

## Drug Standardization Program

In medical science, **drug standardization** studies are one of most fundamental prerequisite aspects for introduction of new drug or formulation in clinical practice. It encompasses a comprehensive evaluation of homoeopathic drugs in respect of their Pharmacognostic, Physico-chemical and Pharmacological profiles. **Pharmacognostic study** helps in proper identification/authentication of genuine drug from its adulterant by undertaking macro and microscopic study of plant parts and powders which are used for preparation of homoeopathic drugs. **Physico-chemical analysis** ensures purity and quality of drug by determination of moisture content, extractive value, ash value, pH value, appearance, colour, odour, chemical constituents, TLC and HPTLC studies etc. of raw drug materials as well as finished products used in homoeopathy. **Pharmacological investigation** ensures therapeutic/side/adverse/toxic effects of the drug to standardize the therapeutic/lethal dose and mechanism of action of drugs.

### Aims and Objectives

- To lay down Pharmacopoeial standards for identity, purity, quality, safety and therapeutic efficacy of raw as well as finished products of Homoeopathic Drugs.
- To upgrade/revise already published monographs with additional parameters like HPTLC, UV spectrometry and other latest standards available, generated or done elsewhere in order to enhance the quality of the Homoeopathic Pharmacopoeial Monographs
- To propagate/disseminate the research findings through publication of Reports, Monographs, Bulletins, Journals and Books.

### Existing Infrastructure

- Pharmacognosy laboratory
- Physico-chemical Laboratory

### On-going studies

1. Standardization studies under Annual Assignment 2017-18.
2. Revision / up gradation works of HPI monographs.

## Clinical Research Program

### Aims and Objectives

- To generate, validate and consolidate scientific evidences (in terms of safety, efficacy and effectiveness) of homoeopathic medications, procedures and treatment regimes by clinical research.
- To carry out evidence based trials based on modern scientific parameters (double blinding; objective assessment criteria, statistical analysis, etc.) without conflicting with the doctrines of Homoeopathy
- To provide effective and free health care services to the needy at grass root level through its regular OPDs and health camps.

### Existing Infrastructure

- OPD
- Pathology Laboratory
- In-House Pharmacy

### Ongoing studies

1. A Comparative Randomized Controlled Trial of Homoeopathy and Allopathy in Acute Otitis Media and its Recurrence in children.
2. Effects of Homoeopathic Intervention in Stage I Essential Hypertensive Patients (RCT Pretrial)
3. Effects of Homoeopathic Intervention in Pre-diabetes (RCT – Pretrial)
4. Effects of Individualized Homoeopathic intervention in Dyslipidemia: An Open label randomized controlled exploratory Trial
5. Prognostic Factor Assessment of Homoeopathic Medicines for Cough: Explorative Prospective Study

### Concluded Studies

- **Concluded Studies of Drug Standardization**

Drugs/studies concluded under drug standardization program since inception i.e.1979 to till date:

S.No.	Name of Drug	Part Used	Pharmacognostical studies	Physico-chemical studies
<b>1979-80</b>				
1.	<i>Ficus religiosa</i> Linn.	Leaves	√	√

