



SIDDHA SYSTEM OF MEDICINE

The Science of Holistic Health



**Ministry of Ayurveda, Yoga & Naturopathy, Unani,
Siddha and Homoeopathy (AYUSH)
Government of India**

2019





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Concept of Cover Page: The pictures depict the range of Siddha drugs with preventive (Heartleaf moonseed), promotive (Water hyssop), rejuvenative (Indian Gooseberry) and curative (Winter cherry) properties ensuring the holistic health. These drugs represent herbal (Winter cherry), mineral (Alum) and animal (Cowrie shell) sources.





FOREWORD



सत्यमेव जयते

वैद्य राजेश कोटेचा
Vaidya Rajesh Kotecha



एक कदम स्वच्छता की ओर



सचिव

भारत सरकार

आयुर्वेद, योग व प्राकृतिक चिकित्सा

यूनानी, सिद्ध, सोवा रिग्पा एवं होम्योपैथी (आयुष) मंत्रालय

आयुष भवन, 'बी' ब्लॉक, जी.पी.ओ. कॉम्प्लेक्स,

आई.एन.ए. नई दिल्ली-110023

SECRETARY

GOVERNMENT OF INDIA

MINISTRY OF AYURVEDA, YOGA & NATUROPATHY

UNANI, SIDDHA, SOWA-RIGPA AND HOMOEOPATHY (AYUSH)

AYUSH BHAWAN, B-BLOCK, GPO COMPLEX

INA, NEW DELHI-110023

Tel. : 011-24651950, Fax : 011-24651937

E-mail : secy-ayush@nic.in

FOREWORD

Siddha system of medicine is one of the oldest traditions of healthcare in the Indian sub-continent well documented and replete with novel therapeutic interventions and treatment modalities. It enjoys state patronage as part of the officially recognized AYUSH systems and caters to considerable proportion of population through public and private health facilities. Inclusive policy support of the Government has helped scientific development of the Siddha system in contemporary parlance.

Today, Siddha system has a growing institutional network for education & training, health services, research and manufacturing of drugs. Establishment of National Institute and Research Council of Siddha has galvanized the development process by imbibing quality benchmarks in postgraduate education & research, standardization and validation of drugs, improved outreach in the public health system and multifarious professional capacity of the Siddha practitioners. As a result of favourable policy initiatives and strategies for mainstreaming of AYUSH and promotion of international cooperation, Siddha system has started spreading its wings within the country and in some of the foreign countries as well.

Present publication of the Ministry aims at projecting the profile of Siddha system of medicine and trajectory of its growth, development and emerging prospects. I congratulate the content contributors, editors and coordinator of this document and hope their efforts will be rewarded with worthwhile reading and use by the concerned stakeholders and policy makers.

(Rajesh Kotecha)

New Delhi,
Dated 20th December, 2018







PROLOGUE



सत्यमेव जयते

डा. डी.सी. कटोच
Dr. D.C. Katoch

सलाहकार (आयुर्वेद)
Adviser (Ayurved)

Tel : (+91) 011-2465 1656
Fax : (+91) 011-2465 1954
E-mail : dc.katoch@gov.in

आयुर्वेद, योग व प्राकृतिक चिकित्सा
यूनानी, सिद्ध एवं होम्योपैथी (आयुष) मंत्रालय
भारत सरकार
आयुष भवन, 'बी' ब्लॉक, जी.पी.ओ. कॉम्प्लेक्स,
आई.एन.ए., नई दिल्ली-110023

Ministry of Ayurveda, Yoga & Naturopathy
Unani, Siddha and Homoeopathy (AYUSH)
Government of India
Ayush Bhawan, 'B' Block, GPO Complex
INA, New Delhi-110023

PROLOGUE

The tree of Siddha System of Medicine, as we see today, has long historical roots in the remote past. Started from community practice by Siddhars in ancient times the system has grown immensely in caliber having travelled a journey of many centuries to become institutionalized, regulated and established stream of Traditional Indian Medicine and integral part of the national health delivery system. Traditional practice of Siddha medicine is now switching over to systematic, standardized and evidence-based approaches with perpetual scientific inputs, documentation and research studies. Specific policies of the Government for development of AYUSH sector have encouraged a lot of phenomenal evolution for utilizing Siddha system of medicine to its fullest potential and scope to cater to the varied health needs of the people.

