

RESEARCH IN SIDDHA SYSTEM OF MEDICINE

The Science of Holistic Health

**CENTRAL COUNCIL FOR RESEARCH IN SIDDHA
MINISTRY OF AYUSH
GOVERNMENT OF INDIA**

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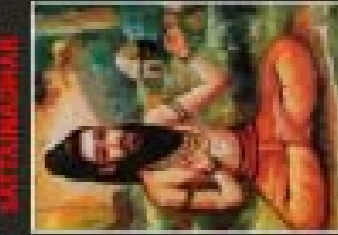
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MARSHI



CHATTAMPI



MULANARAYANA



THEERTHAPADA



AGASTHYA



BHARTHARI



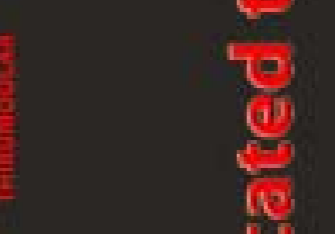
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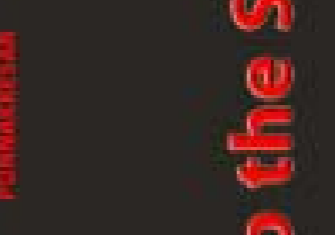
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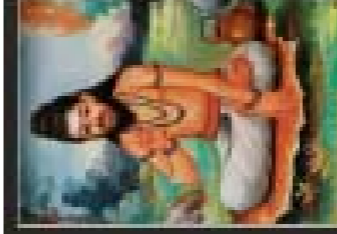
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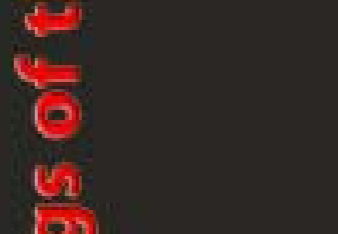
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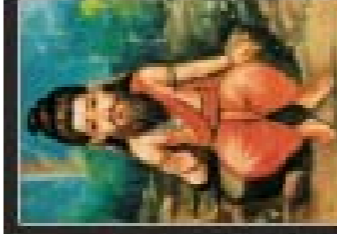
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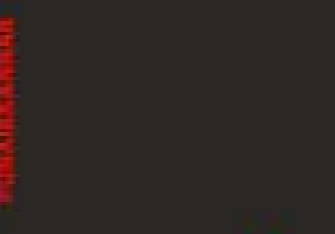
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SUNANDANA



SUNANDANA



SUNANDANA



SUNANDANA



DATTATREYA



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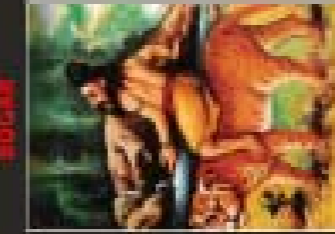
DATTATREYA



DATTATREYA



BALAMA



BALAMA



BALAMA



BALAMA

Dedicated to the Siddhars
The spiritual beings of the Tamil land..

18 SIDDHARS

Central Council for Research in Siddha

The Central Council for Research in Siddha (CCRS), an autonomous body under the Department of AYUSH, Union Ministry of Health and Family Welfare is an apex body in India for undertaking, coordinating, formulating, developing and promoting research on scientific lines in Siddha. The activities are being carried out through 5 peripheral Institutes / Units located in Tamil Nadu, Kerala and Union Territory of Puducherry. The research activities of the Council include Preclinical, Clinical Research, Drug Research and Literary Research in Siddha.

The objectives for which the Central Council for Research in Siddha has been established are:

- ☞ The formulation of aims and patterns of research on scientific lines in Siddha.
- ☞ To undertake any research or other programmes in Siddha.
- ☞ The prosecution of and assistance in research, propagation of knowledge and experimental measures generally in connection with the causation, mode of spread and prevention of diseases.
- ☞ To initiate, aid, develop and coordinate scientific research on various aspects, especially fundamental and applied aspects of Siddha and to promote and assist research institutions for the study of diseases their causes, prevention and remedy.
- ☞ To finance enquiries and researches for the furtherance of objectives of the Central Council.
- ☞ To exchange information with other institutions, associations and societies interested in the objects similar to those of the Central Council especially in observation and study of diseases in India.
- ☞ To prepare, print, publish and exhibit papers, posters, pamphlets, periodicals and books for furtherance of the objectives of the Central Council.
- ☞ To issue appeals and make applications for money and funds in furtherance of the objectives of the Central Council and to accept for the aforesaid purpose gifts, donations and subscriptions of cash and securities and of any property whether movable or immovable.
- ☞ To borrow or raise funds with or without security or on security mortgage charge, hypothecation or pledge of all or any of the immovable or movable properties belonging to the Central Council or in any other manner whatsoever.
- ☞ To invest and deal with the funds and monies of the Central Council or entrusted to the Central Council not immediately required in such a manner as may from time to time be determined by the Governing Body of the Central Council.

- ☞ To permit the funds of the Central Council to be held by the Government of India.
- ☞ To acquire and hold, whether temporarily or permanently any movable or immovable property necessary or convenient for the furtherance of the objects of the Central council.
- ☞ To sell, lease, mortgage and exchange and otherwise transfer any of the properties movable or immovable of the Central Council provided prior approval of the Central Government is obtained for the transfer of immovable property.
- ☞ To purchase, construct, maintain and alter any buildings or works necessary or convenient for the purpose of the Central Council.
- ☞ To undertake and accept the management of any endowment or trust fund for donation, undertaking or acceptance whereof may seem desirable.
- ☞ To offer prizes and grant of scholarships, including travelling scholarships in furtherance of the objects of the Central Council.
- ☞ To create administrative, technical and ministerial and other posts under the Society and to make appointments thereto in accordance with the rules and regulations of the Society.
- ☞ To establish a provident fund and/or pension fund for the benefit of the Council's employees and / or their family members.
- ☞ To do all such lawful things either alone or in conjunction with others as the Central Council may consider necessary or as being incidental or conducive to the attainment of the above objects.
- ☞ To undertake R & D Consultancy projects and transfer of patents on drugs and processes to industries.
- ☞ To undertake R & D projects sponsored by industries in public / private sector.
- ☞ To undertake international and inter-agency collaboration.
- ☞ Utilization of results of research conducted and payment of share of royalties / consultancy fees to those who have contributed towards pursuit of such research.

- ☞ To enter into arrangements with scientific agencies of other Countries for exchange of scientists, study tours, training in specialized areas, conducting joint projects etc.
- ☞ To provide technical assistance to Govt. / Private Agencies in matters consistent with the activities of the Council.
- ☞ To assist Medicinal Plants Board, Government of India in achieving its objectives.
- ☞ To constitute small Management Committees consisting of eminent Scientists / Physicians of local areas to monitor the R & D activities and suggest remedial measures for the improvement of activities of all Central as well as Research Institutes of the Council.

Organizational set-up:

Central Council for Research in Siddha, located with its headquarters in Chennai encounters its objectives via mandate fixed for the Institutes in 3 states—Tamil Nadu, Puducherry and Kerala. IPD facilities for inpatient clinical research are available in SCRI, Chennai and SRRI, Puducherry. SCRI, Chennai has a Licensed Central Pharmacy preparing research drugs for Clinical trials and general health care delivery system.