2.	<i>Cassia sophera</i> Linn	Leaves	√	√
3.	<i>Boerhavia diffusa</i>	Whole plant	----	√
4.	<i>Cynodon dactylon</i>	Whole plant	----	√
5.	<i>Calotropis gigantean</i> (Willd)	Leaves	√	----
6.	<i>Tylophora indica</i> (Burm.F) Merr.	Leaves	√	----
<b>1980-81</b>				
7.	<i>Acalypha indica</i> L.	Leaves	√	----
8.	<i>Cynodon dactylon</i> (L.) Pers.	Leaves	√	----
9.	<i>Allium cepa</i> L.	Bulb	√	----
10.	<i>Allium sativum</i> L.	Bulb	√	----
11.	<i>Curcuma longa</i> L.	Rhizome	√	----
<b>1981-82</b>				
12.	<i>Centella asiatica</i> (Linn.) Urban.	Leaf, Rhizome and Root	√	----
13.	<i>Solanum nigrum</i> L.	Leaves	√	----
14.	<i>Ocimum sanctum</i> L.	Leaves	√	----
15.	<i>Withania somnifera</i> Dunal.	Root	√	----
16.	<i>Terminalia arjuna</i> (Roxb.) W. & A.	Bark	√	----
17.	<i>Cinchona officinalis</i> L.	Bark	√	----
<b>1983-84</b>				
18.	<i>Eucalyptus globules</i> Labill.	Leaves	√	----
19.	<i>Carica papaya</i> L.	Fruit	√	----
<b>1984-85</b>				
20.	<i>Abrus precatorius</i> Linn.	Leaves, Root and Seed	√	----
<b>1985-86</b>				
21.	<i>Holarrehena</i> <i>antidysentrica</i>	Bark	√	----
22.	<i>Wrightia tinctoria</i>	Bark	√	----
23.	<i>Amygdalus persica</i>	Stem bark & Leaves	√	----
24.	<i>Andrographis paniculata</i>	Stem & Leaves	√	----
25.	<i>Cassia fistula</i>	Leaves	√	----
26.	<i>Cinnamomum</i> <i>zeylanicum</i>	Bark	√	----
27.	<i>Clerodendron</i> <i>infortunatum</i>	Leaves	√	----
28.	<i>Cytisus scoparius</i>	Stem	√	----
29.	<i>Salvia officinalis</i>	Leaves	√	----
<b>1986-87</b>				
30.	<i>Aegle marmelos</i>	Leaves	√	----

31.	<i>Andrographis paniculata</i>	Root	√	----
32.	<i>Anagallis arvensis</i>	Stem & Leaves	√	----
33.	<i>Citrullus colocynthis</i>	Root & Fruit	√	----
34.	<i>Embelia ribes</i>	Berry	√	----
35.	<i>Glycosmis pentaphylla</i>	Whole plant	√	----
36.	<i>Gymnema sylvestre</i>	Leaves & Root	√	----
37.	<i>Mentha piperata</i>	Stem & Leaves	√	----
38.	<i>Musa sapientum</i>	Leaves	√	----
39.	<i>Santalum album</i>	Wood	√	----
<b>1987-88</b>				
40.	<i>Achyranthes aspera</i>	Whole Plant	√	----
41.	<i>Fagopyrum esculentum</i>	Whole Plant	√	----
42.	<i>Hygrophila spinosa</i>	Stem, Leaves & Spines	√	----
43.	<i>Jalapa</i>	Root	√	----
44.	<i>Juglans regia</i>	Leaves	√	----
45.	<i>Smilax aspera</i>	Root & Rhizome	√	----
<b>1988-89</b>				
46.	<i>Apium graveolens</i>	Fruit	√	----
47.	<i>Brassica nigra</i>	Seeds	√	----
48.	<i>Brugmansia suaveolens</i>	Flowers	√	----
49.	<i>Fragaria vesca</i>	Roots	√	----
50.	<i>Hedera helix</i>	Stem & Leaves	√	----
51.	<i>Jasminum officinale</i>	Flowers	√	----
52.	<i>Mallotus philippensis</i>	Glandular hairs	√	----
53.	<i>Manihot esculentum</i>	Root tubers	√	----
54.	<i>Parthenium hysterophorus</i>	Whole Plant	√	----
55.	<i>Schinus molle</i>	Fruits	√	----
56.	<i>Silybum marrianum</i>	Seeds	√	----
<b>1989-90</b>				
57.	<i>Cascabela thevetia</i> Linn.	Bark & Seed	√	----
58.	<i>Cassia obovata</i> (L.) Collad.	Leaflet	√	----
59.	<i>Citrullus lanatus</i>	Seed	√	----
60.	<i>Cucurbita pepo</i> Linn.	Seed	√	----
61.	<i>Ficus benghalis</i> Linn.	Root	√	----
62.	<i>Linum usitatissimum</i> Linn.	Seed	√	----
63.	<i>Luffa acutangula</i> Roxb.	Fruit & Seed	√	----
64.	<i>Majorana hortensis</i> Linn.	Stem & Leaves	√	----
65.	<i>Musa sapientum</i> O.Kuntze	Fruit	√	----
66.	<i>Ocimum basilicum</i>	Stem & Leaves	√	----
<b>1990-91</b>				

