

DETAILS OF RESEARCH PROJECTS CONDUCTED



**CENTRAL COUNCIL FOR RESEARCH IN AYURVEDIC SCIENCES
MINISTRY OF AYUSH, GOVERNMENT OF INDIA
JANAKPURI, NEW DELHI**

RESEARCH PROJECTS CONDUCTED During last 10 YEARS (2007-2016)

The committee was informed that the Council carried out its activities in the areas of Clinical Research, Medicinal Plant Research (Medico-ethno botanical Survey, Pharmacognosy and Cultivation), Drug Standardization, Pharmacological Research and Literary Research & Documentation Programme. The extension activities comprise of Health care services through Out-Patient Department (OPD) and In-Patient Departments (IPDs), Special clinics for Geriatric Health care and outreach activities - Tribal Health Care Research Programme (THCRP), Swasthya Rakshan Programme, Ayurveda Mobile Health Care Programme under Scheduled Castes Sub Plan (SCSP) & National Programme for prevention and Control of Cancer, Diabetes, Cardio-vascular disease and Stroke (NPCDCS).

RESEARCH AND DEVELOPMENT

Clinical Research Programme

Intra Mural Clinical Research

- 65 projects under Clinical Research on 37 diseases/conditions viz. Epilepsy, Fistula-in-Ano, Sciatica, Hepatitis (Jaundice), Urolithiasis, Duodenal Ulcer, Diarrhoea/Dysentery, Hemiplegia, Paraplegia, Filariasis, Malaria, Refractory Error (Simple Myopia), Krimija Grahani, Allergic Conjunctivitis, Bronchial Asthma, Chronic Bronchitis, Cognitive Deficits, Dry Eye Syndrome, Dyslipidemia, Type II Diabetes Mellitus, Essential Hypertension, Irritable Bowel Syndrome (IBS), Iron Deficiency Anemia, Menopausal Syndrome, Osteoarthritis, Obesity, Osteoporosis/Osteopenia, Rheumatoid Arthritis, Rasayana for healthy ageing, Dysmenorrhea, Psoriasis, Gout, Polycystic Ovary Syndrome, Hemorrhoids, Mental Retardation, Generalized Anxiety Disorder and Computer Vision Syndrome have been completed.
- 11 Projects on 9 diseases/ conditions viz., Psoriasis, Essential Hypertension, Urolithiasis, Uterine Fibroids, Rheumatoid Arthritis, Type II Diabetes Mellitus, Hemorrhoids, Osteoarthritis and Obesity have been ongoing across 19 peripheral institutes.

List of completed clinical research projects

1. Comparative clinical evaluation of Samana Cikitsa vis-à-vis Panchakarma Therapy in the management of Amavata (Rheumatoid arthritis)
2. Comparative clinical trial of Brahmyadi Yoga and Vachadi Yoga in the management of Apasmara.
3. Comparative clinical evaluation of Ayurvedic compound formulations in 4 groups in the management of Arsha (Haemorrhoides)
4. Comparative clinical evaluation of Kshara Sutra vis-a-vis application of Kshara Varti in the management of Bhagandara
5. Assessment of comparative efficacy of Panchari Parpatikalpa with milk and Takrarishta alongwith Bilwamajja Churna in the management of Krimija Grahani
6. Shamana Therapy vis-à-vis Panchakarma Therapy in the management of Gridhrasi
7. Evaluation of the therapeutic effect of single drugs/compound Ayurvedic formulations and Shodhana therapy in the management of Kitibha.