S.No	Institutes / Units	Mandate of the Institute
1	Siddha Central Research Institute, Chennai.	Clinical Research, Literary Research and Drug research
2	Siddha Regional Research Institute, Puducherry.	Clinical Research
3	Siddha Regional Research Institute, Thiruvananthapuram.	Clinical Research and Drug research
4	Siddha Clinical Research Unit, Palayamkottai.	Clinical Research
	Siddha Medicinal Plants Garden, Mettur.	Medicinal Plant Research and Cultivation

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The Central Council for Research in Siddha (CCRS) is an autonomous body registered on 27th July 2010. The Council came into existence after bifurcation of the erstwhile Central Council for Research in Ayurveda and Siddha (CCRAS) into Central Council for Research in Siddha (CCRS)



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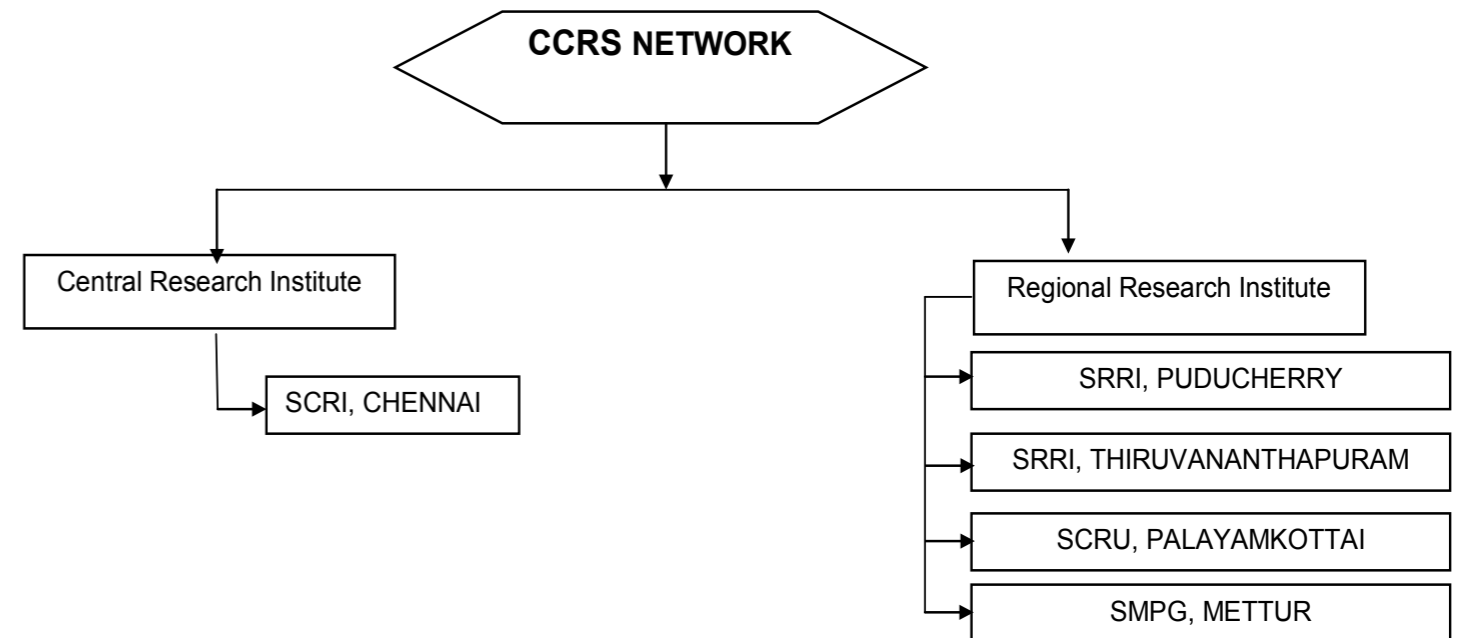
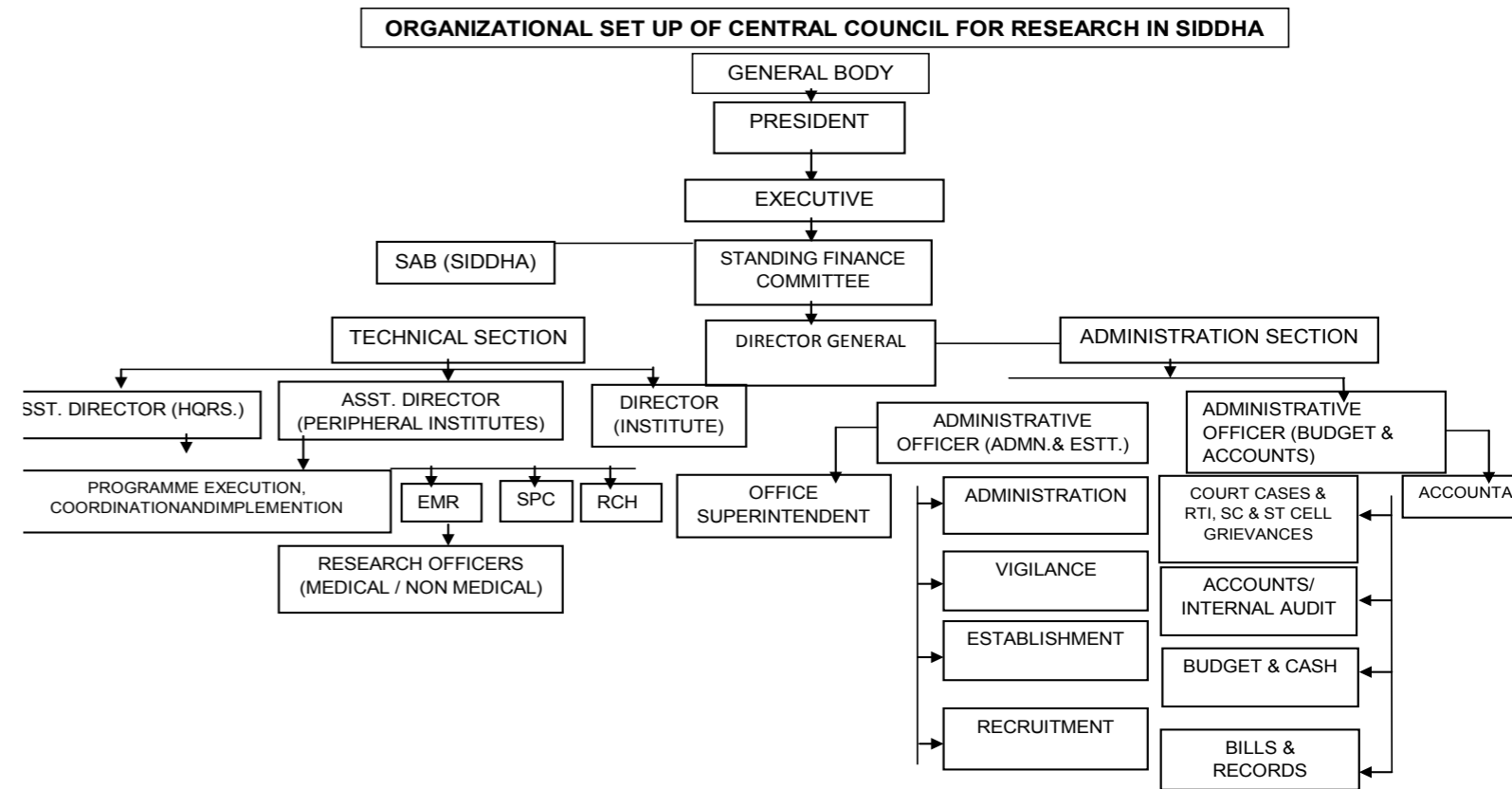


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GOVERNANCE TO FACILITATE TRANSPARENCY AND MONITORING:

CCRS has defined structures and institutional processes for governance. The following are the committees which guide CCRS in overall management, administrative excellence, Finance management and technical expertise.

- ★ General Body,
- ★ Executive Committee,
- ★ Standing Finance Committee
- ★ Scientific Advisory Board.



Hon'ble Minister of State (IC) and Secretary, Ministry of AYUSH, Govt. of India

COMMITTEES AND REGULATIONS

- ◆ Clinical trials are monitored by respective Institutional Ethical Committee (IEC) strictly adhering GCP- AYUSH guidelines
- ◆ Animal Studies are monitored by Institutional Animal Ethics Committee (IAEC) and advices of CPCSEA are implemented regularly.
- ◆ The Good Agricultural and Cultivation Practices (GACP) are implemented in medicinal plant research.