67.	<i>Indigofera tinctoria</i> Linn.	Whole Plant	√	√
68.	<i>Luffa acutangula</i> Roxb.	Fruit	----	√
69.	<i>Quillalia saponaria</i> Molina.	Bark	√	√
70.	<i>Wrightia tinctoria</i> Linn.	Seed	√	√
71.	<i>Euphorbia hypericifolia</i> Linn.	Whole Plant	√	----
<b>1992-93</b>				
72.	<i>Coffea arabica</i> Linn.	Roasted berries	√	√
73.	<i>Lawsonia inermis</i> Linn.	Stem & Leaves	√	√
74.	<i>Murraya koenigii</i> Sprang.	Leaves	√	√
75.	<i>Phyllanthus niruri</i> Linn.	Whole Plant	√	√
76.	<i>Primula obconica</i> Hance.	Whole Plant	√	√
77.	<i>Euphorbia hypericifolia</i> Linn.	Whole Plant	----	√
78.	<i>Syzygium jambos</i> Linn.	Seeds	----	√
79.	<i>Trifolium repens</i> Linn.	Flower head	----	√
<b>1993-94</b>				
80.	<i>Acorus calamus</i> Linn.	Rhizome	√	----
81.	<i>Allium cepa</i> Linn.	Bulb	√	√
82.	<i>Allium porrum</i> Linn.	Bulb & Leaves	√	√
83.	<i>Cuminum cyminum</i> Linn.	Fruits	√	√
84.	<i>Foeniculum vulgare</i> Mill.	Fruits	√	√
85.	<i>Medicago sativa</i> Linn.	Whole Plant	√	√
86.	<i>Aegle marmelos</i> Correa.	Leaves & Fruits	----	√
87.	<i>Ammi majus</i> Linn.		----	√
88.	<i>Cephalandra indica</i> Nand.	Leaves	----	√
<b>1994-95</b>				
89.	<i>Mimosa pudica</i> Linn.	Leaves	√	√
90.	<i>Momordica charantia</i> Linn.	Leaves	√	√
91.	<i>Moringa oleifera</i> Lam.	Stem bark, Leaves & Fruits	√	----
92.	<i>Persia americana</i> Mill.	Drupe	√	√
93.	<i>Tamarindus indica</i> Linn.	Fruit Pulp	√	√
94.	<i>Acorus calamus</i> Linn.	Rhizome	----	√
95.	<i>Theobroma cacao</i> Linn.	Seed	----	√
<b>1995-96</b>				
96.	<i>Cassia fistula</i> Linn.	Root, Fruit & Leaves	√	√
97.	<i>Catharanthus roseus</i> (Linn.) G. Don.	Stem & Leaves	√	√
98.	<i>Lantana camara</i> Linn.	Leaves	√	√
99.	<i>Mirabilis jalapa</i> Linn.	Leaves and Root	√	----

100.	<i>Solanum melongena</i> Linn.	Whole Plant	√	√
101.	<i>Tylophora indica</i> (Burn.f) Merrill.	Leaves and Root	√	----
102.	<i>Xanthum strumerium</i> Linn.	Whole Plant	√	----
103.	<i>Moringa oleifera</i> Lam.	Leaves & Root Bark	----	√
104.	<i>Siegesbeckia orientalis</i> Linn.	Whole Plant	----	√
105.	<i>Ixora coccinea</i> Linn.	Flower	----	√
<b>1996-97</b>				
106.	<i>Cochlearia armoracia</i> Linn.	Root	√	√
107.	<i>Fragaria Vesca</i> Linn.	Root	√	√
108.	<i>Pisum sativum</i> Linn.	Whole Plant	√	√
109.	<i>Vicia faba</i> Linn.	Stem & Leaves	√	----
110.	<i>Mirabilis jalapa</i> Linn.	Leaves and Root	----	√
111.	<i>Tylophora indica</i> (Burn.f) Merrill.	Leaves and Root	----	√
112.	<i>Xanthum strumerium</i> Linn.	Whole Plant	----	√
<b>1998-99</b>				
113.	<i>Cyclea peltata</i> Hook f & Thomas	Roots	√	√
114.	<i>Desmodium gangeticum</i> DC.	Whole Plant	√	√
115.	<i>Salvia officinalis</i> Linn.	Whole Plant	√	√
116.	<i>Santolina chamaecyparissus</i> Linn.	Whole Plant	√	√
<b>1999-2000</b>				
117.	<i>Alternanthera pungens</i>	Stem & Leaves	√	----
118.	<i>Michelia champaca</i>	Stem & Leaves	√	----
119.	<i>Plumbago zeylanica</i>	Stem & Leaves	√	----
120.	<i>Terminalia arjuna</i>	Bark	√	----
121.	<i>Ulex europaeus</i>	Seed	√	----
122.	<i>Vitis vinifera</i>	Leaves	√	----
<b>2000-01</b>				
123.	<i>Citrus medica</i>	Fruit	√	----
124.	<i>Eclipta alba</i>	Stem & Leaves	√	----
125.	<i>Iris germanica</i>	Root & Rhizome	√	----
126.	<i>Mentha spicata</i>	Stem & Leaves	√	----
127.	<i>Prunus domestica</i>	Fruit	√	----
128.	<i>Pterocarpus marsupium</i>	Bark	√	----
129.	<i>Pyrus communis</i>	Fruit	√	----
<b>2001-02</b>				
130.	<i>Cicer arietinum</i> Linn.	Stem & Leaves	√	----

