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THE AYURVEDIC PHARMACOPOEIA OF INDIA

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The Ayurvedic Pharmacopoeia of India

- official book of standards for single drug and its formulations
or
- compilation of various ayurvedic pharmaceutical formulation(s) i.e. formulas and methods of preparations

Ayurveda Pharmacopoeia committee

- 1st established in 1962 by Government of India
- APC was first functional unit at department of Ayush
- In April 2006, it was shifted under Central Council for Research in Ayurveda and Siddha

Other Official Monographs

- ▶ German Commission E Monographs
- ▶ European Scientific Cooperative for phytotherapy (ESCOP)
- ▶ The American Herbal Pharmacopoeia
- ▶ WHO Monographs
- ▶ USP Monographs

APC - Functions

- ▶ To prepare Ayurvedic Pharmacopoeia of India of single and compound drugs
- ▶ To prescribe the working standards for compound Ayurvedic formulations including tests for identity, purity, strength and quality so as to ensure uniformity of the finished formulations

APC - Functions

- ▶ Keeping in view the time constraint, to identify such methods, procedures and plan of work as would enable to publish the formulary and standards of all commonly used drugs to be brought out in a phased manner
- ▶ To prepare remaining parts of the official formulary of compound preparations from the classical texts including standardized composition of reputed institution

APC - Functions

- ▶ To develop and standardize methods of preparations, dosage form, toxicity profile etc
- ▶ To develop quality standards, safety, efficacy profile of intermediates likes extracts of Ayurvedic raw drugs
- ▶ To develop the quality standards, safety, efficacy profile of different parts of the plants; as well as to include new plants as Ayurvedic drugs

APC - Functions

- ▶ Any other matter relating to the quality standards, shelf life, identification, new formulations etc.
- ▶ Targets Focus of the Committee
 - ▶ To evolve standards for single drug and Ayurveda Formulations as in official book
 - ▶ To prepare drafts SOP of Ayurvedic Formularies of India from the classical texts and other authentic sources

CONTRIBUTING LABORATORIES & INSTITUTIONS

- ▶ University Institute of Pharmaceutical Sciences, Punjab University, Chandigarh
- ▶ National Institute Pharmaceutical Education and Research (NIPER), Mohali
- ▶ Captain Srinivasa Murty Drug Research Institute Ayurveda (CSMDRIA), Chennai
- ▶ B. V. Patel, Pharmaceutical Education, & Research Development (PERD) Centre, Ahmadabad
- ▶ National Botanical Research Institute, (Council of Scientific & Industrial Research), Lucknow
- ▶ Ram Narayan Ruia College, Matunga, Mumbai

Central Council for Research in Ayurveda and Siddha (CCRAS)

- ▶ Established in 1978
- ▶ To carry out research in Ayurveda and Siddha
- ▶ Engrossed in developing safe, effective, appropriate and cost effective formulations for priority diseases
- ▶ Financing of fundamental research projects of industry and institutions (35 labs)

Projects under APC

- ▶ Development of pharmacopoeial standards for single drugs and its formulations
- ▶ Isolation of marker compounds of medicinal plants
- ▶ Comparative phyto-chemical screening of roots and barks vs aerial parts
- ▶ Preparation of Hindi version of API
- ▶ Biological Activity studies of plant extracts
- ▶ Extra Ayurvedic Pharmacopoeia of India

Projects under APC

- ▶ To identify methods & procedures for publication of standards of all commonly used formulations of AFI
- ▶ Information on Ayurvedic Formulations regarding
 - Distinguishing characters
 - Method of preparation and dosage
 - Method of administration with Anupana
 - Toxicity

Projects under APC

- ▶ To develop quality standards, shelf life, identification, New formulations including safety efficacy of intermediates plant extracts
- ▶ All other activities as mentioned in functions of APC

Ayurvedic Formulary of India- Publications

AFI	Year	Number of Formulations
Part I	1978	444
Part II	2000	191
Part III	Draft stage (Hindi & Eng)	-