8. Clinical evaluation of herbomineral drugs in three group (i). Punarnava Mandoor, Arogyavardhani and Phaltrikadi Kwatha (ii) Punarnava Mandoor, Arogyavardhani and Swetaparpati (iii) Punarnava Mandur and Punarnavashta Kwath in the management of Kamala.
9. Comparative clinical evaluation of Karela (whole fruit) alongwith Jamun (Seeds) Ghana Satwa vis-à-vis Ghana Satva of the combination of leaves of Bilwa, Neem and Tulasi alongwith Kalimirch in the management of Madhumeha
10. Clinical evaluation of Herbomineral preparations in the management of Manodvega (Anxiety Neurosis).
11. Clinical evaluation of Herbomineral preparations in the management of Manasa Mandata (Mental retardation).
12. Comparative clinical evaluation of Palasha Kshara vis-à-vis Ghana Satva of Pashana Bheda and Gokshura Kwatha in the management of Mutrashmari
13. Clinical evaluation of herbo-mineral preparations in the management of medoroga (lipid disorders).
14. Comparative clinical evaluation of the effect of herbomineral drugs/ Panchakarma therapy in the management of Pakshavadha
15. Comparative clinical evaluation of Shamana Therapy (Dashamoola Bala Kwatha alongwith Chandraprabha Vati) vis-à-vis Panchakarma (Virechana and Vasti preceded by Snehapana and Swedana in the management of Pangu (Paraplegia).
16. Clinical evaluation of herbomineral Preparations in the management of Slipada (Filariasis).
17. Assessment of therapeutic efficacy of Pippali Vardhaman Ksheerapaka alongwith Samir Pannaga Rasa , Shirish Twak Kwatha and Shodhana therapy in the management of Tamak Swasa
18. Clinical evaluation of topical, internal medicaments and eye exercises in the management of simple myopia
19. Clinical evaluation of herbomineral preparations in the management of Vishamjvara (Malaria)
20. Comparative therapeutic efficacy of Vacha, Brahmi, Jatamansi and Arjuna (All in equal parts in one group) and Chandra Prabha Vati alongwith Shweta Parpati and Punarnava Mandoor in another group, in the management of Vyana Bala Vaishmya (Hypertension).
21. To assess the efficacy of Ayurvedic Compound Formulations in four groups in i) Indukanta Ghrita, ii) Mahatikta Ghrita iii) Satavari Madhuyashti Ghana Satva Vati & iv. Amalaki Rasayana in the management of Parinamshula
22. To assess the efficacy of Ayurvedic GVK compound formulation in the management of Atisara and Pravahika.
23. Clinical evaluation of Vyaghri Haritaki in the management of Bronchial Asthma.
24. Clinical evaluation of Vyaghri Haritaki in the management of Chronic Bronchitis.
25. Clinical evaluation of Brahmi Ghrita and jyotishmati Taila in the management of Cognitive Deficit.
26. Clinical evaluation of MahaTriphaladya Ghrita in the management of Allergic Conjunctivitis.
27. Clinical evaluation of Maha Triphaladya Ghrita in the management of Dry Eye Syndrome.
28. Clinical evaluation of Vyoshadi Guggulu and Haritaki Churna in the management of Dyslipidemia.
29. Clinical evaluation of Saptavimshatika Guggulu and Haridra Churna in the management of Type II Diabetes Mellitus.

