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Review Article

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A Review of Herbal Regulations and Approval Process in India and Europe

Manish B. Sahane*, Ganesh D. Basarkar

Department of Regulatory Affairs, SNJBs Shriman Sureshdada Jain College of Pharmacy, Neminagar, Chandwad, 423101, Dist. Nashik, Maharashtra, India

Abstract

The main suppliers of herbal plants and medications are India and Europe. People prefer using plants and herbs as remedies over synthetic ones since they have fewer adverse effects. In India, AYUSH, CDSCO (Central Drugs Standard Control Organization), AND D&C Act 1940 & 1945(amendment) all control herbal medications. In India, AYUSH systems have been developed to house almost 8000 herbal medications. While in Europe, the European Medicines Agency (EMA) and the Herbal Medicinal Products Committee (HMPC) are in charge of overseeing herbal medications. The regulation of herbal goods in India and Europe is the subject of this essay.

Keywords: Herbal Regulations, Herbal medicine, Herbal food supplements, Drugs and Cosmetics Acts and Rules, AYUSH, CDSCO, WHO

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*Corresponding author

1. Introduction

The World Health Organization (WHO) describes herbal medicines as "aerial or underground plant parts or other plant material that contain an active ingredient as finished, labelled medicinal product". (1) Herbal medications are utilized on a global scale. It is a medication made entirely from components of plants, such as leaves, roots, stems, flowers, and seeds, etc. Botanical medicine, often known as phytomedicines or herbal medicine. According to data from the WHO, 80 percent of the population currently uses herbal medicines for some part of basic healthcare. Typically, people view herbal medications as effective and safe treatments. Because herbal treatments have fewer negative effects than allopathic ones, consumers prefer them more frequently. As noted in the Rig-Veda and the Charaka Samhita, herbal remedies have been used in India from the time of the Vedas. In India, herbal medicines are employed according to Ayurveda, Siddha, homoeopathic medicine, and Unani. The largest supplier of medicinal herbs is India. India's forests are home to a variety of aromatic and medicinal plants that are used to make medicines. In India's AYUSH systems, some 8,000 herbal treatments have been organized. (2)

1.1 Regulations of Herbal medicine in India

In India, herbal medicinal products make up a sizable portion of all officially acknowledged health systems. As indicated in table 1, herbal medications are governed in India by the IMCC (Central Council of Indian Medicine) Act, the Research Councils (ICMR and CSIR), the Department of AYUSH (Ayurveda, Yoga & Naturopathy, Unani, Siddha, and Homoeopathy), and the Drugs and Cosmetics Act 1940 (Amendment). (3) Herbal remedies and medicinal plants must adhere to the Drug Controller General of India (DCGI)'s requirements in order to be used in the modern (Allopathic) system. The Drugs and Cosmetic Act of 1940 establishes standards for medications, and the relevant Pharmacopoeias also set down requirements for individual monographs. The release of the 52 drug standard Herbal Pharmacopoeias represents a step in the right direction. For licensing any herbal product within the two categories of ASU medications and Patent or proprietary medicines, the first schedule of the D and C Act lists the allowed texts that must be followed. Unfortunately, neither herbal goods nor herbal pharmacopoeias have any legal status in our nation, thus there are many herbal products on the market even if it is challenging to classify these items in accordance with the Drugs and Cosmetics Acts and Rules. (4)

1.2 Regulations of Herbal medicine in Europe

Herbal medicines are covered by European Directive 2001/83/EC, which mandates that each medicinal product be marketed and that an authorization be issued based on the findings of tests and experiments pertaining to quality, safety, and efficacy. The definition of traditional herbal

