5. Ongoing and completed research projects (section wise if applicable)

Sl no.	Title	Summary
	CLINICAL	
1.	Nil	Nil
	PHARMACOLOGY	
1.	IMR project titled "Study of coded drugs intended for antenatal care i.e., AYUSH-GG and AYUSH-AG for their developmental toxicity and teratogenicity profiles in Zebrafish embryo model"	Developmental toxicity and teratogenicity profile experiments have been completed. Draft of final report is under preparation.
	PHARMACOGNOSY	
1.	IMR project titled Development of Quality Standards of Selected Extra Pharmacopoeial (Anukta Dravya) Drugs used in Local Health Traditions collected from different regions of India. (Collaborative project with CARI Jhansi)	Target: A total of ten plants collected from different geographical locations were proposed to be studied in three batches. Out of ten (30 samples), 27 samples of 08 plants were studied for botanical and pharmacognostical parameters and the available samples were supplied to CARI Jhansi, RARI Pune and RARI Kolkata for DNA barcoding and physicochemical and phyto-chemical parameters for microbial load and specific pathogens respectively. The tenure of the project has ended on 28.03.2025.
	PHYTOCHEMISTRY & DRUG STANDARDISATION	
1.	Comprehensive QC analysis, Estimation of Marker, Nutritional profiling and Shelf-life studies of AYUSH POSHAK YOGA.	QC analysis, Estimation of Marker, Nutritional profiling and Shelf-life studies were completed. Data Compilation is in process
	RESEARCH-ORIENTED PUBLIC HEALTH ACTIVITIES (TSP/SCSP)	
1.	THCRP-TSP	Target:-200 Tours, 520 population survey, 3000-3215 patients, 28 Focused Camps and 8 LHT collection Target Achieved. 200 Tours conducted, 520 populations surveyed, 8059 patients (5869 new patients) treated, total 7224 Investigations done, 36 focused Camps organised and 11 LHT collected.
2.	Assessment of acceptability of the comprehensive Ayurveda-based health care approach in the tribal community and effectiveness of individualized health care - Cluster randomized study under THCRP-TSP	Target:-520 Participants under CABHA and 30 Families under IAHA Target achieved. 520 participants enrolled and 511 participants completed the study under CABHA and 30 families (with100 participants) enrolled under IAHA out of them 29 families (with 95 participants) completed the study.

3.	AMHCP (SCSP)	Target achieved. 201 Tours conducted, 490 population survey done, 5106 Total patients (4196 new patients) treated and total 8493Investigations done. Total 39 Focus camps and 78 Awareness lectures delivered. Annual report under preparation.
4.	Assessment of acceptability of the Comprehensive Ayurveda-based health care approach in the Scheduled Caste community and effectiveness of individualized health care- Cluster randomized study under SCSP	Target achieved. 490 participants enrolled and 487 participants completed the study under CABHA and 30 families (with101 participants) enrolled under IAHA out of them 29 families (with 99 participants) completed the study.
LITERARY RESEARCH		
1.	Bibliometric analysis of the publications on Research in Ayurveda for prevention and management of Covid-19	Carried out with the objectives to explore the key characteristics, research trends and key contributors in Ayurveda researches for Covid-19.

Projects Ongoing during 2024-25:

Sl no.	**Title**	**Summary**
CLINICAL		
1.	"General health screening with special focus on Tuberculosis, Anemia, Haemoglobinopathies & Malnutrition and Ayurvedic Interventions for better health outcomes in Students of Ekalavya Residential Model Schools (EMRS) functioning under M/o Tribal Affairs"	Monthly health check-ups and medical support were provided at both schools. In EMRS Bhopal, 319 students were screened from 13th–19th Feb 2025, with 97 enrolled. In EMRS Guna, 252 students were screened from 4th–9th Mar 2025, with 86 enrolled. First follow-up visits were completed in March 2025. Screening targets were met, and the project is ongoing.
2.	Clinical Evaluation of Lashunadi vati and Pippalyadyasava in the management of Agnimandya - A Randomized parallel group study	Target of 110 patients, all patients have completed. Target achieved with in stipulated time.
3.	Prospective, randomized, open label, blinded end points exploratory clinical study to evaluate the efficacy and safety of Ayurvedic regimen as an adjunct to hydroxyurea in the management of sickle cell disease.	Target achieved. 100 patients enrolled at trial site AIIMS, Bhopal. Project is ongoing.