30. Clinical evaluation of Ashvagandhadyarishta, Jatamamsi Arka and Sarpagandha Vati in the management of Essential Hypertension.
31. Clinical evaluation of Bilvadi Leha in the management of Irritable Bowel Syndrome.
32. Clinical evaluation of Punarnavadi Mandura and Dadimadi Ghrita in the management of Iron Deficiency Anaemia.
33. Clinical evaluation of Ashokarishta, Ashvagandha Churna and Pravala Pishti in the management of Menopausal Syndrome.
34. Clinical evaluation of Punarnava Guggulu, Dashmoola Ghrita and Kottamachukadi Taila in the management of Osteoarthritis.
35. Clinical evaluation of Vyoshadi Guggulu and Haritaki Churna in the management of Obesity.
36. Clinical evaluation of Laksha Guggulu and Mukta Shukti Pishti in the management of Osteopenia/Osteoporosis.
37. Clinical evaluation of Simhanaada Guggulu and Brihata Saindhavadi Taila in the management of Rheumatoid Arthritis.
38. Clinical evaluation of Rasayana effect of Ashwagandhadi Lehya in Apparently Healthy Elderly Persons.
39. Multicentric Open Clinical Trial of Rajahpravari Vati in Dysmenorrhea.
40. Clinical Evaluation of Nisha Amalaki and Chandraprabha Vati in the management of Type-II Diabetes mellitus (Madhumeha).
41. Clinical evaluation of Vajraka Ghrita, Arogyavardini Vati and Dineshavalyadi Taila in the management of Kitibha (Psoriasis).
42. Clinical evaluation of Vatari Guggulu, Rasna Saptaka Kashaya and Brihat Saindhavadi Taila in the management of Rheumatoid Arthritis.
43. Clinical evaluation of Vatari Guggulu, Maharasnadi Kvatha and Narayana Taila in the management of Osteoarthritis knee.
44. Clinical Evaluation of Brahma Rasayana in the management of Manas Mandata (Mental Retardation)- an Open Clinical Trial.
45. Clinical Evaluation of a comprehensive Ayurvedic intervention in the management of Manodwega (Generalized Anxiety Disorder).
46. Clinical evaluation of of Ksheerbala Taila Matra Basti , Vatari Guggulu, Maha Rasnadi Kvatha and Narayana taila in the management of Osteoarthritis Knee.
47. Evaluation of clinical efficacy & Safety of the Vamana karma followed by Takradhara & Rasaushadhi Rasayana Chikitsa in Kitibha (Psoriasis).
48. A clinical evaluation of efficacy of Pranada gutika and Abhayaristha in the management of Arsha (Haemorrhoids).
49. Evaluation of clinical efficacy and safety of Brahma Rasayana in Apparently healthy elderly persons.
50. Clinical evaluation of Nisha Katakadi Kashaya and Yashada Bhasma in the management of Type-II Diabetes Mellitus (Madhumeha).
51. Clinical evaluation of efficacy of Rajahpravartini Vati, Kanchanara guggulu and Varunadi Kashaya in the management of Polycystic Ovarian Syndrome (PCOS): A pilot study.
52. An open label efficacy study of Amrita Guggulu and Pinda taila in the management of hyperuricemia in Gout (Vatarakta) patients.
53. Clinical evaluation of Vasalveha in the management of Chronic Bronchitis.
54. Clinical evaluation of Vatari Guggulu and Hingvashtaka Churna in the management of Rheumatoid Arthritis.
55. Clinical evaluation of Ashwagandha churna and Pravala pishti in the management of Osteopenia/Osteoporosis.

56. Clinical evaluation of Yogaraja Gugguly and Gandharvahasta Taila in the management of Osteoarthritis.
57. Clinical evaluation of Navayasa churna in the management of Iron Deficiency Anaemia.
58. Clinical evaluation of Kanakasava and Trivrita Churna in the management of Bronchial Asthma.
59. Clinical evaluation of Kutajarishta in the management of Irritable Bowel Syndrome (IBS).
60. Clinical evaluation of Sarasvata Ghrita in the management of Cognitive Deficit.
61. Clinical evaluation of Chyavanaprasha in the management of Rasayana.
62. Clinical evaluation of Kushmandaka Rasayana in the management of Chronic Bronchitis.
63. Clinical efficacy and safety of Brihat Gangadhara Churna in the management of Irritable Bowel Syndrome.
64. Clinical Evaluation of Efficacy of Mahatriphaladi Ghritam and Anu Taila Nasyam in the Management of Computer Vision Syndrome.
65. Clinical evaluation of Gokshuradi Guggulu and Gudchi churna in the management of type II Diabetes Mellitus (Madhumeha).

Collaborative Clinical Research

- 6 projects viz. Mental Retardation, Lung Cancer, Breast Cancer, Osteoarthritis, Filariasis and Anaemia have been completed.
- 4 projects viz. Development of Bio-medical instrumentation for Ksharasutra chamber for preparation of standardized Ksharasutra with IIT, New Delhi; Clinical study of 'AYUSH Rasayana A & B' in Elderly subjects with AIIMS, New Delhi & BHU, Varanasi; C1-Oil for wound healing with AIIMS, New Delhi & Development and validation of Prakriti Assessment Questionnaire/Scale with reputed organizations are in progress.