131.	<i>Galinsoga parviflora</i> Cav.	Stem & Leaves	√	----
132.	<i>Ocimum gratissimum</i> Linn.	Leaves	√	----
133.	<i>Oenothera biensis</i> Linn.	Stem & Leaves	√	----
134.	<i>Plumeria rubra</i> Linn.	Stem bark, wood & leaves	√	----
135.	<i>Trifolium pratense</i> Linn.	Flower	√	----
<b>2002-03</b>				
136.	<i>Alpinia galangal</i> Willd.	Rhizomes	√	----
137.	<i>Chrysanthemum parthenium</i> Linn.	Stem & Leaves	√	----
138.	<i>Eucalyptus teretecornis</i> Dom.	Leaves	√	----
139.	<i>Psidium guajava</i> Linn.	Leaves	√	----
140.	<i>Valeriana officinalis</i> Linn.	Rhizomes	√	----
<b>2003-04</b>				
141.	<i>Eichhornia crassipes</i> Solms.	Whole Plant	√	√
142.	<i>Elaeis guineensis</i> Jacq.	Fruit	√	√
143.	<i>Psidium guajava</i> Linn.		----	√
144.	<i>Sambucus nigra</i> Linn.	Leaves & Flower	√	√
<b>2004-05</b>				
145.	<i>Aquilegia vulgaris</i>	Aerial parts	√	√
146.	<i>Castanea sativa</i>	Leaves	√	√
147.	<i>Cerasus laurocerasus</i>	Leaves	√	√
148.	<i>Hypericum perforatum</i>	Whole Plant	√	√
149.	<i>Momordica charantia</i>	Fruits	----	√
150.	<i>Moringa oleifera</i>	Fruits	----	√
151.	<i>Nasturtium officinale</i>	Aerial parts	----	√
152.	<i>Olea europea</i>	Leaves	√	√
<b>2005-06</b>				
153.	<i>Alternanthera sessilis</i>	Aerial parts	√	----
154.	<i>Baryta iodata</i>	Chemical	----	√
155.	<i>Boerhaavia diffusa</i>	Aerial parts	√	√
156.	<i>Carica papaya</i>	Fruit	√	√
157.	<i>Echinacea purpurea</i>	Root	----	√
158.	<i>Eucalyptus camaldulensis</i>	Leaves	√	√
159.	<i>Lycopodium clavatum</i>	Spores	√	√
160.	<i>Oryza sativa</i>	----	----	√
161.	<i>Pinus wallichiana</i>	Leaf needles	√	√
162.	<i>Symphytum officinalis</i>	Roots	----	√
163.	<i>Terminalia chebula</i>	Semi mature fruits	√	√