NOTABLE ACHIEVEMENTS

CLINICAL RESEARCH

- * Obtained a patent for Psoriasis under the erstwhile research council for the drug 777 oil.
- * Successfully completed clinical research in peptic ulcer with trial drug Thambira Chenduram and published a monograph.
- * Multicentric comparative trial conducted in Annabedhi Chenduram for iron deficiency anaemia and proved its efficacy. Published treatment guidelines for the same.
- * Drug proving trial completed in Rasa Gandhi Mezhugu to prove its efficacy in fibroid uterus size reduction.
- * Multicentric clinical trial in diabetes mellitus have been completed with the coded polyherbal formulation D5 chooranam and drug is found to be efficacious among the drug naïve diabetic population.
- * Drug proving clinical trial completed in Urolithiasis with official Siddha formulation Sirupeelaiyathikudineer.

DRUG RESEARCH

- * In animal studies, more than 10 drugs have passed out toxicity studies and 150 efficacy studies have been completed.
- * More than 50 single drugs and 20 compound formulations have been standardized.

MEDICINAL PLANTS RESEARCH

- * Sizable number of survey tours have been conducted and folklore claims documented
- * Conservation, Cultivation and Propagation of medicinal plants is active in 18 acres of Siddha Medicinal plants Garden at Mettur, Tamil Nadu.
- * Around 500 specimens are maintained in the museum and 1000 herbarium sheets are in possession.

NOTABLE ACHIEVEMENTS

LITERARY RESEARCH & PUBLICATIONS

- * 30 books have been published.
- * 1500 palm leaf manuscripts are conserved and digitized.
- * Scientific outcomes disseminated through publication in National and International peer reviewed journals.
- * Supported in the publication of the following books published by government of India.
 - 🌐 The Siddha Pharmacopoeia of India Part I, Vol-I and Vol-II
 - 🌐 The Siddha Formulary of India Part I (Tamil & English) and Part II (Tamil)
 - 🌐 Essential Drugs List
- * Published treatment guidelines for management of Chikungunya with Siddha drugs

RESEARCH & DEVELOPMENT

The activities and achievements of CCRS are mainly in the areas of clinical research, drug research & development, Medicinal plant research and literary research and documentation. In the field of research, clinical research forms the core activity adequately complemented and supported by drug and literary research.

Clinical Research: It involves evaluation of the efficacy of selected drugs, herbal preparations, therapies and fundamental principles and Siddha concepts of diet, Body constitution (Udaliyal) etc. The clinical research programme of the Council mainly aims at the validation of therapeutic efficacy of Siddha medicines and therapies, in practice used for more than 10 decades. The council also concentrates on innovation of newer drugs for non-communicable diseases especially Diabetes Mellitus, Psoriasis, Vitiligo, Hypertension, Dyslipidemia, Urolithiasis, Fibroid Uterus, Osteo arthritis, Rheumatoid arthritis and in Benign Prostatic hypertrophy.



DEVELOPMENT OF RESEARCH CENTERS

S.NO	Research	Place	Institute/Year	Activities
1	Literary Research Unit	Thanjavur	1964(Merged with CRI in 1979)	Literary research &documentation
2	Literary Research Unit	Palayamkottai	1971(Merged with CRI in 1979)	Literary research &documentation
3	Central Research Institute (Siddha)	Chennai	1971	Clinical research Drug Research
4	Literary Research and Documentation	Chennai	1979	Literary research &documentation
5	Drug Research Scheme (Multi Disiplinary)	Chennai	1979	Standardization
6	Mobile Clinical Research Unit	Chennai	1979	Clinical research-Survey and-Survellience
7	Siddha Regional Research Institute	Puducherry	1979	Clinical research
8	Clinical Research Unit -SIDDHA	Palayamkottai	1980	Clinical research
9	Survey of Medicinal Plants Unit -SIDDHA	Palayamkottai	1971 march Merged with Mettur from 2009	Survey of Medicinal plants
10	Clinical Research Unit -SIDDHA	Trivandrum	1986	Clinical research
11	Project on Tribal Research Programme in Siddha	Tiruppathur, Tamilnadu Kalasa,Karnatka	1985 Merged with CRIS	Tribal research
12	Clinical Research Unit-Safdarjung	New delhi	Upto 2000	Clinical research
13	Preliminary Screening Institute for Siddha Drugs.	Trivandrum	1982-1999	Standardization
14	Siddha Medicinal Plants Garden	Mettur	Functioning from 2005	Cultivation and Survey

Accomplished Projects in Clinical Research:

Knowing the importance about the management of Non communicable diseases, most of the clinical research have been done in NCDs.

S. No	Name of the Drug	Name of the Disease
1.	P6	Vali Gunmam (Peptic Ulcer)
2.	LingaChendooram and GowriChintamani (Internal) MayanaThylam (External)	SanthuVathaSoolai (Rheumatoid Arthritis)
3.	KP1 Chooranam(Internal) KPE Thylam (External)	Kalanjagapadai(Psoriasis)
4.	D2 Chooranam	Neerizhivu (Diabetes)
5.	D4 Chooranam	Neerizhivu (Diabetes)
6.	RA1 Chooranam	SanthuvathaSoolai Rheumatoid Arthritis)
7.	RGX	PutruNoi (Cancer)
8.	SKX	PutruNoi (Cancer)
9.	VK2	PutruNoi (Cancer)
10.	MahaVeeraMezhugu	SanthuVathaSoolai (Rheumatoid Arthritis)
11.	VangaChunnam	SanthuVathaSoolai (Rheumatoid Arthritis)
12.	G1	Venpadai (Leucoderma)
13.	G2	Venpadai (Leucoderma)
14.	G1+ ABKM	Venpadai (Leucoderma)
15.	Annabedi Chenduram	VeluppuNoi (Anaemia)
16.	AvurillaiKalkam	ManjalKamalai (Jaundice)
17.	APNC	Peenisam (Sinusitis)

Projects in Clinical Research:

1. Multicentric studies on anemia with Annabedhichenduram:

A multicentric study to assess the efficacy of the trial drug Annabedhichenduram in anemia was conducted in SCRI, Chennai, SRRI-Pudhucherry, and SCRUI-Palayamkottai. It was found that Annabedhichenduram was better in increasing Hb, Serum iron, Serum ferritin, and TIBC. Among the 359 cases screened 40 cases were recruited and the trial was completed. 75% of the cases showed good response and their general conditions improved.

Outcome:

Treatment guidelines for Veluppunoi published by CCRAS
Approved by IEC of SCRI.

2. Open observational studies on metallic drugs:

Observational studies were conducted in SCRI, Chennai, to evaluate the clinical safety of 3 selected Siddha herbomineral preparations such as Ayabringarajakarpam, Ayaveerachenduram, and Lingachenduram. 15 subjects were recruited for this trial and they were observed for the metallic load in their body. LFT, KFT, USG were the parameters observed in this study. NOAEL was the observation in this study.

Approved by IEC of SCRI.

3. Documentation of Treatment Guidelines in vector borne diseases:

This documentation project is highly useful in collecting various treatment claims on vector borne diseases used for treatment and prevention. Among the 38 claims more than 60% reported for chikunguniya. NilavembuKudineer and BramanandaBairavam tablets are the frequently documented claims. It is noteworthy to mention here that mass treatment with NilavembuKudineer is adopted in southern states especially in Tamil Nadu whenever there is a reported outbreak of either chikunguniya or dengue

Outcome:

Monograph published by CCRAS -
Treatment guidelines for Chikungunya

4. Open Labelled Clinical Trial on KaruppaiSathaikattigal (Fibroid Uterus):

The effect of Rasaganthi Mezhu was tested among 20 cases diagnosed as fibroid uterus and the drug was given for 90 days in a split of 45 days with a drug holiday period of 15 days. 16 out of 20 cases showed good response in reduction of the size in fibroid uterus. As a secondary objective, the values of LFT and KFT were observed for all the cases and the results revealed that the drug was found to be very safe. This study was conducted in SRRI, Puducherry.