medicine, the streamlined registration process, the requirements for community herbal monographs, the community list of herbal compounds and preparations, and the creation of the Committee for Herbal Medicinal Products (HMPC) are the primary characteristics of Directive 2001/EC. European Directive 2004/24/EC on traditional herbal medicinal products was introduced specifically in recognition of the fact that it was challenging for businesses to meet the full requirements for a marketing authorization, particularly in relation to efficacy, as are required by Directive 2001/83/EC, for many herbal medicines. In accordance with Directive 2004/24/EC, the EMA, the European Agency in charge of evaluating medical goods, has established the HMPC to handle activities relating to the streamlined registration and authorization of herbal medicinal products. Community herbal monographs are created by CHMP, and they list herbal ingredients and formulations. (5) The evidence of the product's traditional use is regarded as proof of its effectiveness. Authorities may still demand proof of safety, though. Physical, chemical, and biological tests must be included in the product requirements as part of the quality control process. A minimum of 30 years, including at least 15 years within the European Union, shall be shown by the bibliographic proof that the product has been used medicinally. If the substance has been available for less than 15 years but otherwise qualifies for the directive's streamlined registration process, the application for traditional use registration shall be referred to the committee for Herbal Medicinal Products. (6)

Table 1. Comparative Regulation in India and European Union (7,8)

Parameters	Authorities	India	European Union
Herbal Medicines	Legislation	The Drugs and Cosmetics Act 1940 amended 1964. The Bureau of Indian Standards Act 1986.	CD 2001/83 ("basic" regulation) CD 2003/63 of 25 June 2003 (Annex I, criteria) CD 2004/24 (Traditional herbal medicinal products) CD 2004/27 of 31 March 2004 (HMPC)
	Committee	Department of AYUSH	Central European Authority with specified tasks. Herbal Medicinal Products Committee – HMPC
	Responsible Regulatory authorities for Registration of Nutraceuticals	Food Safety and Standards Authority of India (FSSAI)	No Uniformity among European Union countries but European food safety authority (EFSA) is there for assessment of health claim of food.
Nutraceuticals	Form & Regulatory Requirements for Registration	Form A, B, & C A. Product evaluation B. Licenses C. Health & label claim	-
	Authority	Central Drug Standard Control Organization (CDSCO)	European medicines agency (EMA)
	Rules & Regulation	D&C Act1940 AND Rules1945	Regulation 1223/2009
Herbal Cosmetics	Pre-Marketing Approval	Requirement under the state government	--
	Post Marketing Reporting System	N/A	Yes
Phytopharmaceuticals	Authority	Central Drug Standard Control Organization (CDSCO)	European medicines agency (EMA)

2. Guidelines of Herbals in Prime Countries

India:

India controls herbal goods under a number of systems, including Ayurveda, Unani, Siddha, and contemporary medicine, as was previously indicated. The Ministry of AYUSH and the Central Drugs Standard Control Organization (CDSCO) are among the regulatory bodies. (9-12)

United States (US):

The Food and Drug Administration (FDA) oversees herbal supplements in the USA as dietary supplements. Manufacturers are in charge of making sure that their products are safe and properly labeled, but they are not required to get FDA approval before marketing. The FDA keeps an eye on the security of these goods and has the authority to punish hazardous or incorrectly labeled goods. (13-15)

European Union (EU):

The European Medicines Agency (EMA) oversees the regulation of herbal medications in the EU.

Manufacturers must submit a marketing authorization request through a national or centralized process in order

to commercialize herbal medicines. Prior to their release for sale, these products are subject to safety, quality, and efficacy assessments by the EMA. (16-19)

Canada:

Health Canada regulates herbal items in Canada as natural health products (NHPs). Before marketing NHPs, manufacturers are required to get a product license and to present proof of the products' efficacy, quality, and safety. These items are governed and monitored by Health Canada. (20,21)

United Kingdom (UK):

The Medicines and Healthcare products Regulatory Agency (MHRA) oversees the regulation of herbal medications in the UK. For herbal medications with a track record of traditional use, manufacturers are required to obtain a Traditional Herbal Registration (THR). There are strict rules governing the sale of unauthorized herbal treatments. (22)

Australia:

The Therapeutic Goods Administration (TGA) oversees the regulation of herbal medications in Australia. Manufacturers are required to submit proof of product quality and safety and register their goods on the Australian Register of Therapeutic Goods (ARTG). These goods are monitored and governed by the TGA. (22)

China:

Herbal remedies have been used in China for a very long time, and traditional Chinese medicine (TCM) remains an essential component of healthcare. In China, the State Administration for Market Regulation (SAMR) is in charge of regulating herbal medications. TCM practitioners recommend these medications, and manufacturers are required to uphold strict quality standards. (23-25)

Japan:

The Ministry of Health, Labour, and Welfare (MHLW) oversees the regulation of herbal medicines, also referred to as Kampo medications, in Japan. For new Kampo medications, manufacturers must receive approvals and adhere to quality and safety requirements. (26)

Table 2. Regulatory authorities of Herbals in Prime Countries

Country	India	Canada	EU	Australia	Japan	China	United States (USA)	United Kingdom (UK)
Country								
Regulatory authority	AYUSH and CDSCO	Health Canada	European Medicines Agency (EMA)	Therapeutic Goods Administration (TGA)	The Ministry of Health, Labour, and Welfare (MHLW)	State Administration for Market Regulation (SAMR)	United State Food & Drug Administration (USFDA) (CBER)	MHRA and THR

3. Approval Process of Herbals in India

Ayurveda, Yoga, Unani, Naturopathy, Siddha, and Homeopathy are the other known health systems in India, along with Homeopathy, and all of them rely heavily on herbal medicines. Allopathy does not. Herbal medicine is governed in India by the Central Council of Indian Medicine Act, Research Councils, Department of AYUSH, and D&C Act 1940 (Amendment). Together, the AYUSH department, Indian Council of Medical Research, and Council of Scientific and Industrial Research cooperate to develop safe and effective AYUSH products for ailments that are known to exist in India as well as new pharmaceuticals. Drug and Cosmetics Act of 1940 and its Rules of 1945 (D & C ACT) apply to herbal medications. As a general rule, Ayurvedic, Unani, or Siddha drugs include all medications produced entirely in accordance with the formulae described in the valid books of Siddha, the system of Ayurvedic and Unani medicine, which are listed in the very first Schedule. These medications may be used internally or externally, or in the diagnosis of disease, treatment of disease, mitigation of disease, or curing of disease or disorder in humans or animals. The license, formulation composition, manufacture, labeling, packing, quality, and export control are all expanded under the D&C Act. As indicated in table 3, Schedule "T" of the Act contains Good Manufacturing Practice (GMP) regulations that apply to the production of herbal medications as shown in table 4. (27,28)

Table 3. Approval Process of Herbals in India

Part of Act / Rule	Chapter / Part	Nature of Activity
Drugs & Cosmetics Act 1940	Chapter IV-A (section 33-B to 33-N)	Provides provisions related to Ayurveda, Siddha and Unani Drugs
	The First Schedule	List of scheduled books

Drugs & Cosmetics Act 1940 - Schedules	The Second Schedule	Standards to be complied with by imported drugs and by drugs manufactured for Sale, Stocked or Exhibited for Sale or Distributed
Drugs & Cosmetics Rules 1945	Part XVI (Rule 151-160)	Manufacture for sale of Ayurvedic (including Siddha) or Unani Drugs
	Part XVI-A (Rule 160 A - 160 J)	Approval of institutions for carrying out tests on ASU Drugs and Raw material used in their manufacture
	Part XVII (Rule 161)	Labeling, Packing and Limit of Alcohol in ASU Drugs
	Part XVII (Rule 161-B)	Shelf life and date of expiry for ASU Medicines
	Part XVIII (Rule 162-167)	Government analysts and Inspectors for ASU Drugs
	Part XIX (Rule 168-170)	Standards of ASU Drugs
Drugs & Cosmetics Rules 1945 - Schedules	Schedule A	Different types of forms, particularly 24D, 24E, 25D, 25E, 26D, 26E, 26E-1, 47, 48, 49
	Schedule B-1	Fees for the test or analysis by Pharmacopeial Laboratory for Indian Medicine or the Govt. Analyst
	Schedule E-1	List of poisonous substances under ASU Systems of Medicine
	Schedule FF	Standards for Opthalmic Preparations
	Schedule T	Good Manufacturing Practices for ASU Medicines
	Schedule Y	Requirements and Guidelines for permission to import and / or manufacture of new drug for sale and to undertake clinical trials
	(Proposed) Schedule Z	Requirements and Guidelines for permission to manufacture of ASU Drugs for sale or for clinical trials.