2006-07				
164.	<i>Acer negundo</i>	Leaves	√	√
165.	<i>Agropyron repens</i>	Aerial parts	√	√
166.	<i>Borago officinalis</i>	Aerial parts	----	√
167.	<i>Brassica oleracea</i>	Leaves	----	√
168.	<i>Cardiospermum helicacabum</i>	Whole plant	√	√
169.	<i>Chenopodium ambrosioides</i>	Aerial parts	√	----
170.	<i>Echinacea purpurea</i>	Root	√	----
171.	<i>Embelia ribes</i>	Fruits	----	√
172.	<i>Juglans regia</i>	Fruits	----	√
173.	<i>Matricaria chamomilla</i>		----	√
174.	<i>Melaleuca leucodendron</i>	Leaves	----	√
175.	<i>Nyctanthes arbortristis</i>	Leaves	√	√
176.	<i>Raphanus sativus</i>	Root tuber	√	----
177.	<i>Symphytum officinale</i>	Root	√	----
178.	<i>Acid Formicum</i>	Chemical	----	√
2007-08				
179.	<i>Artemisia annua</i>	Aerial parts	√	----
180.	<i>Bellis perennis</i>	Whole plant	√	√
181.	<i>Brassica oleracea</i>	Leafy Bud	√	----
182.	<i>Chelone glabra</i>	Whole plant	----	√
183.	<i>Curcuma longa.</i>	Rhizomes	----	√
184.	<i>Digitalis purpurea</i>	Leave	√	√
185.	<i>H. antidysenterica</i>	Bark	----	√
186.	<i>Melaleuea leucodendron</i>	Leaves	√	----
187.	<i>Origanum majorana</i>	Whole plant	----	√
2008-09				
188.	<i>Cuscuta reflexa</i>	Twining stem	√	√
189.	<i>Lactuca sativa</i>	Leaves	√	√
190.	<i>Pastinaca sativa</i>	Root	√	√
191.	<i>Vernonia anthelmintica</i>	Seeds	√	√
192.	<i>Paraffin</i>	Chemical	----	√
2009-10				
193.	<i>Ammi visnaga</i>	Fruits	√	----
194.	<i>Syzygium jambos</i>	Seeds	√	----
195.	<i>Ocimum sanctum</i>	Aerial Parts	----	√
196.	<i>Magnesium sulphate</i>	Chemical	----	√
197.	<i>Euphorbia hypericifolia</i>	Leaves	----	√
198.	<i>Coleus aromaticus</i>	Laeves	√	√
199.	<i>Calotropis gigantean</i>	Root	√	√
200.	<i>Paraffin</i>	Chemical	----	√



2010-11				
201.	<i>Ammi visnaga</i>	Fruits	----	√
202.	<i>Potassium chromium sulphate</i>	Chemical	----	√
203.	<i>Pimenta officinalis</i>	Dried Unripe Fruits	√	----
204.	<i>Gossypium herbaceum</i>	Root	√	----
205.	<i>Copper –II oxide</i>	Chemical	----	√
206.	<i>Coleus forskohlii</i>	Root	√	√
207.	<i>Atista radix</i>	Root	√	√
208.	<i>Amoora rohituka</i>	Stem Bark	√	√
2011-12				
209.	<i>Acidum butyricum</i>	Chemical	----	√
210.	<i>Vitex trifolia L.</i>	Root Bark	√	√
211.	<i>Urea</i>	Chemical	----	√
212.	<i>Symplocos racemosa Roxb.</i>	Stem Bark	√	----
213.	<i>Rosamarinus officinalis L.</i>	Leaves & Young aerial parts	√	√
214.	<i>Pyrus malus L.</i>	Leaves & Young aerial parts	√	√
215.	<i>Pimenta officinalis L.</i>	Fruits	----	√
216.	<i>Methylene blue</i>	Chemical	----	√
217.	<i>Heliotropium peruvianum L.</i>	Leaves & Young aerial parts	√	√
218.	<i>Ficus carica L.</i>	Unripe Fruits	√	√
219.	<i>Citrus limonum L.</i>	Fruit Juice	√	√
220.	<i>Cephaelis ipecacuanha (Brot) A.Rich.</i>	Root	√	----
221.	<i>Buxus sempervirens L.</i>	Leaves & Young aerial parts	√	√
2012-13				
222.	<i>Chamaecyparis lawsoniana.</i>	Leaves & young aerial parts	√	√
223.	<i>Datura ferox L.</i>	Seeds	√	√
224.	Ferrum Picricum	Chemical	----	√
225.	<i>Juniperus virginiana</i>	Leaves & young aerial parts	√	√
226.	<i>Mallotus philippensis</i>	Red powder from glands and hairs on the fruits	√	√
227.	Mercuricus sulphuricus	Chemical	----	√
228.	<i>Operculina turpethum</i>	Roots	√	√
229.	<i>Plectranthus fruticosus</i>	Leaves & Stems	√	√
230.	Plumbum iodatum	Chemical	----	√
2013-14				
231.	<i>Bryophyllum calycinum</i>	Leaves & Stems	√	√