4.	Clinical Study on treatment tolerability, medication adherence and safety of Ayurvedic formulations in the management of Dyslipidemia- SMART Collaborative Research Program	Target: 480 participants (120 at each 4 Collaborative centre) in two years. Target achieved. 786 participants screened, 480 enrolled, 387 completed, 49 droup out and 44 continuing the study.
PHARMACOLOGY		
1.	Effect of Gokshuradi Guggulu on ExperimentalDiabetic Nephropathy	The study was completed in 2022 and the data has been forwarded to the Principal Investigator (PI) for drafting the final report, which is currently awaited.
2.	Formulation of Drug Master File and Dossier for Picrorhiza kurroa, an important promising medicinal plant from Ayurveda and Contemporary Research	Safety pharmacology and anti-obesity studies have been completed, and preparation of the final report is in progress. This project is sanctioned under the Chemistry section of CARI, Jhansi.
3.	Formulation of Drug Master File and Dossier for Withania somnifera Dunal, an important promising medicinal plant from Ayurveda and Contemporary Research	Alzheimer's and insomnia studies have been completed, while histopathological examination, data analysis, and report preparation are ongoing. This study is sanctioned under the Chemistry section of RARI, Gwalior.
4.	Comparative Phytochemical and Pharmacological Evaluation of Small Branches with Root/Stem Bark of Selected Ayurvedic Plants	Memory impairment, Alzheimer's studies have been completed, except for the constipation model, which is still in progress. Histopathological analysis and data processing are currently underway. This project is sanctioned under the Chemistry section of RARI, Gwalior.
5.	Acute and 90-day Oral Toxicity Study of AYUSH Bal Ghutti Granules in Experimental Animals	In-life phase of both acute and sub-acute toxicity evaluations has been completed. The histopathological examination phase is about to begin.
6.	Acute and 180-day Oral Toxicity Study of AYUSH Bal Rasayan in Experimental Animals	The in-life phase has been completed, and the histopathology assessment is scheduled to commence shortly.
7.	Toxicity Profiling of Mrityunjaya Rasa in Experimental Animal	Acute oral, acute dermal, sub-acute oral toxicity and genotoxicity evaluation through the Ames test have been completed, while chronic toxicity study is still ongoing. This study is being conducted in collaboration with IITR, Lucknow under GLP conditions.
8.	Assessment of AYUSH-64 and Ayush Kwath on SARS-CoV-2 Mutants in Lung, Liver, and Brain Cells	The pharmacological and mechanistic evaluation studies are currently in progress under this collaborative study conducted at IIT, Indore.
9.	Evaluation of Intranasal Vacha (Rhizomes of Acorus calamus) in a Rodent Model of Stroke	Safety pharmacology and pharmacology studies have been completed. Protein expression studies and histopathological evaluations are in progress, and an extension of six months has been requested for project completion.