Approved by IEC of SRRI, Puducherry.
IEC Approval No: CCRS/SRRI-1/2011-12/02.

5. Multicentric open labelled clinical trial on Neerizhivu (Diabetes mellitus):

India has become the capital of diabetes. It hinders the economic development of individual as well as the country. Indian system of medicine claims effective treatment for diabetes. Siddha medicine has many formulations indicated for diabetes. Evidence based research about the efficacy of such formulations are being carried out by Central council for Research in Siddha. Considering the above facts CCRS has started a Multicentric open clinical trial on Neerizhivu with D5 chooranam involving its peripheral institutes SCRI, SRRI Puducherry, SCRUI Palayamkottai. The trial has been started after getting IEC approval from respective institutes. The interim analysis shows promising results in reducing the blood sugar. The trial was completed with promising results in controlling the blood sugar. Data analysis is in progress. There is a plan to apply for patent for this particular formulation.

IEC Approval No:
IEC No: CCRS/
SCRI-1/2011-
12/04
CTRI Registration
No/Ref no:
2013/08/005563

6. Clinical evaluation of Sirupeelaiyathikudineer in the management of kalladaippu (urolithiasis):

Reduction of pain, reduction in the size of the calculus have been reflected clinically and radiologically supporting the claim of the drug to be beneficial in Urolithiasis.

IEC No:CCRS/SRRI
- 1/2011-12/03

Observational studies

1. Survey questionnaire for assessment of Siddha treatment in OPD of Siddha Central Research Institute.

Awareness about the usage of traditional systems of medicine has increased greatly at present. Siddha is one among the oldest systems in India. It is being used by a large community for a long time. Even though it is being used long the safety and efficacy of the medicines have to be established scientifically. The validity of the benefits using Siddha system is planned with an observational study in the form of survey questionnaire in Siddha Central Research Institute, Chennai. This study will provide the overview of patients' attitude towards Siddha medicine which helps in developing strategies for research in Siddha.

IEC Approval no:
IEC No: CCRS/
SCRI-1/2013-
14/11

2. Survey questionnaire for assessment of 'Add-on Therapy' for Diabetes

Non-communicable diseases are the challenging ones for the developing countries. Diabetes is one of the major threatening diseases among the NCDs. Siddha medicine is being used by a large number of people for controlling diabetes. It is the need of the hour to ensure the quality of life of the patients who are taking Siddha medicine for diabetes. An open observational study is planned to assess the QoL of diabetics in the form of questionnaire. IEC approval to conduct the study was obtained. The outcome will help to incorporate newer dimensions in research to enhance QoL in diabetics.

IEC Approval no:
IEC No: CCRS/
SCRI-1/2013-
14/09

3. Survey questionnaire for assessing Udaliyal (Body Constitution) for the patients attending SCRI, Chennai

Traditional systems of medicine are being esteemed high as their treatment methodology is patient centric. Tailor made medicines for the ailments of particular individuals form the backbone of traditional systems. The validation of body constitution evaluation in the drug metabolism is to be established in terms of contemporary pharmacogenomics. At present there is no database on body constitution of the patients attending SCRI. A pilot study is planned to explore the body constitution evaluation of the patients attending SCRI. We have got the IEC approval to conduct the study. The outcome of the study will help in designing the clinical trial in accordance with body constitution(Udaliyal) evaluation.

IEC Approval no:
IEC No: CCRS/
SCRI-1/2013-
14/15

Drug Research:

A preclinical setting is there in the council's research programme to comply with international standards and also as per WHO guidelines. All the trial drugs and official formulations pass through standardization, pharmacological activity, and safety evaluation. More than 120 drugs have been tested for their activity and 50 drugs have been tested for toxicity. More than 200 single drugs have been tested for Pharmacognostic studies. 30 formulations and 50 single drugs have been tested for standardization. In Pharmacognosy research, 15 Single drugs and 5 Compound formulations are to be tested every financial year. In Medicinal Plant Research, undertaking of 4 Medicinal plants Survey tours and cultivation of 5 numbers of Medicinal Plants Species are fixed as target every year. In Standardization and Quality assurance, 30 numbers of Single drugs and 10 numbers of Compound formulations have to be subjected. Under Pharmacology / Toxicology research 5 drugs are continuing.

Drug Research and Development:

It involves survey of medicinal plants, cultivation of medicinal plants including tissue culture, pharmacognosy, phyto-chemistry, pharmacology/toxicity and drug standardization.

Literary Research:

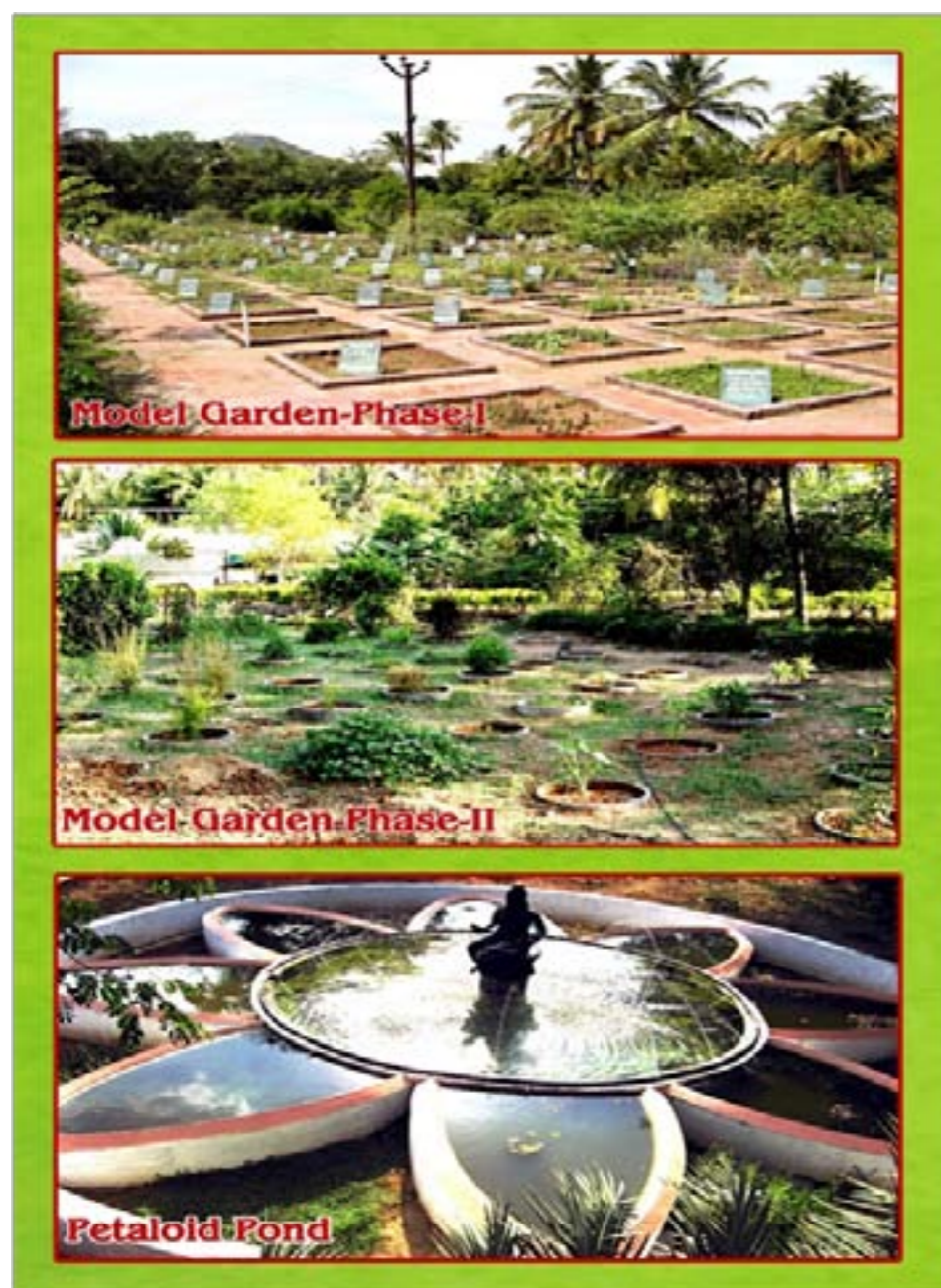
Literary research works lay platform to any basic research in Siddha system as they are scientific reflection of the intuitions of Siddhars. The preservation of ancient Siddha literatures in scribed in the palm leaves and paper manuscripts and unfolding of scientific details in them constitute literary research.