Strength areas of Siddha Medicine include its holistic approach towards preventive, promotive and curative healthcare in general and capability for Management of chronic diseases in particular. Varmam therapy of this system is so effective and popular mainly for the treatment of neuromuscular, musculo-skeletal and joint disorders that a Siddha medical centre has been opened in SungoiBuloh Government Hospital in Malaysia with an expert sponsored by Government of India. This is the sign of growing visibility and demand of Siddha system abroad.

As a Coordinator for the project of developing AYUSH dossiers I have been involved right from the beginning to bring out the publication entitled 'Siddha System of Medicine - The Science of Holistic Health', which is fourth in the series after Ayurveda, Homoeopathy and Unani Medicine profile documents. It gives me immense pleasure that the Siddha document culminated from the prolonged efforts of so many Siddha experts is finally presented to the readers and interested stakeholders. I wish, the publication attracts enjoyable reading and appreciation of the gamut and galore of Siddha Medicine.


(Dr. D.C. Katoch)
Coordinator

Dated: 21st December, 2018.







केंद्रीय सिद्ध अनुसन्धान संस्थान

आयुष मंत्रालय, भारत सरकार

सिद्ध केंद्रीय अनुसन्धान संस्थान भवन, अण्णा सरकारी अस्पताल परिसर, अरुम्बाक्कम, चेन्नई - 600106

CENTRAL COUNCIL FOR RESEARCH IN SIDDHA

Ministry of AYUSH, Govt. of India

SCRI Building, Anna Govt. Hospital Campus, Arumbakkam, Chennai – 600106

Phone: 2621 1621, 2621 2421 Fax: 044-2621 1621

www.siddhacouncil.in, Email: ccrschennai@gmail.com

प्रो. डॉ. के. कनकवल्लि

महानिदेशक

Prof. Dr. K. Kanakavalli

Director General

PREFACE

Since time immemorial the Siddha system of medicine has contributed to mankind through its extensive therapeutic and restorative formulations. The major part of the Siddha system is the inscription of its literatures in the palm leaf manuscripts, stones, etc., which has run through generations and even protected by public institutions like mutts, temples and palace libraries. Thus, the Siddha system has a long history of use that is as old as the Tamil language.

The uniqueness of Siddha medicine lies in its holistic approach -- the physical, mental, social and emotional well-being are fostered and by adopting appropriate lifestyle practices, dietary regimens, safe and effective drugs sourced from the surroundings and therapies specific to this system.

In modern India, this healing science has seen an impressive transformation in both academic and clinical practice, into a discipline of great value. This has kept the system alive in spite of the obstacles and suppression by a number of factors. It has now evolved in a more systematic manner to cater to the healthcare needs of the present age. This traditional system started growing on modern scientific lines since the establishment of formal medical education around the middle of the twentieth century. Its recognition, growth and development became significantly notable since then. The then Department of AYUSH (presently Ministry of AYUSH) has taken major initiatives to uphold the spirit of Siddha system.

The Ministry of AYUSH through the Central Council for Research in Siddha (CCRS) and National Institute of Siddha (NIS) strives to generate and record evidence to support the various time-tested practices, medicines and therapies of Siddha, to seek a wider role for Siddha in the public health firmament of the country and to take the benefits of this system to people in different corners of the country and even beyond the national borders. Moreover, Siddha healthcare services are rendered to the public through NRHM (National Rural Health Mission) in the rural parts of Tamil





Nadu, Puducherry and Kerala. In addition, widespread awareness is provided through Arogya Health Melas organised in various parts of our country and through Social Media.

This dossier on Siddha system, a collective work of Siddha experts, provides to the readers an overview of the important aspects of Siddha system and its contemporary relevance. The topics cover the origin and development, the fundamental principles, diagnostic methods, holistic health management, special therapeutic approaches, drugs, research and development, education, practice, etc. This dossier will serve as a standard IEC reference material for the general public, inter-disciplinary professionals, stakeholders as well as the upcoming student community of Siddha system.

The authors (Siddha experts) are well aware of the fact that abundant literature of therapeutics, literary works on philosophy, yogic practices, astrology, etc. -- does exist but not all that has been brought into this document considering the scope of the dossier to be brought out as a coffee table book. I sincerely thank the panel of experts from Siddha community, the officials in the Ministry of AYUSH, CCRS and NIS for the essential role played by them in the preparation of this dossier. I gratefully acknowledge the arduous efforts taken by the members of Working Group comprising senior Siddha physicians, Research Officers from Central Council for Research in Siddha and members of the teaching faculty of National Institute of Siddha, Chennai, in bringing out this dossier. Special thanks are due to Shri Ajit M. Sharan, Former Secretary, Ministry of AYUSH, Shri A.K. Ganeriwala, Former Joint Secretary, Ministry of AYUSH, Vaidya Rajesh Kotecha, Secretary, Ministry of AYUSH, Shri P.N. Ranjit Kumar, Joint Secretary, Ministry of AYUSH, and Dr. D.C. Katoch, Advisor (Ayurveda), Ministry of AYUSH for their guidance, care, encouragement and supportive coordination.