Medicinal Plants Research Projects

1. Medico-Botanical Survey of Andaman & Nicobar Islands (selected areas)
2. Ethno-medicinal survey of plants used in various diseases by tribes of Thandarai, Chengalpattu, Kancheepuram District, Tamilnadu

Drug Standardization

1. Comparative phytochemical study of Root/Root bark/Stem bark/Heartwood versus Aerial parts of Ayurvedic Drugs.
2. Standardization and quality control of claim formulation and its ingredients use for Collaborative research programme on Migraine.

Literary Research

1. Translation of Vaidya Chintamani (Sanskrit to English)

List of ongoing clinical research projects - 11

1. Clinical evaluation of efficacy of Panchtiktaguggulu Ghrita and Brihanmarichadya Taila in the management of Psoriasis w. s. r. to Pathya-apathya.
2. Clinical evaluation of Parthadarishtha (Arjunarishtha) and Sarpagandha Vati in the management of Essential Hypertension (Uccha Raktachap).
3. Clinical evaluation of Goksura churna and Sveta parpati in the Management of Mutrasmari (Urolithiasis).
4. Clinical Evaluation of Khadirarishta and Kanchanara guggulu in the management of Uterine Fibroids- An exploratory study.
5. Clinical evaluation of Vyoshadi Guggulu and Panchasama Churna in Amavata (Rheumatoid Arthritis).
6. Clinical evaluation of Rudraksa Churna in the management of Essential Hypertension (Uccha Raktachapa).
7. Clinical evaluation of Punarnava Guggulu and Rasna Saptaka Kashaya in the management of Rheumatoid Arthritis (Amavata).
8. A Clinical evaluation of Triphala Guggulu and Kasisadi Taila in the management of Arsha (Hemorrhoids).
9. Therapeutic evaluation of Rasnadi Gutika and Chandrakala lepa in Janusandhigata vata (Osteoarthritis Knee).
10. Clinical evaluation of certain Ayurvedic formulations in the management of Sthoulya (Obesity).
11. Clinical evaluation of Mamajjaka Ghana Vati in the management of Madhumeha (Type II Diabetes Mellitus)

Collaborative Clinical Research

1. Development of Bio-medical instrumentation for Ksharasutra chamber for preparation of standardized Ksharasutra
2. Clinical study of 'AYUSH Rasayana A & B' in Elderly subjects
3. C1-Oil for wound healing
4. Development of a standardized questionnaire for assessment of Prakriti and its relevance with the parameters of health and disease

Medicinal Plant Research

1. Development of Data Bank on Ethno-botanical research and cross cultural study on sociology of reproductive healthcare of tribal societies involving medicinal plants across Northeast India
2. Authentication of selected crude drugs through Pharmacognostical evaluation collected from various markets of India
3. Digitization of Herbarium (available in CCRAS)
4. Cultivation of High valued Medicinal Plants in Medicinal Plants Garden
5. Development of Pharmacopoeial standards of traditionally used Ayurvedic Formulations
6. To establish the best procurement time for certain herbs by analyzing the seasonal variation in bioactive secondary metabolite with quantitative HPLC
7. Compendium of Ayurveda Dietetics with reference to Cereals
8. Documentation of Folk healers and folk claims in the state of Assam and development of a database

9. Studies on Development of Agro techniques of two important Medicinal plants of Laghu panchmool
10. RAPD based DNA Fingerprinting to understand genetic variations and Phyto-chemical Analysis of Selected Medicinal Plants
11. Exploration, acclimatization and in vitro propagation of Medicinal Plants being used under the name Agnimantha
12. Selection of salt-tolerant cell lines and regeneration of salt-tolerant plantlets of Prishniparni (*Uraria picta* (Jacq.) Desv.) and Shalaparni (*Desmodium gangeticum* (L.) DC.)
13. Pharmacognostical evaluation of medicinal plants cited in Ayurvedic formulary of India excluding the plants mentioned in Ayurvedic Pharmacopoeia of India
14. Documentation, critical analysis and interpretation of Pharmacognostical data and parameters of single medicinal plants drugs from different published resources
15. Pictorial guide of commonly used medicinal plants of Sowa Rigpa and Ayurveda
16. Development of Raw drug Museum on Pratinidhi dravyas along with adulterants used against medicinal plants in Ayurveda system