Traditional wisdom conserved for future innovations

Medicinal Plant Research:

The Siddha Medicinal Plants Garden (SMPG), Mettur is engaged in the maintenance and development of Herbal Garden and cultivation of Medicinal Plants. Cultivation of Medicinal plants, Conservation of endangered and RET species, Photo documentation of medicinal plants, Trial cultivation, Development of Seed bank, Survey, exhibition and documentation of folklore claims are the important activities of medicinal plant research



Siddha Medicinal plants Garden, Mettur – Model Garden/Aquatic plants Pond

Collaboration with various institutes:

S.No	Name of the collaborative institute	Purpose of Collaboration	Remarks
1.	TANUVAS(Tamilnadu University of Veterinary and Animal studies)	Study of Nandhi Mezhuagu / Cancer Gajakesari	Completed and Report submitted to Council
2.	National Institute of Siddha	Utilization of Patients bank.	Study subjects recruited and study completed in Multi centric trial for Anemia.
3.	The Tamilnadu Dr MGR Medical University	PhD center for Siddha Research	Students started doing Registration.
4.	Centre for Traditional medicine Research	Digitization Project (AYUSH Project)	On going
5.	Scientific Study intend with FRLHT, IAIM, Bangalore	Technical review in The documented treatment claims of Anemia. (AYUSH Project)	Community knowledge Register Released after Validation.
6.	MMRC, Chennai.	Digitization Project (AYUSH Project)	On going
7.	ATSVS Siddha Medical college, Munchirai.	Digitization Project (AYUSH Project)	On going

Extra Mural Research:

Extra-mural research (EMR) – facilitates monitoring and implementation of research projects under extra mural research scheme of the Department of AYUSH related to Siddha. So far 4 studies have been recommended.

Health Services:

SCRI Chennai and SRRI Puducherry have 50 and 25 bed hospitals respectively. All the clinical research units (SCRI, SRRI (P), SRRI (T), SCRUI, Palayamkottai) are recognized institutional hospitals which provide the following services other than research. General OPD, Flu like illness OPD, Geriatric OPD and Varmam/Thokkanam OPD and recruitment of trial subjects is enhanced through this health care services facility. In hospital and health services for the past 5 years the research units under CCRS have served 3,61,678 cases

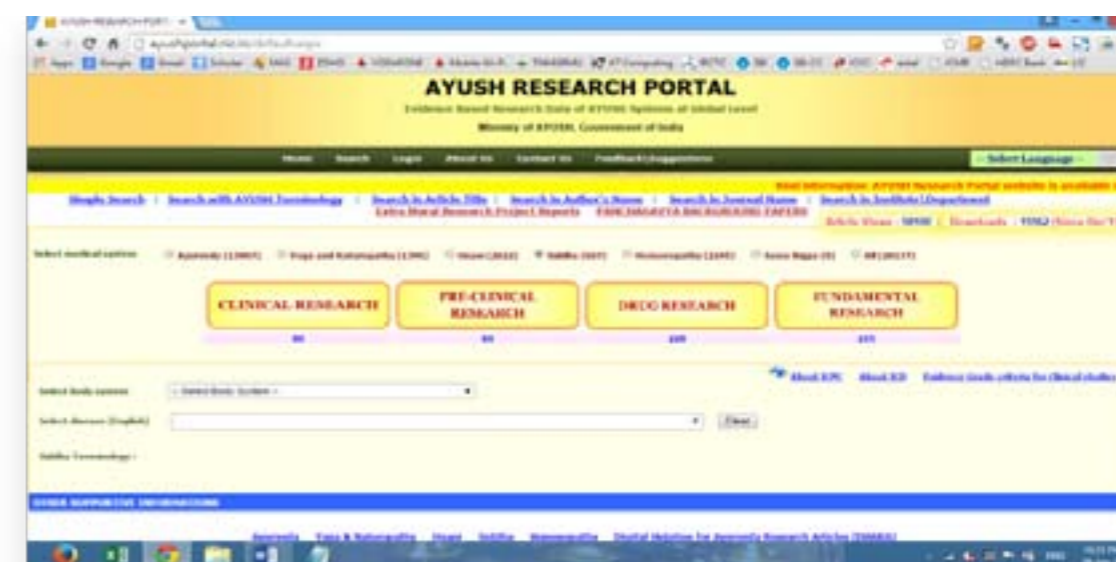
Road ahead:

- ❧ CCRS hits its stride in globalization of its Research activities.
- ❧ Expanding the geographical areas of Siddha through research and translation of research into benefits for the humanity.
- ❧ CCRS initiates, aids, develops and coordinates scientific research works in different aspects-- fundamental and applied aspects-- of Siddha and helps to promote/ assist institutions of research for the study of diseases, their prevention, causation and remedy.
- ❧ R & D Consultancy projects, patenting of drugs and processes and other supports to industry.
- ❧ Creation of international and inter-agency collaboration to improve and disseminate research.
- ❧ Rebounding research by entering into arrangements with scientific agencies of other Countries for exchange of Scientists, study tours, training in specialized areas, working on collaborative projects
- ❧ Conservation of medicinal plants and to support Medicinal Plants Board, Government of India in achieving its objectives.
- ❧ Accreditation of Hospitals and Treatment centres under CCRS by NABH.
- ❧ Developing of existing laboratories to NABL standards.
- ❧ Augmentation of Literary Research and creation of new historical research Unit specifically for Siddha.
- ❧ Scientific validation of Varmam, Thokkanam and other non- invasive Siddha procedures and simple techniques to treat diseases.
- ❧ Establishment of separate unit for research in Varmam, Thokkanam and traditional Bone setting.
- ❧ Clinical research in the areas of cancer, HIV, Tuberculosis
- ❧ Revalidation of techniques and processes of converting metals and minerals from inorganic to organic form through the advanced modern techniques and subjecting them to Pharmaco-dynamic and Pharmaco-kinetic studies.
- ❧ Validation of Dietetics as Functional foods and Nutraceuticals.
- ❧ Drug development strategies for high impact areas such as Diabetes, Hypertension, Hyperlipidemia, Osteoporosis, Cancer and incidentally detected Viral Hepatitis- B.
- ❧ Drug research in the areas of alcoholic de-addiction, mother and child care, geriatric care, orthopaedics and psychiatry.
- ❧ Clinical research in the areas of cancer, HIV, Tuberculosis

- ❧ Establishment of separate units for Vector and Virology studies.
- ❧ Establishment of Model Herbal Garden to conserve, cultivate and exhibit medicinal plants and to develop a repository of raw drugs used in Siddha Medicine in Siddha Medicinal Plants Garden in Mettur.
- ❧ Developing the existing Pharmacy to cater to the needs of different units under CCRS with proper credentials like GMP/HACCP Accreditation.
- ❧ Focusing on public health research and adopting the national policies in health research.

AYUSH Research Portal:

In order to make research findings of AYUSH systems and the other allied faculties accessible through web, the Department of AYUSH has started AYUSH Research Portal. Central Council for Research in Ayurvedic Sciences (CCRAS) and the National Institute of Indian Medical Heritage (NIIMH), Hyderabad are coordinating and maintaining this freely accessible web portal in collaboration with National Informatics Centre. All the research findings of Central Council for Research in Siddha are made available in this portal. 607 articles are uploaded in various headings like Literary research, Drug research and Clinical research.