4. Approval Process of Herbals in EU

As stated in table 4, businesses wishing to market herbal medicines in EU member states must adhere to the national regulations supervised by national competent authorities. (29) An herbal medicinal product can be commercialized in EU Member States through one of three primary regulatory channels:

Table 4. Approval Process of Herbals in EU

Regulatory pathways	Main requirements on safety and efficacy	Where to apply
Traditional use registration (Article 16 a(1) of Directive 2001/83/EC)	No clinical tests and trials on safety and efficacy are required as long as sufficient safety data and plausible efficacy are demonstrated. Involves assessment of mostly bibliographic safety and efficacy data Must have been used for at least 30 years, including at least 15 years within the EU. Are intended to be used without the supervision of a medical practitioner and are not administered by injection	National competent authority of a Member State for national, mutual recognition and decentralised procedures.
Well-established use marketing authorisation (Article 10a of Directive 2001/83/EC)	Scientific literature establishing that the active substances of the medicinal products have been in well-established medicinal use within the EU for at least ten years, with recognised efficacy and an acceptable level of safety. Involves assessment of mostly bibliographic safety and efficacy data	National competent authority of a Member State for national, mutual recognition and decentralised procedures. EMA if centralised procedure applies.
Stand-alone or mixed application (Article 8(3) of Directive 2001/83/EC)	Safety and efficacy data from the company's own development or a combination of own studies and bibliographic data.	National competent authority of a Member State for national, mutual recognition and decentralised procedures. EMA if centralised procedure applies

Table 5. Recent Approved Herbal Products (30,31)

List of Recent Approved Herbal Products	
In India (Products to which COPP granted)	**In Europe**
Pudin Hara Pearls	Melaleucae aetheroleum

Stresscom Capsules	Foeniculi amari fructus
Ayucid Capsule	Foeniculi dulcis fructus
Welecid Capsule	Sideritis herba
Ayuges Capsule	Thymi aetheroleum
Ayurin Plus Capsule	Menthae piperitae aetheroleum
Spirulina Plus Capsule	Hamamelidis folium
Triphala Tablet	Calendulae flos
Sumenta Tablet	Vitis viniferae folium
Karela Tablets	Anisi fructus
Lasuna Tablets	Valerianae radix
Manjishtha Tablets	Echinaceae purpureae herba
Shatavari Tablets	Eleutherococci radix
Shallaki Tablets	-
Meshashrigi Tablets	-
Punarnava Tablets	-
Neem Tablets	-

5. List of Documents Required for Application For WHO-GMP for A.S.U. Herbal Drugs (32)

1. Application for: WHO-GMP certification & issuance of COPP.

2. Name of the applicant with address, telephone, fax, e-mail etc.

3. Copy of Manufacturing Licence.

4. List of approved products.

5. List of products for which the firm has valid CoPP.

6. List of products applied for issuance of COPP & their composition.

7. Site Master file (as specified under WHO TRS 823).

8. Data on Finished Formulation:

8.01 Master manufacturing formula, manufacturing process.

8.02 Finished product specification and Method of Analysis.

8.03 Stability study evaluation (Accelerated and Real Time) for 3 batches including

details batch size, Batch No., Date of manufacturing, Date of Expiry, stability

study condition (Accelerated/ Real time), Name of Drug etc. (as per Format-A)