Date: 21st December, 2018
Station : Chennai

Prof. Dr. K. Kanakavalli
Director General
Central Council for Research in Siddha





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Facilitation and Guidance

1. Vaidya Rajesh Kotecha, Secretary, Ministry of AYUSH, Government of India.
2. Shri P.N. Ranjit Kumar, Joint Secretary, Ministry of AYUSH, Government of India.
3. Shri A.K. Ganeriwala, Former Joint Secretary, Ministry of AYUSH, Government of India.

Coordinator

Dr. D.C. Katoch, Advisor (Ayurveda), Ministry of AYUSH, Government of India, New Delhi.

Editors

1. Dr. N.J. Muthukumar, the then Director General i/c, CCRS & Asso. Professor, National Institute of Siddha, Chennai
2. Dr. S. Visweswaran, Lecturer, Academic i/c, National Institute of Siddha, Chennai

Content Planning

1. Padma Shree Dr. J. R. Krishnamoorthy, Former Chairman, Scientific Advisory Committee (Siddha), Central Council for Research in Ayurveda and Siddha, New Delhi
2. Dr. K. Palanichamy, Former Registrar, Tamil Nadu Siddha Medical Council, Chennai
3. Prof. Dr. R.S. Ramaswamy, Former Director General, Central Council for Research in Siddha, Chennai
4. Dr. K. Manickavasakam, Former Director, National Institute of Siddha, Chennai
5. Dr. T. Anandan, Former Asst. Director, Siddha Central Research Institute, Chennai
6. Prof. Dr. I. Sornamariammal, Former Joint Director, Directorate of Indian Medicine & Homoeopathy, Chennai
7. Dr. S. Rajalakshmi, Former Asst. Director, Siddha Regional Research Institute, Puducherry
8. Dr. S.K. Sasi, Reader, Government Siddha Medical College, Chennai.
9. Dr. P. Sathiyarajeswaran, Asst. Director (Siddha) Scientist - II & i/c, Siddha Central Research Institute, Chennai





10. Dr. S. Selvarajan, Research Officer (Siddha), Scientist – II, Central Council for Research in Siddha, Chennai
11. Dr. A. Rajendra Kumar, Research Officer (Siddha) Scientist – II & i/c, Siddha Regional Research Institute, Puducherry
12. Dr. M. Kannan, Research Officer (Siddha) Scientist –II, Siddha Central Research Institute, Chennai
13. Dr. S. Natarajan, Research Officer (Siddha), Siddha Central Research Institute, Chennai

Technical Inputs

1. Dr. G. Veluchamy, Former Director, Central Council for Research in Ayurveda and Siddha & Siddha Central Research Institute, Chennai
2. Dr. V. Banumathi, Director, National Institute of Siddha, Chennai;
3. Prof. Dr. A. Kumaravel, Former Professor, Government Siddha Medical College, Palayamkottai
4. Prof. Dr. P. Jeyaprakash Narayanan, Former Vice Principal, Government Siddha Medical College, Chennai
5. Dr. V. Subramaniam, Former Joint Director, Directorate of Indian Medicine & Homeopathy, Chennai
6. Prof. Dr. G. Ganapathy, Former Joint Director, Directorate of Indian Medicine & Homoeopathy, Chennai
7. Dr. K. Ravi, Joint Advisor, Ministry of AYUSH, Chief Medical Officer (Siddha), Central Government Health Scheme, New Delhi.
8. Dr. T. Thirunarayanan, Secretary, Centre for Traditional Medicines Research, Chennai
9. Dr. G. Sivaraman, Chief Siddha Physician & Managing Director, Arogya Health Care Pvt. Ltd, Chennai
10. Dr. V. Arunachalam, Senior Advisor & Dean, Santhigiri Siddha Medical College, Thiruvananthapuram
11. Dr. S. Soundararajan, Former Principal, Government Siddha Medical College, Palayamkottai
12. Prof. Dr. P. Parthibhan, Joint Director, Directorate of Indian Medicine & Homeopathy, Chennai
13. Prof. Dr. K. Kanakavalli, the then Principal, Government Siddha Medical College, Chennai