Traditional Knowledge Digital Library (TKDL):

India's vast traditional medicine knowledge exists in languages like Sanskrit, Hindi, Tamil, Arabic, Persian and Urdu and this made it inaccessible for patent examiners at the international patent offices to verify claims. This experience prompted the Department of AYUSH to create a task force of experts i.e. patent examiners, IT experts, scientists and technical officers for the creation of Traditional Knowledge Digital Library.

TKDL is a collaborative project between Council of Scientific and Industrial Research (CSIR), Ministry of Science and Technology and Department of AYUSH. TKDL involves documentation of the knowledge available in public domain on traditional knowledge from the existing literature of Ayurveda, Unani, Siddha and Yoga in digitized format and translates the information into the native languages of the patent examiners, including the five international languages -- English, French, German, Spanish and Japanese. So far, the TKDL has included about 2.12 lakh medicinal formulations of Ayurveda, Unani and Siddha. Agreements have been signed with leading international patent offices such as EPO, UKPTO and USPTO to protect traditional knowledge from bio-piracy, by giving access to the TKDL database to patent examiners at International Patent Offices for patent search and examination. This project first of its kind has found widespread appreciation in the IGC as an initiative, which provides protection to our traditional medical knowledge by preventing its misappropriation.



Transcription of the traditional medicine formulation (Siddha) in the Traditional knowledge Digital Library is given below: In Siddha, the number of texts (including volumes) used for transcription is 50 and the number transcribed is 23016.

Workshops / Seminars / Conferences organized:

S.No	Title	Year
1.	Workshop on Dysfunctional Uterine bleeding	2007
2.	Workshop on Identification of New Source of Ancient Siddha Manuscripts	2007
3.	Hands on Training in Experimental Pharmacology	2008
4.	Hands on Training in Experimental Pharmacology	2009
5.	Pre-Clinical and Clinical Research workshop	2009
6.	Hands on Training in Experimental Pharmacology	2010
7.	Workshop on Research Methodology	2010
8.	National workshop on "Scientific Approach in Siddha Drugs for Siddha Professionals SASDSD 2010	2010
9.	National Workshop on Analytical Techniques in the Standardization of Siddha Drugs	2010
10.	Workshop on Varmam & Thokkanam	2011
11.	Workshop on Manuscriptology	2011
12.	Workshop on Official Language Hindi	2010
13.	National Workshop on Kalladaippu (Urolithiasis) and its management in Siddha	2012
14.	C.M.E. Programme on Ayush portal system in Govt. Siddha Medical College, Chennai	2011
15.	National Workshop on "Evidence based Research on Safety and Efficacy of Metallic Preparations of Siddha"	2012
16.	National workshop on safety and efficacy of Herbo-mineral formulations of Siddha	2014
17.	Workshop on the Management of Obstetric and Gynaecological Disorders in Siddha, SRRI, Puducherry	2014
18.	National workshop on "The role of Siddha Medicine in the management of Lifestyle disorders"	2014

Publication of books:

1. Agathiyar Sowmiya Sagaram – 1200 (Tamil)
2. Agathiyar Vaidhya Valladhi – 600 (Tamil)
3. BogarKarukkidai Nigandu – 500 (Tamil)
4. Konganar Kadai Kandam – 1000 (Tamil)
5. Konganar Mudhal Kandam – 1000 (Tamil)
6. Konganar Nadu Kandam – 1000 (Tamil)
7. Ramadevar – 1000 (Tamil)
8. Siddhar Kaya Karpam (Tamil)
9. Siddha Maruthuva Eliya Vazhakku Muraigal (Tamil)
10. Theraiyar Kudineer (Tamil)
11. A Hand Book of Common Remedies in Siddha System on Medicine (English)
12. Agathiyar Vaidya Pooranam – 205 (English)
13. Quality Control Standards for Certain Siddha Formulations (English)
14. Sangamuni Visha Vaidhyam – 100 (English)
15. Monograph of Thamira Chenduram (Peptic Ulcer) (English)
16. Pulippaani Vaidhyam – 500(English)
17. A Hand Book of Common Siddha Kaya Kalpa (Rasayana) Herbs for Healthy Life(English)
18. Sangamuni Visha Vaidhyam – 100 - Hindi
19. Agathiyar Vaidya Pooranam – 205- Hindi
20. Agathiar Chillarai korvai (Tamil)
21. Theraiyar Sekarappa (Tamil)
22. Theraiyar Yemaga venba (First part)
23. Theraiyar Yemaga venba (Second part)
24. Theraiyar Yemaga venba (Third part)
25. The monograph on Chikunguniya of Ayurveda and Siddha(English)
26. Ayurveda and Siddha for Anaemia (Pandu / Veluppunoi) (English)
27. Compilation of claims on Vector Borne Diseases of Ayurveda and Siddha(English)
28. The Siddha Pharmacopoeia of India-Part I, Vol-I(English)
29. The Siddha Pharmacopoeia of India-Part I, Vol- II(English)
30. The Siddha Formulary-Part II (Tamil)
31. Essential drugs list (Siddha)
32. Siddha Clinical Research Protocol for Lifestyle disorders. (English)
33. A – Z Know your Alphabets through Siddha Medicinal Plants

Future Projects

S.No	Title of project approved by SAB, CCRS
1.	Randomized community controlled trial to assess the effectiveness of Kadukkai Mathirai-a Siddha formulation in improving Hb levels and other hematocrit
2.	An Open labeled Clinical trial on Peenisam (Sinusitis)
3.	Multicentric Open labelled clinical trial of OA1 Chooranam on
4.	AzhalKeelvayu (Osteo arthritis – Knee joint)
5.	A Multicentric trial to study the safety & lipid lowering effects of a poly-herbal formulation Nathaichoori chooranam
6.	Multi-centric open clinical trial of a classical Siddha formulation Rasagan-dhi Mezhuugu in KaruppaiSathaikattigal (Fibroid uterus)
7.	Randomized Controlled Trial of two Siddha drugs in the management of Urolithiasis (Kalladaippu)- Phase II
8.	A Siddha polyherbal formulation (Nilappanai Chooranam) in the man-agement of Oligospermia (VindhanuKuraipadu)
9.	Recent trends in the usage of Siddha medicine among the population of Puducherry region
10.	Siddha treatment guidelines for Non-communicable diseases
11.	Vernacular name Encyclopaedia of Siddha drugs mentioned in Siddha MateriaMedica (Gunapadam)
12.	Database of Siddha preparations for certain diseases mentioned
13.	in the enlisted literatures of drugs and cosmetics act 1940
14.	Digitization and compilation of herbarium and folklore claims of survey of medicinal plants unit-Siddha at Palayamkottai
15.	Medico ethno-botanical study of Palamalai, Salem dt.
16.	Anti-hyperlipidemic activity of D5 choornam
17.	Hepatoprotective activity of Fluggeaviroso against chemical induced liver damage in Rats.
18.	Alternative therapy for diabetic retinopathy / cataract of Fluggeavirosain rats.
19.	Toxicity studies of NathaichooriChooranam
20.	Nephroprotective Effect of Sphaeranthus amarathoides Burm. f. (Siva-karanthai) against Gentamycin induced nephrotoxicity in Rats

S.No	Title of project approved by SAB, CCRS
21.	Evaluation of anti-diabetic activity of <i>Argyreiasericea Dalzell</i> (Oonankodi) against streptozotocin induced diabetes in Rats.
22.	Isolation of chemical marker from selected plants used in Reproductive and Child Health
23.	Analysis of inorganic composition of selected plants used in Siddha System
24	Qualitative and Quantitative analysis of Chembu (Copper) containing plants – A scientific validation of Siddha claim.