8.04 Process validation report for 3 batches.

8.05 Validation report of analytical method.

9. List of technical staff, their qualification, and experience and approval status.

10. List of equipment and instrument.

11. List of SOPs and STPs.

12. Manufacturing Plant layout.

13. Schematic diagram of water system specifying circulation loop and MOC.

14. Schematic diagram of HVAC system specifying terminal filter configuration.

15. Export data of last 2 years, in case of re-validation of CoPP.

16. Product summary sheet (as per Format B).

17. Actual labels of the products applied for WHO-CoPP.

18. Proof of safety and effectiveness as per Rule 158B of Drugs & Cosmetic Rules, 1945.

19. Reference standards of the ingredients / formulation of the products applied for

WHO-CoPP.

20. Certificates of Analysis for three batches of each product.

21. Undertaking regarding absence of any non-herbal ingredients including metals/

minerals, etc. in the products applied for WHO-CoPPs.

22. Undertaking regarding compliance to the provisions of domestic regulations inter-alia. Drugs and Cosmetics Act, 1940 and Rules thereunder, Drugs and Magic Remedies (Objectionable Advertisements) Act, 1954 and Rules thereunder, etc.

Ministry of AYUSH (33-36)

On November 9, 2014, the Ministry of AYUSH was established to oversee the successful advancement and dissemination of AYUSH healthcare systems. The Department of Naturopathy and Yoga, Ayurvedic, Siddha, Unani, and Homeopathy (AYUSH), which was established in March 1995 and formerly known as the Department of Indian System of Medicine and Homeopathy (ISM&H), centered its efforts on the advancement of education and research in these fields.

The Goals of AYUSH

- The primary goal is to raise the bar for education at the nation's colleges and universities teaching the Indian System of Medicine and homoeopathy.
- To strengthen the already-existing research institutes and ensure that a one-time research program on recognizable disorders results in an effective cure for these systems.

- To develop a plan for the propagation, cultivation, and regrowth of medicinal plants used in the aforementioned systems.
- To provide pharmacopeial criteria for medications used in homoeopathy and the Indian System of Medicine.
- To regulate the quality of medications by establishing pharmacopeial standards, supervising the operations of the pharmacopeial laboratory for Indian medicines under the auspices of the Quality Council of India, and keeping an eye on the actions of the Indian Medicine Pharmaceutical Company Limited.
- AYUSH also supervises the implementation of GMPs, the construction of shared facilities in accordance with the cluster approach, and the execution of the Drug Quality Control scheme with the disclosure of herbal medical formulations, knowledge & manuscripts, documentation, and promotion of local medical customs.
- The Quality Council of India and the AYUSH department set up a certification program for AYUSH pharmaceutical items. Regarding the standards of AYUSH products in terms of their quality, safety, and efficacy, people have always been worried.
- To allay these worries, the Quality Council of India has launched a new voluntary certification program for AYUSH products. (37-39)

Attestation by AYUSH

Two levels of AYUSH certification are offered: (40-42)

a) Based on conformity with domestic regulatory requirements, the AYUSH Standard Mark.

b) AYUSH Premium Mark, determined by the following possibilities:

Option A: Complying with GMP requirements in accordance with WHO guidelines and the contamination limits specified in the certification criteria.

Option B: Adherence to import nation regulations as long as they are tougher than option A above.

6. Classification of Herbal in India (43-47)

Herbal goods are categorized in India according to their intended purpose and the legal system they are subject to. In India, the following are the main categories for herbal products:

Ayurvedic, Siddha, Unani (ASU) Medicines:

Ayurveda, Siddha, and Unani are just a few of the conventional medical systems on which these herbal products and therapies are founded. They are governed by the Ministry of AYUSH (Ayurveda, Yoga & Naturopathy, Unani, Siddha, and Homoeopathy) and adhere to the prescriptions laid down in the relevant pharmacopoeias (e.g., Ayurvedic Pharmacopoeia of India, Unani Pharmacopoeia of India, Siddha Pharmacopoeia of India). (43)

Herbal Drugs and Cosmetics:

Under the 1940 Drugs and Cosmetics Act and the 1945 Drugs and Cosmetics Rules, herbal items that are categorized as drugs or cosmetics are subject to regulation by the Central Drugs Standard Control Organization (CDSCO). These goods include herbal supplements, herbal dietary products, and herbal cosmetics. They may comply to Good Manufacturing Practices (GMP) and call for particular approvals.

