scientific and Industrial Research (CSIR), Traditional Knowledge Digital Library, CSIR, Available at: https://www.csir.res.in/documents/tkdl#:~:text=As%20on%20date%2C%20more%20than,the%20same%20with%20modern%20terminology.

10 Press Information Bureau (PIB), 2024,National Medicinal Plants Board supported training projects to train the farmers on Good Agricultural Practices and Good Field Collection Practices of medicinal plants, Press Information Bureau, Available at: https://pib.gov.in/PressReleaseIframePage.aspx?PRID=2043754#:~:text=NMPB%2C%20Ministry%20of%20Ayush%20has%20supported%20240,from%20the%20financial%20year%202015%2D16%20to%202023%2D24

11 National Institute of Unani Medicine (NIUM), Overview, National Institute of Unani Medicine, Available at: http://nium.in/overview.html

12 Ministry of Ayush,2023, Lok Sabha Unstarred Question No.2752: Development of Unani Medicines

13 National Research Institute of Unani Medicine for Skin Disorders (NRIUMSD), 'Overview', NRIUMSD, Available at: https://nriumsd.in/overview.html

14 Regional Research Institute of Unani Medicine (RRIUM), About Us, RRIUM Srinagar, Available at: https://rrium.uok.edu.in/Main/AboutUs.aspx

15 Regional Research Institute of Unani Medicine (RRIUM), Chennai, Overview, RRIUM Chennai, Available at: https://www.rriumchennai.org/

16 https://ayush-unaniday.in/committee.html

17 Central Council for Research in Unani Medicine, Introduction, Available at: https://ccrum.res.in/

18 Central Council for Research in Unani Medicine, CCRUM INTRA-MURAL RESEARCH POLICY-2013. Available

at:https://ccrum.res.in/writereaddata/UploadFile/INTRAMURAL%20RESEARCH%20POLICY%20Final636994508003314440.pdf

19 Central Council for Research in Unani Medicine, Drug Standardization Research Programme. Avialable at: https://ccrum.res.in/UserView/index?mid=1487

20 MyGov,2025. Central Council for Research in Unani Medicine. Avialbale at: https://blog.mygov.in/editorial/central-council-for-research-in-unani-medicine/#:~:text=Regional%20Research%20Institute%20of%20Unani%20Medicine%20(RRIUM)%2C%20Srinagar%20Pre,states%20of%20health%20and%20disease.

21 Central Council for Research in Unani Medicine, https://ccrum.res.in/writereaddata/UploadFile/Clinical%20Research%20Programme637031617436226833.pdf

22 Central Council for Research in Unani Medicine, SURVEY AND CULTIVATION OF MEDICINAL PLANTS RESEARCH PROGRAMME AT GLANCE. Available at: https://ccrum.res.in/ViewData/PrintContent_multiple?mid=1640

23 Central Council for Research in Unani Medicine, Gratis list of publications. Available at: https://ccrum.res.in/writereaddata/UploadFile/Gratis%20list%20of%20CCRUM%20publication_1718.pdf

24 Central Council for Research in Unani Medicine, https://ccrum.res.in/writereaddata/UploadFile/Mobile%20clinical%20research%20programme.pdf

25 Regional Research Institute of Unani Medicine, Chennai, https://www.rriumchennai.org/dgmess.php#:~:text=Owing%20to%20the%20institute's%20commitment,acquired%20NABH%20and%20NABL%20accreditation.

26 Central Council for Research in Unani Medicine, Major Landmarks. Avilable at: https://ccrum.res.in/UserView/index?mid=1415#:~:text=456963%20Title%2DA%20Novel%20Herbal,2024

27 Press Information Bureau (PIB), 2024. https://www.pib.gov.in/PressReleaseIframePage.aspx?PRID=1994614

28 Vikaspedia, 2023. https://en.vikaspedia.in/viewcontent/health/ayush/guidelines-for-ayush-practitioners-for-covid-19/unani-medicine-based-preventive-measures-for-selfcare-during-covid19-pandemic

## References


Ansari, A.P. 2020. Ilāj bi'l Tadbīr (regimenal therapy): A core mode of Unani treatment. *Journal of Complement and Integrative Medicine*, p.20200048. https://orcid.org/0000-0002-5755-3525

Ayush Vertical, Directorate General of Health Services 2024. Standard treatment guidelines on management of common musculoskeletal disorders in Unani system of medicine. New Delhi: *Ayush Vertical, Directorate General of Health Services*.

Bhushan, P. and Vaidya, A. 2010. Natural products drug discovery: Accelerating the clinical candidate development using reverse pharmacology approaches. *Indian Journal of Experimental Biology*, 48, pp.220–227.