Publications

Dr. S. Natarajan Dr. P. Sathiyarajeswaran & Dr.M.Kannan	Scientific Validation of Purification Method of <i>Terminalia chebula</i> in Siddha Medical Practice in India	Thieme Journals / Abstract, <i>Planta Med</i> 2011; 77 DOI: 10.1055/s-0031-1273671 Impact factor : 2	11.04.2011
Dr. S. Natarajan Dr. P. Sathiyarajeswaran & Dr.M.Kannan	High Order Pharmaceutical Forms in Siddha System of Medicine	Heritage Amruth – FRLHT, Bangalore Vol 7 issue 2 April 2011, ISSN 0973-2764	02.04.2011
Dr. P. Sathiyarajeswaran Dr.M.Kannan & Dr. S. Natarajan	Conservation of Palm Leaf manuscripts	Journal of Siddha NIS, Chennai	2009
Dr. Sasikala Ethirajulu	Antidiarrheal evaluation of <i>Bauhinia tomentosa</i> L.	Pharmaceutical Biology – 2010	Published
Dr. Sasikala Ethirajulu	Anthelmintic activity of leaves of two species of <i>Cadaba Forsk.</i>	Research in Pharmaceutical sciences, September 2010	Published
Shyamala R., Vijayakumar, Masilamani, Sasikala Ethirajulu &T. Anandan	Some herbal drugs of controversial identity in Siddha Medicine	Journal of Siddha, March 2009	Published.
Dr. Sasikala Ethirajulu	Anthelmintic activity of leaf extract of <i>Cadaba</i> Species.	Journal of Tropical Medicinal Plants, Malaysia. Vol.10. No.1, 19-22	2009
Dr. Sasikala Ethirajulu	Pharmacognostical studies on leaves of <i>Cadaba fruticosa</i> (L.) Druce.	Phcog J. (A supplement to Pharmacognosy Magazine) Vol.I, issue 1, 8-14	2009
Dr. Sasikala Ethirajulu	Antibacterial activity of leaves of <i>Cadaba trifoliata</i> (Roxb.) W. & A.	Indian Journal of Pharmaceutical sciences 72 (2), 115-116.	2009
A.Saravana Gandhi, M.Padma sorna subramanian, and E.Rajabudeen.	Pharmacognostical studies on <i>Umarikeerai</i> (<i>Suaedamaritima</i>) (L.) Dumort	Journal of Plant Archives Vol.9 No.1, 2009 pp.79-82 (ISSN 0972-5210)	2009
A.Saravana Gandhi, M.Yogaraj and M.Padma sorna subramanian,	Indigenous knowledge on natural dyeing of Korai grass mat in Pattamadai, Tirunelveli district, Tamilnadu	Published in the journal of Natural Product Radiance Vol. 8(5), 2009, pp.542-545	Published

Saravana Gandhi and M.Padmasorna Subramanian	A research article namely "Isolation of the natural colorant from the roots of Rubiacordifolia L. and its use as a new neutralization indicator"	Journal of Eco-toxicology and Environmental monitoring	Published
Dr. R. Rajasekaran Dr. Gomathy and Dr.M.Kannan	The Roots of Siddha system of medicine in Thiruvagasam (An evidence based literary study)	Journal of Indian Medical Heritage ISSN 0975 – 430X Vol.XXXIX P.No.63	2009
Dr. P. Sathiyarajeswaran and Dr.T.Anandan	Diffraction Finger Prints on Lingam and its preparations.	Journal of Siddha. Vol II. JUNE - NOV	2009
Sasikala Ethirajulu SaradhaVasanth K. Balakrishna and G. Veluchamy	"Pharmacognostical evaluation of Spermacehispidia L."	JMAPS Vol.30, No.4, 406-410	2008
Sasikala Ethirajulu SaradhaVasanth K. Balakrishna and G. Veluchamy	"Pharmacognostical studies on Catunaregam spinosa (Thunb.) Tiruv. – Root"	J.Econ.Taxon.Bot.No.3 Vol : 32, 533- 536	2008
R. Mythreyi E.Sasikala and A.Geetha	Analgesic activity of Sphaeranthus amaranthoidesBurm. f.	Int. J. Pharmacol. Biol. Sci. Vol. 2, (3), 81- 83	2008
R. Mythreyi E.Sasikala and A.Geetha	Evaluation of diuretic activity of Jussiaeasuffruticosa L.	Pharmacology on line	May 2008
R. Mythreyi E.Sasikala and A.Geetha	Wound healing activity of chloroform extract of Acalyphaindica L.- root	Adv. Pharmacol. & Toxicol. - Vol. 9 (2), 141- 144	2008
R. Mythreyi E.Sasikala and A.Geetha	Anthelmintic activity of two species of Cadaba	Tropical Medicinal Plants	Published
G. Balamurugan, P. Muralidharan and S. Selvarajan	"Anti Epileptic Activity of Poly Herbal Extract from Indian Medicinal plants"	J. Sci. Res. (1), 153 – 159 (2009) www.banglajol.info/index.php/JSR	2009
Dr. Kalavathy K. Rao and Dr. K.S. Kalaimani	Chronology of Preventive conservation of manuscripts. Pros and cons of materials used and role of digitization	PP 17-22 JIM & H Vol.4-7	January 2008

Dr. Kalavathy K Rao	Bird eye view on Leucoderma	PP 38-44, JIM & H, Chennai	January 2008
Dr. S. Natarajan Dr. P. Sathiyarajeswaran and Dr. M. Kannan	An Open Clinical Trial for CeganaVatham using Varmam Procedure	Webmed Central Article ID: WMC002968 Source: http://www.webmedcentral.com/article_view/2968 ISSN 2046-1690	2012
Dr. S. Natarajan Dr. P. Sathiyarajeswaran and Dr. M. Kannan	Management of Kalladaippu (Renal Calculi)	Webmed Central Article ID: WMC003031 Source: http://www.webmedcentral.com/article_view/3031 ISSN 2046-1690	2012
Dr. S. Natarajan Dr. P. Sathiyarajeswaran and Dr. M. Kannan	Anemia (Pandu) Primary Care in Siddha	Webmed Central Article ID: WMC003172 Source: http://www.webmedcentral.com/article_view/3172 ISSN 2046-1690	2012
Dr. P. Sathiyarajeswaran Dr.M.Kannan Dr.S. Natarajan Dr. K. MeenakshiSundramurthy and Dr. T. Anandan	Conservation of Palm Leaf manuscripts	Journal of Siddha National Institute of Siddha Vol 2, Issue 2, July –Dec 2009	2009
Dr. T. Anandan Dr. S. Natarajan and Dr. J. Jeyakannan	Somato-typing study of Leucoderma according to Siddha System of Medicine	Journal of Siddha National Institute of Siddha Vol 2, Issue 2, July –Dec 2009	2009
P. Sathiyarajeswaran	Preliminary phytochemical, acute toxicity and anti-inflammatory activity of Pitta Sura Kudineer	Indo American journal of Pharmaceutical research.	2011

P. Sathiya Rajeswaran, R.Ganesan, G.Pramodreddy, and Santhammal	Evaluation of Immuno- modulatory Activity of SayaChurnam (A Poly Herbal Formula- tion) on Albino rats.	JAPHR,Vol – I- Issue 3.	2011
P. Sathiyarajeswaran	National projects in Mother and childcare	Siddha Papers.Org.	2011
R.Ganesan, P.Elankani, and G.Pramodreddy,	Hepato-protective activity on Azimatetra- gantha.	JAPHR,Vol - I - Issue 3.	2011
Dr. Shyamala Rajkumar	Basic Philosophy of Neuropsychiatric Diseases in Siddha system of Medicine	http://Siddhapapers. webs.com/literaryre- views.htm.	2013
Dr.A.Saravana Gandhi, Dr.M.PadmaSornaSubramanian and Dr.E.Rajabudeen	Exposure to Vehicular pollution and its impact on Traffic Policemen in Tirunelveli City, India	Quarterly Scientific journal namely Nature Environment and Pollu- tion Technology (ISSN- 0972-6268) Vol.II No.3 PP.515-517, 2012.)	October 2012
A.Saravanaganthi, R.Lakshmanan, . PadmaSorna Subramanian and K.Subramonian	Effect of Azotobacter on seedling growth of Sesbania grandiflora (L.) Poir. For energy plantation	International Research Journal of Basic and Applied Sciences Spe- cial Issue of SCIENCIA ACTA XAVERIANA - SPE- CIAL ISSUE DEC. 2012 vide IIN 0976-	December 2012
Rajabudeen E., Saravana Gandhi A., Padma Sorna Subramanian M.	GC-MS Analysis of the Methanol Extract of Te- phrosiavillosa (L.) Pers	Asian Journal of Re- search in Chemistry 5 (11): Nov.2012 ISSN 0974-4169	Nov.2012
E.Rajabudeen, A Saravana Gandhi, M.PadmaSorna Subramanian and K.Natarajan	GC-MS analysis of biologically active compounds in Indigo- feraviscosa Lam.	International Jour- nal of Plant Sciences Volume 8/Issue I/ January 2013/116-119/ ISSN:0973-1547/Online ISSN 0976-593X	January 2013
R.Sreekala Devi, P.M.Radhamany& V.Gayathri Devi	'Investigation of Anti- oxidant principles from Psilanthestravancoren- sis (Wt. &Arn.) Leroy. – An Unexplored Taxon of Rubiaceae'	International Journal of Pharmacy and Pharma- ceutical Sciences	Vol. 5, Suppl. 1, 2013