Pharmacology

1. Development of Coded drug AYUSH M-3 for the management of Migraine patients
2. Biological activity and safety/toxicity studies of K1 extract.
3. Development of coded drug AYUSH PJ-7 for the management of Dengue patients
4. To evaluate the safety /toxicity studies of cannabis leaves
5. Anti-inflammatory activity of Shunthi Guggulu
6. Analgesic activity of SG1 and SG2
7. Evaluation of Sveta Parpati for its Curative and Preventive action in urolithiasis- Experimental study in rats
8. Pre-clinical evaluation (Toxicity and efficacy profile) of an Ayurvedic Herbal formulation Vaisvanara churna used in the treatment of Rheumatoid arthritis
9. Pharmacological Evaluation of Gokshuradi Guggulu in Experimentally induced Urolithiasis in Rats
10. Toxicological and Antiarthritic Evaluation of Laghu Vishagarbha Taila
11. Exploratory Evaluation of hepatoprotective activity of Aarogyavardhini Vati in experimental animal models
12. Evaluation of Hypoglycemic, Hepato-protective and Anti-dyslipidaemic activity of pariyaata (*Nyctanthes arbor-tristis* Linn) flower extract in experimental animals
13. To evaluate and explore the mechanism of action of anticancer Ayurvedic plants using cell based assays
14. Evaluation of Hypolipidemic Activity of *Cardiospermum halicacabum* Linn Leaf in Experimental Animals
15. Evaluation of Antidiabetic activity of *Ficus gibbosa* Blume (leaves and stem bark) extracts in Streptozotocin-Nicotinamide induced Diabetes in experimental Animals
16. In vitro assessment of anti-diabetic Ayurvedic formulations used in cell based assays

Drug Standardization

1. Development of marker compounds for 12 Medicinal Plants, given in API
2. The Standardization and Quantification of three (03) Ayurvedic Plants in respect to the Biologically Active Marker Compounds present therein
3. Isolation of marker compounds of some selected medicinal plants

4. Identification & quantitative estimation of marker compound/PRS for quality assurance/ phyto-chemical evaluation of finished drugs & ingredients used in various selected coded formulations developed by CCRAS
5. Preparation of Nimbatiktam 200 mg. capsule
6. Shelf life study of Churna
7. Shelf life study of Vati
8. Shelf life study of Ghrita
9. Shelf life study of Taila
10. Standardization and quality control of formulation and its ingredients use for Collaborative research programme regarding dengue with Medanta Hospital Gurgaon.

Literary Research

1. History & accounts of the literatures written in Unani Medicine from 13th to 16th Century AD
2. History & accounts of the literatures written in Unani Medicine from Hippocratic period (462-370 BC) to 8th Century AD
3. Preparation of hard copies of digitized Medical Manuscripts of Eastern India (Odisha, West Bengal and Bihar).
4. Translation of Sahasrayoga from Sanskrit/ Hindi to English
5. Compilation and Documentation of Classical Sowa-Rigpa Formulations
6. Preparation of hard copies and transcription of Ayurveda/medical palm leaf manuscripts and rare books from Karnataka
7. Integrated Clinical Decision Support System

Outreach Activities

Tribal Health Care Research Programme: This programme has been implemented under Tribal Sub Plan (TSP) and services have been extended to 14 states through 15 CCRAS Institutes to provide health care facilities at door step of tribal people. In this programme, the Council has covered a population of 4,67,917 and 851 folk claims/LHTs have been documented.