Central Council for Research in Unani Medicine. 2020. Unani medicine and research trends – An insight. New Delhi: Central Council for Research in Unani Medicine, Ministry of Ayush, Government of India.

Central Council for Research in Unani Medicine, 2022. Glimpses of Activities and Achievements of the Central Council for Research in Unani Medicine. New Delhi: Central Council for Research in Unani Medicine, Ministry of AYUSH, Government of India. ISBN: 978-81-956006-8-7.

Central Council for Research in Unani Medicine. 2024. Standard Operating Procedures (SOP) for Hijama (Cupping Therapy). Ministry of Ayush, Government of India, pp. 1-124. ISBN 978-93-94347-82-3.

Central Council for Research in Unani Medicine. 2025. CCRUM Research Policy 2025. 2nd ed. New Delhi: Central Council for Research in Unani Medicine, Ministry of AYUSH, Government of India.

Department of AYUSH. 2013, Unani system of medicine: the science of health and healing, Ministry of Health and Family Welfare, Government of India, New Delhi.

Devia, H.M. and Singh, N.I. 2018. Traditional medicinal uses and pharmacological properties of Rhus chinensis Mill: A systematic review. *European Journal of Integrative Medicine*, 21, pp.43–49.

El Hasbani, G., Jawad, A. and Uthman, I. 2021. Cupping (Hijama) in rheumatic diseases: the evidence. *Mediterranean Journal of Rheumatology*, 32(4), pp.316–323.

Hashi, M. 2021. Research opportunities in Unani/Greco-Arabian medicine. *Journal of Drug*

*Delivery and Therapeutics*, 11(1), pp.152–155. Available at: http://jddtonline.info

Itrat, M. 2016. Research in Unani medicine: Challenges and way forward. Alternative & Integrative Medicine, 5(1), https://doi.org/10.4172/2327-5162.1000211

Itrat, M. and Khan, S. 2016. Evidence-base Unani medicine: Need of appropriate research methods. *Journal of Traditional Medicine & Clinical Naturopathy*, 5(3), https://doi.org/10.4172/2573-

Khan, M.A., Tariq, M., Akhtar, J., Siddiqui, Z.H., Naime, M. and Rauf, E. 2018. Cancer prevention and treatment in Unani medicine: A literature review. *Hippocratic Journal of Unani Medicine*, 13(4), pp.1-12

Lloyd, I. 2009. Traditional and complementary systems of medicine. In: The Energetics of Health. pp. 13–17. Churchill Livingstone.

Ministry of AYUSH. 2016. Unani system of medicine: the science of health and healing, pp.1-152.

Parveen, A., Parveen, R., Akhatar, A., Parveen, B., Siddiqui, K.M. and Iqbal, M. 2020. Concepts and quality considerations in Unani system of medicine. *Journal of AOAC INTERNATIONAL*, 103(3), pp.609–633. https://doi.org/10.5740/jaoacint.19-0284

Patwardhan, B., Mutalik, G. and Tillu, G. 2015. Chapter 9 - Drug Discovery and Ayurveda. In: B. Patwardhan, G. Mutalik, and G. Tillu, eds. Integrative Approaches for Health. pp. 229–258. Academic Press. https://doi.org/10.1016/B978-0-12-801282-6.00009-7

Vaidya, A. 2006. Reverse pharmacological correlates of Ayurvedic drug actions. *Indian Journal of Pharmacology*, 38, p.3115.

WHO. 2022. WHO Benchmarks for the training of Unani Medicine. Geneva: World Health Organization.

Wilcox, M. *et al*. 2011. A reverse pharmacological approach for developing anti-malarial phytomedicine. *Malaria Journal*, 10, p.S8.

# Biological Diversity and International Law: Challenges for the Post 2020 Scenario

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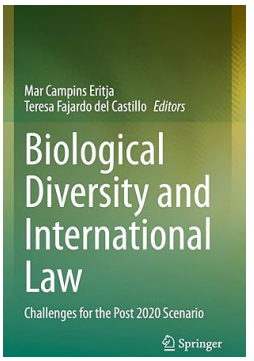


T C James*

T C James

Traditional Medicine has a special interest in the conservation and sustainable use of biological resources since they are the sources and materials for most traditional medicines. Modern medicine also has a strong base in biological resources since around forty per cent of pharmaceutical products are drawn from nature, including drugs like Aspirin and Artemisinin. There are also many cancer, cardiovascular and hypertension drugs derived from biological resources. Recognising the importance of biological resources for health, the World Health Organisation (WHO) and the United Nations Convention on Biological Diversity (CBD) have established a Joint Work Programme on Biodiversity and Health. Since 2012, WHO and CBD have been collaborating in this area. In this context, the book "Biological Diversity and International Law: Challenges for the Post 2020 Scenario", edited by Mar Campins Eritja and Teresa Fajardo del Castillo, is of significance for traditional medicine practitioners and policymakers.