Dr.H.Mubarak	Prevalence of Siddha Clinical Conditions among Geriatric Popu- lation in Puducherry- cross sectional study	International Journal of Health and Pharma- ceutical Sciences ISSN 2278-0564	Vol.1. Issue 4. 2012
R. Mythreyi, Sasikala Ethirajulu, A. Geetha	Antipyretic Activity of Cadabatrifoliata (Roxb.) W & A.	International Journal of Phytotherapy Research	2012; 2(2): 40-45.
R. Rajamurugan, A. Suyavaran, N. Selvaganabathy, C.H. Ramamurthy, G. Pramod Reddy, V. Sujatha and C. Thirunavukkarasu	Brassica nigra plays a remedy role in hepatic and renal damage	Pharmaceuti cal Biology	2012; Early On- line: 1–10.
G. Pramod Reddy, L. Kavitha, GowthamanR. Kumaresan, R. Ganesan, P. Satya Rajeswaran, S. Jega Jothi Pandian	Anti Gastric Ulcer Activ- ity Of Triphala Karpam (Siddha formulation) In Rats	Int J IntSci Inn Tech Sec A	2013; 2(1): 31-33.
M. Kannan, S. Natarajan, P. Sathiyarajeswaran, K. Meenakshi Sundaramurthy	The Health status of Geriatric population attending the specialSiddha Geriatric Clinic of a Research Institute	I J H P S	2012; July: 36-41
P. Sathiyarajeswaran, M. Kannan, S. Natarajan	Antenatal Care with Lotus	I J H P S	2012; October
Natarajan S, Nagarajan T, Sathiyarajeswaran P, Kannan M	The Role of Varma Therapy in CakanaVatam	Webmed Central Indian Medicine	2012;3(9):WMC 003717;3(9):W MC003717
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R. Ganesan	Hepatoprotective effect of coldeniaprocumbens Linn. against D-galactosamine Induced acute liver damage in rats	International Journal of Integrative sciences, Innovation and Technology Int. J. Int sci. Inn. Tech. Sec. B, Apr. 2013, Vol.2, Iss 2, pg 9-11	Apr. 2013
Natarajan. S, Kannan. M, Sathiyarajeswaran. P	Scientific Validation of purification of Kadukkai (Terminalia Chebula)- A Siddha Drug	International Journal of Pharmaceutical Research and Development (IJPRD) IJPRD, 2013: Vol 5 (06): August 2013(018- 024) ISSN No: 0974- 9446	Aug. 2013
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K. Manjula Devi, G. Pramod Reddy, A.R. Kothai, M. Thenmozhi, M. Dhanalakshmi, S. Sarumathy	"Evaluation of Immunomodulatory activity of aqueous extract of a poly herbal formulation by invivo method"	Asian Journal of Pharmaceutical and Clinical Research Vol-6 (2), 129-133, 2013.	2013
G. Devanand Venkatasubbu, S. Ramasamy, G. Pramod Reddy & J. Kumar	In vitro and In vivo anticancer activity of surface modified paclitaxel attached hydroxyapatite and titanium dioxide nanoparticles	Biomed Microdevices (2013) 15:711-726	2013

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Mr. R. Ganesan	Antioxidant activity of coldeniaprocumbenslinn. Whole plant methanolic extract	International Journal of Pharmacy and Pharmaceutical Sciences Int J Pharm PharmSci, Vol 6, Suppl 1, 75-79	Jan. 2014
Anitha john, V. Gayathri Devi, Arjun Singh and K. Gopakumar	Chemical standardisation of Sidacordifolia Linn. a common Siddha herbal drug	Indian Journal of Pharmacy and Technology (IJPT), July – 2013, Vol.5, Issue No.2, 5448-5457	July, 2013
Sasikala Ethirajulu, SaradaVasanth, Balakrishna K, Veluchamy G.	Pharmacognostical evaluation of Toddaliaasiatica (L.) Lam.	Journal of Drug Research in Ayurveda & Siddha, Vol. XXXII, No.1-2, 37-46.	2013
Shakila R	Review on Sphaeranthusindicus Linn. (Ko aikkarantai	Phcog Rev 7(14): 157-169.	2013
Shakila R	Chromatographic studies on Artemisia nilagiria Leaf Volatile oil	Asian J Pharm Life Sci 3(3): 185-190.	2013
Perundevis TS, Kothai S, Shakila R	Comparative evaluation of flaxseed mucilage, gum acacia and peach gum as pharmaceutical excipients	Asian Journal of Biochemical and Pharmaceutical Research 4(3): 181-190	2013
Smt.Shakila. R Elankani P. Jega- jothipandian S.	Development of Finger Print Profiles for AndrogrhisechioidesNees. and AndrographispaniculataNees.	Research Journal of Pharmacognosy and Phytochemistry 6(1) 22-29.	January-March, 2014,
Meena R Ramaswamy R.S Shakila R	Physico chemical analysis of Kandhaga-Rasayanam, a Siddha herbomineral formulation	IOSR Journal of Pharmacy 4(2): 28-34.	2014

Priya F, Shakila R, Sathiyarajeswaran P, Pitchiahkumar M	Standardization of Mila- gathiChooram	International J Herbal Medicine 1(6): 69-74	2014
Shakila R, Elankani P, Jegajothipandian S	Development of fin- ger print profiles for Androgrphis echioi- desNees. and Androgra- phispaniculataNees	Research Journal of Pharmacognosy and Phytochemistry 6(1): 22-29	2014
Shyamala Rajkumar, J. Annathai, S. Natarajan	Medicinal plants men- tioned in the Holy Bible and in Siddha system and their ethanome- dicinal studies	International Journal Of Reviews, Surveys And Research 3(2) : 69-85	2014
Shyamala Rajkumar, V. Vijaya Kumar, C. Ponmuthu Rani, K. Gopakumar, R. S. Ramaswamy	Management of Fibroid Uterus with a Tradition- al Siddha formulation – A Review	International Journal of Multidisciplinary Health Sciences, July-Sep; 1(1): 1-15	2014

International collaboration

CCRS officers are deputed periodically Ministry of AYUSH to train and conduct seminars/workshops for the registered medical practitioners of Siddha stream and other health officials of other countries as per the bilateral understanding.

In the year 2013, International Conference on Siddha Medicine was organized by Traditional and Complimentary Medicine Division, Ministry of Health, Malaysia and Malaysian Association of Traditional Indian Medicine (MATIM) in which Siddha experts from India participated and enhanced technological transfer through scientific discussion



Participants in the International Conference on Siddha Medicine 2013, Malaysia



Prof. Dr. R. S. Ramaswamy, DG, CCRS along with Datuk Seri Dr. S. Subbramanian, Minister of Health, Govt. of Malaysia and Datuk Dr. Jeyendra Dy, Director General (Medical) Ministry of Health, Govt. of Malaysia

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