10.	Assessment on the role of Coded Drug AYUSH PJ-7 and other Plants-Based Molecules/Drugs against matrix metalloproteinases-mediated immnunopathogenesis of Dengue viral disease and establishment of their mechanisms of actions	The standardisation of protocols is completed. This study is being conducted in collaboration with ICMR-NIRTH, Jabalpur
11.	Study of selected Ayurvedic herbs for their anti-angiogenic potential and toxicity profile in zebrafish embryo model for cancer management	Procurement of zebrafish housing system, procurement of plant extracts, acute toxicity of some of the extracts and optimization of EAP staining protocol using NBT/BCIP method.
PHARMACOGNOSY		
1.	Macroscopic and microscopic atlas preparation of selected plants of Ayurvedic importance.	A total of 68 plants were proposed to be studied in two batches in the project. Out of 68, samples of 16 plants were received/ collected this year. The remaining work of the project is in progress.
2.	Development of Quality Standards for Useful Parts of Selected Medicinal Plants of Ayurveda.	The project was initiated this year and a total of ten plants were proposed to be studied in three batches collected from different geographical locations. Out of ten plants (30 samples), 11 samples of 06 plants were studied for botanical, pharmacognostical and chemical parameters. The remaining work of the project is in progress.
3.	Development and digitization of authentic ayurvedic raw drugs and herbarium for the medicinal plants appearing in AFI in mandatory drug testing laboratories of CCRAS with CSMCARI, Chennai. (Co-I)	The work is in progress as per the project objectives. Few raw drugs were supplied to the institute and received samples along with the passport data are being maintained in the Museum.
4.	Evaluation of Seasonal and Geographical Variation on Phytoconstituents/Marker Compounds in Selected Ayurvedic Medicinal Plants with CSMCARI, Chennai. (Co-I)	The work is in progress as per the project objectives. Raw drugs and soil samples are being supplied in different seasons.
5.	Process validation and standardization of Pippalyadi taila, Vachadi taila and Bhringamalakadi taila formulation in AFI with CARI, Patiala. (Co-I)	The work is in progress as per the project objectives. Pharmacognostic work is in progress for supplied samples.
6.	Development of Quality Standards of Botanicals used in Ayurveda grown in Mauritius. (Project Team)	The project is being carried out at CCRAS Headquarters and pharmacognostic work has been allotted to the laboratory. Technical work was carried out as per instructions and draft monographs were submitted to Headquarters. Revisions as per comments are in progress.

7.	Development of quality standards, estimation of markers and accelerated shelf life studies of Guducyadi Caturbhadra and Amrtottara kvatha churna formulations with CSMCARI, Chennai. (Co-I)	The work is in progress as per the project objectives. Pharmacognostic work was done for 06 supplied samples and report has been sent, while the same is in progress for next 06 samples.
PHYTOCHEMISTRY & DRUG STANDARDISATION		
1.	Formulation of Drug master file and dossier for roots of Withania somnifera an important promising medicinal plant from Ayurveda and contemporary research.	Physicochemical analysis and HPLC analysis for alcohol and water soluble extractives have been completed. In-life phase of 90 day oral toxicity and histopathology study has been completed. Insomnia and Alzheimer's studies are under progress.
2.	Comparative phytochemical and pharmacological evaluation of small branches with root or stem barks of selective ayurvedic plants	HPTLC of phytochemical markers and quantification by HPLC have been completed. In-life phase of Anti-inflammatory and anti-obesity activities been completed. A loperamide-induced constipation and AlCl3-induced memory impairment study is completed. Insomnia, Alzheimer's, Histopathology and biochemical assay are under progress.
3.	Assessment of AYUSH-64 and Ayush Kwath to SARS-CoV-2 mutants on lung, liver and brain cells	HPLC, HPTLC, LC-MS/MS and In-silico study was completed for AYUSH-64 and Ayush Kwath, along with its ingredients. Protein level analysis and Transcript level analysis completed.
4.	Development of SOP & Quality Control Parameters and Shelf-lifestudies of AYUSH-RP, AYUSH-AG, and AYUSH-GG Formulations	Physicochemical Analysis, Biological contamination, Pesticide, heavy metal testing & Aflatoxin contaminations have been completed for 04 quarters. Quantification of markers by HPLC and HPTLC is in progress.
5.	In-Silico study of Botanicals (Rudraksha, Gorakhmundi, Jyotishmati, Petha, Vacha, Gambhari and Shatavari) used in Ayurveda for Neurocognitive enhancement.	Phytochemical and physicochemical analysis of 04 plants completed. ADMET, Network pharmacology and molecular docking study on 04 plants completed. Molecular Dynamic simulation study on 02 plants completed.
6.	Pharmaceutical Standardization, SOP Development and Comprehensive Phytochemical Profiling of selected Ayolepa Rasayana Kalpana.	Phytochemical and physicochemical analysis of 24 raw drugs and 14 formulations completed. FTIR, and XRD analysis of 24 raw drugs and 14 formulations completed. AAS analysis of Pb, Hg, As, Cd and Fe of 24 raw drugs and 14 formulations is under process.