This is a timely and thought-provoking contribution to the field of international environmental law. It is the outcome of the research project, "Biological Diversity and International Law: Emerging Issues and Trends, Interaction of Legal Regimes and Key Policy Challenges", funded by the Spanish Government. The book focuses on analysing the legal interactions between international biodiversity law and related international law applicable to economic activities. As the editors put it, there is a two-fold approach: one is an analysis of the legal interactions

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referred to above and, second, an analysis of biodiversity governance issues. The publication is well-timed, given the revision of the Strategic Plan for Biodiversity for the current decade.

The book brings together several experts to explore the complex interactions between international legal regimes related to biodiversity governance. The experts include, besides the editors Mar Campins Eritja and Teresa Fajardo del Castillo, Jose Juste Ruiz, Royal C. Gardner, Xavier Fernandez-Pons, Josep Maria de Dios Marcer, Xavier Pons Rafols, Francesco Sindico, Luis E. Rodriguez-Rivera and Guillaume Futhazar. The editors and contributors are experienced professionals in international environmental law and policy.

The book offers a holistic approach to biodiversity governance, considering functional, normative, and geographic dimensions. It is divided into three parts, namely, Part I on Principles and Frameworks, which discusses the principles inspiring biodiversity-related conventional law and structural, regulatory and implementation gaps, Part II on Interactions in Conventional Frameworks, which examines interactions in specific frameworks, such as multilateral trade and global public health, and Part III on Challenges for Sustainability and Marine Biodiversity. The systemic relations arising from national interests and the role of scientific advisory bodies in biodiversity-related agreements have also been touched upon. The book's strength lies in its comprehensive approach, examining both the principles and frameworks that underpin biodiversity-related law and the specific challenges that arise in conventional frameworks such as multilateral trade and global public health. The editors have done an excellent job in organising the contributions into a cohesive narrative that flows logically from fundamental principles of international law to governance issues to challenges.

Chapter 1 is the Introduction which sets out the context and objectives of the volume. It also presents the rationale of the study and the arrangement of the chapters. It serves the function of an executive summary.

One of the persistent criticisms of the CBD is about its enforcement, rather lack of enforcement. Chapter 2 examines the general principles of international law, and the specific principles and approaches in the CBD and other related conventions, which have systemic, substantive and procedural functions. These include the principles of international cooperation and common but differentiated responsibilities in the field of biological diversity. In this, it has transformed the general principle of reciprocity. The author is of the view that these principles enable acceptance of future obligations without compromising national sovereignty over natural resources. However, the comparative obligations of developed and developing countries keeping in mind the imperative of faster development for the developing countries, where most of the biological diversity is located, and the cost of access to technologies, particularly green technologies, which mostly are with the developed world, have not been examined. The author, however, observes that the evolving legal systems must adapt to new and existing challenges to address them successfully. It is an unimpeachable conclusion.

The discussion is carried forward in chapter 3, which brings out the various structural, regulatory, implementation and enforcement gaps. These have resulted in the continuing decline of biodiversity, which, if not halted, is likely to result in the disappearance of over a million species in our own lifetime. Therefore, there is a need to

find practical ways to bridge these gaps. This needs more collaboration and cooperation among States. While there is scientific and technical cooperation and administrative coordination among the conventions, States will have to firmly commit to taking effective action for the conservation and sustainable use of biodiversity.

Chapter 4 is of special relevance for health professionals and public health advocates and has high significance in light of the recent COVID-19 pandemic. It examines five bio-diversity related conventions which provide for scientific advisory bodies, namely, the Ramsar Convention on Wetlands, 1971, the Convention on International Trade in Endangered Species, 1973, the Convention on the Conservation of Migratory Species of Wild Animals, 1979, the Agreement on the Conservation of African-Eurasian Migratory Water birds, 1995, and the Convention on Biological Diversity, 1992. The chapter notes that the attempts at collaboration among these scientific bodies, including the Chairs of the Scientific Advisory Bodies (CSAB) established in 2007, have not been successful. It suggests strengthening the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), established in 2012, as a means for more interaction among the scientific advisory bodies, and concludes that the scientific bodies' promotion of biodiversity conservation as a preventive measure for human health and well-being will go a long way.

Chapter 5, the first chapter in Part II, looks into how conservation and sustainable use accord with the international and regional trade regulations. It notes that the Marrakesh Agreements, 1994, provide for the "optimal use of the world's resources in accordance with the objective of sustainable development ... to protect and preserve the environment." It, then, analyses some cases relating to the issue that came up before the World Trade Organisation (WTO) Dispute Resolution Mechanism (DSM), and observes that "the system has been contributing to improved conciliation between trade and the conservation and sustainable use of biodiversity." However, more clarity in favour of the latter is required in the regulations. With the DSM of the WTO being in a limbo now, how this will work out is worth watching.