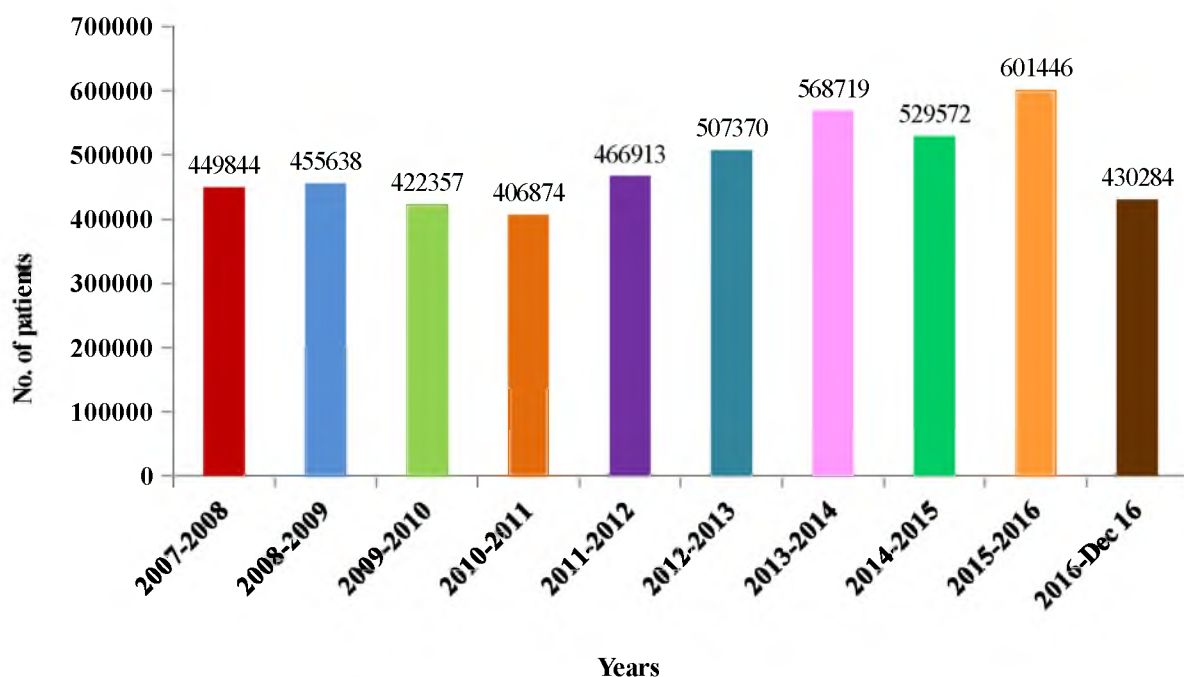
Swasthya Rakshan Programme: This programme has been initiated during the month of November, 2015. A total 255 villages/colonies covered through 4130 tours in 19 states and medical aid provided to 122906 patients. During these tours, awareness about hygiene was also provided to the peoples

Ayurveda Mobile Health Care Programme under Scheduled Castes Sub Plan (SCSP): This programme has been initiated during the month of November, 2015. A total 336 villages/colonies covered through 3464 tours in 19 states and medical aid provided to 122134 patients. During these tours, awareness about hygiene was also provided to the peoples.

NPCDCS Programme: Through this programme i.e. *National Programme for prevention and Control of Cancer, Diabetes, Cardio-vascular disease and Stroke (NPCDCS)*, Integration of AYUSH (Ayurveda) with DGHS, Ministry for Health and Family Welfare, GoI has been taken up for prevention and control of non communicable diseases in 3 identified districts of 3 states viz. Gaya (Bihar), Bhilwada (Rajasthan) and Surendranagar (Gujarat). So far, 52,709 patients have been screened for selected Non Communicable Diseases, out of which 23,318 patients have been enrolled for selected NCDs under this programme.

Ayurvedic Health Centres under NE Plan: The Council has sanctioned 20 OPDs in 20 districts of North-East states during 2015-16, viz. 10 OPD in Assam state, 6 OPD in Arunachal Pradesh state and 4 OPD in Sikkim state. In **Arunachal Pradesh**, 6 Ayurvedic Health Centres viz. District Hospital, Bomdila; District Hospital, Namsai; District Hospital, Tezu; District Hospital, Seppa; CHC, Likabali and CHC, Ruksin/General Hospital Pasighat are continuing under the supervision of RARI, Itanagar and a total 3910 patients were attended in these Centres. In **Sikkim** - 2 Ayurvedic Health Centres viz. Gayzing, South Sikkim and Jorethang, South Sikkim are functioning under the supervision of RARI, Gangtok and a total 880 patients were attended in these Centres. Besides this, the remaining 2 Ayurvedic Health Centres viz. Mangan, North Sikkim and Singtham, East Sikkim will be opened shortly. In **Assam**, extended OPD at 5 centres viz. Kamrup, Nalbari, Morigaon, Darrang, Barpeta have been started and process for opening of remaining 5 centres is in progress.