Ayurvedic Pharmacopoeia of India - Publications

Ayurvedic Pharmacopoeia of India - Part 1

Volume	Year of publishing	Number of Monographs
I	1990	80
II	1999	78
III	2001	100
IV	2004	68
V	2006	92
VI	2008	101
VII	2008	21 (minerals & metals)

Ayurvedic Pharmacopoeia of India - Part 1I

I	2007	50
II	2008	51
III	2010	51

Ayurvedic Pharmacopoeia of India -Atlas Publications

- ▶ TLC Atlas of Pharmacopoeial drugs (API-Part I, volume I
- ▶ Micro & Macroscopic atlas of Pharmacopoeial drugs (API-Part I, volume V

e - Book Publications of AFI

AFI	Number of Monographs
Part - I & II	635
Part I, Volume I - V	418
Part I, Volume VI	101
Part II, Vol I	50
Part II, Vol II	51

Ayurvedic Pharmacopoeia Committee & PLIM

- ▶ In 2010-Pharmacopoeia Laboratory for Medicines (PLIM)
- ▶ Autonomous body for Indian Medicine (Ayurveda, siddha, & Unani) to evolve the standards under the guidance of APC
- ▶ To analyze product samples picked up by the drug inspectors

Indigenous

PLIM - Objectives

- ▶ To set and validate standards of drug(s)
- ▶ To provide reference standards
- ▶ To impart training to drug inspectors and analysts
- ▶ To provide support APC
- ▶ As a result I volume of API ,1990 with 80 monographs

A Typical Ayurvedic Pharmacopoeia of India

- ▶ Title Name of the Drugs
- ▶ Introductory Para Synonyms
- ▶ Italics Odour and Taste
- ▶ Mesh Number Weights and Measures
- ▶ Identity, Purity and Strength
- ▶ Limits for Heavy Metals
- ▶ Thin Layer Chromatography (T.L.C.)
- ▶ Quantities to be weighed for Assays and Tests
- ▶ Constant Weight Constituents
- ▶ Percentage of Solutions Percentage of alcohol .

A Typical Ayurvedic Pharmacopoeia of India

- ▶ Temperature
- ▶ Solutions
- ▶ Reagents and Solutions
- ▶ Solubility:

-Very soluble	Less than 1 part
- Freely soluble	From 1 to 10 parts
-Soluble From	10 to 30 parts
-Sparingly soluble	From 30 to 100 parts
-Slightly soluble	From 100 to 1000 parts
-Very slightly soluble	From 1000 to 10,000 parts
-Practically insoluble	More than 10,000 parts

A Typical Ayurvedic Pharmacopoeia of India

- ▶ Therapeutic uses and important formulations
- ▶ Doses
- ▶ Abbreviations of technical terms
- ▶ Storage conditions

Ayurvedic Pharmacopoeia of India

- ▶ A total of 8 volumes of API-I has been published with 540 medicinal plants + other
- ▶ API volume 7 deals with minerals and metals
- ▶ A total 2111 monographs published

Ayurvedic Pharmacopoeia of India -II

- ▶ The compendium Part I & II contain a total of 63518 of monographs under 21 categories of commonly used formulations
- ▶ A typical monograph contain:
 - Name of the formulation; -definition
 - Formulation/Composition
 - Method of preparation Description
 - Identification ; -Physicochemical parameters
 - Storage; -Therapeutic uses
 - Dose ; -Anupana

API- Part II Appendices

- ▶ Standards for the major contaminants
- ▶ Limits for heavy metals
- ▶ Limits for microbes
- ▶ Limits for Aflatoxins
- ▶ Limits for pesticides

Conclusion

- ▶ The Ayurvedic Pharmacopoeia is a book of Ayurveda monographs give sources, Physical properties, microscopic, macroscopic characters, identity tests, constituents, approved therapeutic uses, minimum and maximum doses, color photographs, chemical formulae, and standards of quality of crude drugs including its formulations
- ▶ The aim has been set standards for quality, efficacy and safety in order that the many traditional herbs meet legal requirement



**THANK
YOU!**