The next chapter is specifically about public health issues in the international trade of wildlife. It examines in detail the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), 1973 and concludes that it is not an instrument for the protection of public health. While there is a need for effective restrictions on trade in wildlife in the interest of public health, the author is of the view that such provisions should be read into the trade agreements through appropriate interpretations.

Chapter 7 is about an issue that has attracted much academic and activist attention, namely, access to and benefit-sharing (ABS) of genetic resources (GR). It offers an overview of the existing system, its rationale, an analysis of the scope and limits of the ABS systems under CBD and the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) of the Food and Agriculture Organisation (FAO). The analysis has led to the conclusion that the benefits from both systems are not satisfactory as far as the provider States are concerned, and that there is a need to strengthen the implementation of the ABS systems under the Nagoya Protocol (NP) and the ITGRFA, and both should be mutually supportive. It is also necessary to ensure that the WTO provisions do not hamper the ABS systems. At the same time, it should be remembered that there are WTO Members who have not ratified the CBD and the NP, an aspect that could have been examined in more detail by the authors.

One of the book's key contributions is its analysis of the systemic challenges that arise from the interactions between different international legal regimes. The contributors provide nuanced and insightful analysis of the complex relationships between biodiversity law and other areas of international law, highlighting the need for a more integrated approach to biodiversity governance. A positive aspect is the exploration of the participation of communities in the management of genetic resources.

The book's focus on the post-2020 scenario is also welcome, given the ongoing efforts to develop a new global framework for biodiversity conservation. The four case studies in the third part, focusing on the challenges for sustainability and marine biodiversity in small islands, the Arctic Ocean, the Caribbean Sea, and the Mediterranean Sea, illustrate the issues well and propose the need to further strengthen a horizontal and joint approach. The contributors offer valuable insights into the challenges and opportunities that lie ahead and their analysis will be of interest to policymakers, practitioners, and academics alike.

The book could have, however, presented a wider coverage of regions and themes. For example, some case studies from diverse regions, such as Africa, Asia and South America could have been included to highlight regional challenges and opportunities. It would have been of greater interest to traditional medicine and health policymakers to have some case studies on how biological diversity has been affecting health and medicines – innovations, accessibility and availability. It could have explored what has been the impact of the CBD on these sectors and that would have added more value to the volume, in view of the current stress of the WHO on traditional medicine. Some of the other themes for exploration in such a book are indigenous and tribal peoples' rights in biodiversity, impact of climate change on biodiversity, marine biodiversity conservation, implications of synthetic biology for biodiversity conservation and role of digital sequence information in biodiversity governance, though digital sequencing and marine biodiversity have been briefly touched upon in Part III. May be these themes could be covered in a subsequent volume.

All said, it is a significant contribution to the field of international environmental law. It is a must-read for anyone interested in biodiversity conservation, a valuable resource for understanding the complexities of biodiversity governance. The book's comprehensive approach, from a legal perspective, and expert insights make it a useful tool for policymakers, academics, researchers, and practitioners in the field. Its clear structure and lucid language make the book comprehensible to a wide range of readers.

## Call for Contribution

Traditional Medicine Review (TMR) a multidisciplinary, peer-reviewed journal, aims to capture developments, updates and events on traditional medicine. We invite contributions from interested readers on issues related to traditional medicine, in theory and practice. Reviews of latest publications – research papers, essays, books, monographs, reports - are also welcome. The contributions can be sent to Editor, Forum on Indian Traditional Medicine, Research and Information System for Developing Countries (RIS), Core 4B 4th Floor, India Habitat Centre, Lodhi Road, New Delhi 110003, India (Email: tcjames@ris.org.in; Tel. +91-11-24682177-80; Fax: +91-11-24682173/74).

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Submissions should contain institutional affiliation and contact details of author(s), including email address, contact number, etc. Manuscripts should be prepared in MS-Word version, using double spacing. The text of manuscripts, particularly full length papers and essays may range between 4,000- 4,500 words. Whereas, book reviews/event report shall range between 1,000-15,00 words.

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Use's' in '-ise' '-isation' words; e.g., 'civilise', 'organisation'. Use British spellings rather than American spellings. Thus, 'labour' not 'labor'. Use figures (rather than word) for quantities and exact measurements including percentages (2 per cent, 3 km, 36 years old, etc.). In general descriptions, numbers below 10 should be spelt out in words. Use fuller forms for numbers and dates— for example 1980-88, pp. 200-202 and pp. 178-84. Specific dates should be cited in the form June 2, 2004. Decades and centuries may be spelt out, for example 'the eighties', 'the twentieth century', etc.

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