- OPD services: total app. **4839017** patients attended OPD during last 10 years (2007-December, 2016). The data shows that majority of patients (1373673) suffered from Musculo-skeletal system followed by skin disorder (20575), Respiratory Disorder (211005), Lifestyle Disorder (125433), Ano-rectal Disorder (95442) and Gastrointestinal Disorder (81885).



- **Medicinal Plant Research Programme:** Under this programme, 657 Medico-ethno-botanical surveys have been conducted in selected areas of 5 states. Besides this, the following 5 IMR projects have been completed and 17 Intra Mural Medicinal Plant Research projects are going on.
- **Drug Standardization:** Analysis of 473 single drugs and 273 compound formulations has been carried out. Besides this, 2 IMR projects have been completed and 9 Intra Mural Drug Standardization Research projects are in progress.
- **Pharmacological Research:** 51 Projects related to Safety-toxicity/ Pharmacological activity of Ayurvedic formulations were completed and 16 projects are in progress.

Literary Research programme

- 137 Books/Monographs/Select Research Papers/Proceedings (Monographs/guidelines/ Technical report) have been published by the Council during the reporting period. Besides this, 10 intra mural Literary Research projects have been completed and 7 projects are in progress. As an outcome of the completed projects, 03

publications have been brought out by the Council in a book form. Remaining 07 completed projects are under vetting for publication

- The Council has published routine periodicals viz. Journal of Research in Ayurveda and Siddha, Journal of Drug Research in Ayurveda & Siddha and Journal of Indian Medical Heritage. Besides a quarterly News Bulletin of the council has also been published periodically.

AYUSH Research Portal - A web based portal for Research publications in AYUSH is successfully continued and the information is being updated periodically.

CENTRAL COUNCIL FOR RESEARCH IN AYURVEDIC SCIENCES

Details of OPD, IPD and Beneficiaries in various camps/ Outreach Activities(April 2016 – January 2017)

- 1) **OPD:-** Number of patients attended 4,30,284 at 25 Institutes/Centres
- 2) **IPD:-** Number of patients admitted 3428 at 10 Institutes/Centres
- 3) **Tribal Health Care Research Program under Tribal Sub Plan (TSP):-** This programme is conducting through 15 CCRAS centres in 14 States and tribal population of 97964 was covered and medical aid provided to 32540 patients. Besides this, 132 LHTs/ folk claims were documented.
- 4) **Ayurveda Mobile Health Care Programme under Scheduled Castes Sub Plan (SCSP):-**A total 255 villages/colonies covered through 2700 tours in 18 states and medical aid provided to 98397 patients.
- 5) **Swasthya Rakshan Programme:-** A total 172 villages/colonies covered through 3218 tours in 19 states and medical aid provided to 96190 patients.
- 6) **AYUSH-NPCDCS Programme:-** The programme is successfully running at 52 centres (49 CHCs and 3 District Hospitals) of the 3 identified districts, through AYUSH-NPCDCS Clinic/Lifestyle modification Clinics. So far, **66,467** patients have been screened, out of which **29,635** patients of NCDs have been enrolled under this programme. 104 camps were conducted under this programme and 49,128 subjects were attended the camps. Total beneficiaries of Yoga classes are 65,180.
- 7) **Ayurvedic Health Centres under NE Plan:-** In **Arunachal Pradesh**, a total 5548 patients were attended at 6 Ayurvedic Health Centres through RARI, Itanagar. In **Sikkim**, a total 2529 patients were attended at 4 Ayurvedic Health Centres through RARI, Gangtok. In **Assam**, a total 2259 patients were attended at 7 centres through RARIGID, Guwahati.