232.	<i>Erigeron canadensis</i>	Leaves & Stems	√	√
233.	<i>Lobelia erinus</i>	Whole plants	√	√
234.	<i>Magnesium fluoratum</i>	Chemical	----	√
235.	<i>Manihot esculenta</i>	Root tubers	√	√
236.	<i>Mentholum</i>	Chemical	----	√
237.	<i>Rumex crispus</i>	Roots	√	√
<b>2014-15</b>				
238.	<i>Aeithiops antimonialis</i>	Chemical	----	√
239.	<i>Bacopa monnieri</i>	Whole Plant	√	√
240.	<i>Bryonopsis laciniosa</i>	Whole Plant	√	√
241.	Chlorpromazinum	Chemical	----	√
242.	Eosinum	Chemical	----	√
243.	Kalium hydriodicum	Chemical	----	√
244.	Manganum sulphuricum	Chemical	----	√
245.	<i>Rosa damascena</i>	Flowering twigs	----	√
246.	<i>Tinospora cordifolia</i>	Roots	----	√
247.	<i>Juglans regia</i>	Fruits	----	√
248.	<i>Calotropis gigantea</i>	Roots	----	√
<b>2015-16</b>				
249.	<i>Corchorus capsularis</i>	Whole Plant	√	√
250.	<i>Glycomis pentaphylla</i>	Whole Plant	√	√
251.	Quartz	Chemical	----	√
252.	Silica	Chemical	----	√
253.	<i>Solanum surattense</i>	Whole Plant	√	√
254.	Trimethylaminum	Chemical	----	√
255.	<i>Zincum arsenicosum</i>	Chemical	----	√
<b>2016-17</b>				
256.	<i>Achillea millefolium</i>	Whole Plant	√	√
257.	<i>Lobelia inflata</i>	Whole Plant	√	----
258.	<i>Lycopodium clavatum</i>	Spores	√	√
259.	<i>Ocimum canum</i>	Leaves	√	√
260.	<i>Ocimum sanctum</i>	Whole Plant	√	√
261.	<i>Paeonia officinalis</i>	Root	√	√
262.	<i>Raphanus sativus</i>	Root	√	√
263.	<i>Rauwolfia serpentina</i>	Root	√	√
264.	<i>Sambucus nigra</i>	Leaves	√	√
265.	Senega	Root	√	√
266.	<i>Strychnos nux vomica</i>	Seed	√	√
267.	<i>Symphytum officinale</i>	Root	√	√
268.	<i>Syzygium jambolanum</i>	Seed	√	√
269.	<i>Terminalia arjuna</i>	Stem Bark	√	√
270.	<i>Thlaspi bursa-pastoris</i>	Whole Plant	√	√
271.	<i>Withania somnifera</i>	Root	√	√

272.	Kali iodatum	Chemical	----	√
273.	Magnesium muriaticum	Chemical	----	√
274.	Magnesium phosphoricum	Chemical	----	√
275.	Natrum phosphoricum	Chemical	----	√
276.	Selenium	Chemical	----	√
277.	Sulphur	Chemical	----	√
278.	Thiosinaminum	Chemical	----	√
279.	Zincum metallicum	Chemical	----	√

## Concluded Studies under Clinical Research

### Open Clinical Trial

- |                       |                           |                           |
|-----------------------|---------------------------|---------------------------|
| 1. Epilepsy           | 2. Osteo arthritis        | 3. Filariasis             |
| 4. Amoebiasis         | 5. Hypertension           | 6. Diabetes mellitus      |
| 7. Geriatric problems | 8. D.D.S.P. (Pilot study) | 9. Influenza like illness |

### Randomized Control Trial

1. DDSP