Dietary Supplements:

Food Safety and Standards Authority of India (FSSAI) regulates herbal dietary supplements, which are normally categorized as food products. These goods should adhere to labeling and safety requirements because they are frequently advertised as health supplements.

Traditional Herbal Remedies:

Some herbal treatments and goods might not easily fit into the categories listed above. They may follow particular state or local regulations and be promoted as conventional treatments. Depending on state-specific laws and customs, some products may be regulated differently.

Raw materials and herbal ingredients:

The creation of herbal goods uses both raw materials and herbal ingredients, both of which are governed by laws. They can need testing and certification, and they ought to satisfy quality and safety requirements.

Herbal extracts and essential oils:

Herbal extracts and essential oils are frequently utilized in a variety of industries, such as aromatherapy and cosmetics. These items should adhere to quality and safety requirements and may be subject to a variety of restrictions.

Herbal Cosmetics:

The CDSCO regulates herbal cosmetics as cosmetics, including skincare and haircare products containing herbal ingredients. Standards for quality, labeling, and safety must be followed.

Natural insecticides and Biofertilizers from Herbs:

Some herbal preparations are employed as biofertilizers or natural insecticides in agriculture. The Ministry of Agriculture and Farmers Welfare might regulate these goods.

It's crucial to be aware that India's classification and regulation of herbal products can be convoluted, and that particular specifications may change depending on the product's intended usage and makeup.

7. Classification of Herbal in EU (48-52)

A) Traditional Herbal Medicinal goods (THMPs)

b) Herbal Food Supplements

Are the two primary categories into which herbal goods in Europe can be divided according to their intended purpose and legal status.

The European Medicines Agency (EMA) and the European Food Safety Authority (EFSA) are responsible for categorizing and regulating herbal products in Europe,

respectively. An overview of each category is given below:

Traditional Herbal Medicinal Products (THMPs)

Based on traditional use and with proven efficacy, THMPs are herbal medications used for the prevention or treatment of minor illnesses. They must have a minimum of 30 years of historical conventional use, with at least 15 of those years spent in the European Union (EU). The Traditional Herbal Medicinal Products Directive (Directive 2004/24/EC), which has been incorporated into the legal systems of EU member states, governs THMPs. For their goods, manufacturers are required to submit a Traditional Herbal Registration (THR) or a Simplified Traditional Herbal Registration (S-THR).

Based on their conventional use, the herbal constituents' safety and efficacy are described in the application. THMPs can be marketed as herbal medicines in the EU member states after receiving approval and receiving a THR or S-THR number.

Herbal food supplements:

Herbal food supplements are goods that are sold as dietary aids or wellness items but are not meant to be used in the treatment of illnesses. They are overseen by the European Food Safety Authority (EFSA) and are subject to food safety laws.

The Food Supplements Directive (Directive 2002/46/EC) and other food safety and labeling laws in the EU must be complied with by manufacturers of herbal food supplements. Herbal food supplements are not allowed to make therapeutic or disease-related claims. They may be sold as capsules, tablets, powders, liquids, or herbal extracts and botanicals, among other components derived from plants.

8. Conclusions

The demand for herbal products is growing daily, thus both developed and emerging nations are more concerned about their use and safety. Each nation has a regulatory agency that oversees and develops a plan for herbal products; these plans may vary from nation to nation. One of the biggest issues the herbal market is dealing with is a lack of harmonisation. Strict actions must be conducted to harmonize global regulatory requirements in order to maintain vigilance.

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Conflict of Interest

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