14. Dr. S. Kaniraja, Former Professor, Government Siddha Medical College, Palayamkottai
15. Dr. D. K. Soundararajan, Professor, Government Siddha Medical College, Palayamkottai

Working Group

1. Prof. Dr. G. Ganapathy, Former Joint Director, Directorate of Indian Medicine & Homoeopathy, Chennai
2. Dr. T. Thirunarayanan, Secretary, Centre for Traditional Medicines Research, Chennai
3. Dr. N.J. Muthukumar, the then Director General i/c, CCRS & Asso. Professor, National Institute of Siddha, Chennai
4. Dr. M. Meenakshi Sundaram, Associate Professor, National Institute of Siddha, Chennai
5. Dr. S. Visweswaran, Lecturer, Academic i/c, National Institute of Siddha, Chennai
6. Dr. T. Lakshmikantham, Lecturer, National Institute of Siddha, Chennai
7. Dr. M.V. Mahadevan, Lecturer, National Institute of Siddha, Chennai
8. Dr. P. Sathiyarajeswaran, Asst. Director (Siddha) Scientist - II & i/c, Siddha Central Research Institute, Chennai
9. Dr. Shyamala Rajkumar, Research Officer (Siddha) Scientist - II, Central Council for Research in Siddha, Chennai
10. Dr. M. Kannan, Research Officer (Siddha) Scientist - II, Siddha Central Research Institute, Chennai

Technical Reviews

1. Dr. M.A. Kumar, Former Joint Advisor (Siddha), Department of AYUSH, New Delhi
2. Dr. S. Radhakrishnan, Former Director, Directorate of Indian Medicine & Homeopathy, Puducherry
3. Late Vaidya S. Usman Ali, Former President, Centre for Traditional Medicines Research, Chennai
4. Dr. M. Logamanian, Former Professor, National Institute of Siddha, Chennai
5. Dr. M. Murugesan, Former Professor, National Institute of Siddha, Chennai
6. Dr. R. Pattarayan, Former Professor, National Institute of Siddha, Chennai
7. Dr. G. Thiagarajan, Former Joint Director, Directorate of Indian Medicine & Homoeopathy, Chennai





8. Dr. S. Mohan, Former Principal, Government Siddha Medical College, Chennai
9. Dr. R. Manikandan, Medical Officer, Central Government Health Scheme, Chennai
10. Dr. R. Meena, Research Officer (Siddha), Siddha Central Research Institute, Chennai
11. Dr. Eugene Wilson, Research Officer (Siddha), Central Council for Research in Siddha, Chennai
12. Dr. D. Kumaran, Research Officer (Siddha), Ministry of AYUSH, New Delhi
13. Dr. Radhika Madhavan, Deputy Medical Superintendent, Ayothidoss Pandithar Hospital, National Institute of Siddha, Chennai
14. Sh. D. Radha Krishna Reddy, Research Assistant (Chemistry), Siddha Central Research Institute, Chennai
15. Smt. Kavitha Muralidharan, Journalist, Chennai.





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ABBREVIATIONS

ADR	- Adverse Drug Reaction
AIDS	- Acquired Immuno Deficiency Syndrome
ASU	- Ayurveda, Siddha and Unani
ASUDTAB	- Ayurveda, Siddha and Unani Drug Technical Advisory Board
ATSVS	- Akila Thiruvithancore Siddha Vaidhya Sangam
AYUSH	- Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homoeopathy
B.I.M	- Bachelor of Indian Medicine
BIMSTEC	- Bay of Bengal Initiative for Multi-Sectorial Technical and Economic Co-operation
B.S.M.S	- Bachelor of Siddha Medicine and Surgery
CARISM	- Centre for Advanced Research in Indian Systems of Medicine
CCIM	- Central Council of Indian Medicine
CCRAS	- Central Council for Research in Ayurvedic Sciences (Formerly Central Council for Research in Ayurveda and Siddha)
CCRIMH	- Central Council for Research in Indian Medicine and Homoeopathy
CCRS	- Central Council for Research in Siddha
CCRUM	- Central Council for Research in Unani Medicine
C-DAC	- Centre for Development for Advanced Computing
CDSCO	- Central Drugs Standard Control Organisation
CGHS	- Central Government Health Scheme
CME	- Continuing Medical Education
CSIR	- Council of Scientific and Industrial Research
CSP	- Certificate Siddha Practitioner
CTRI	- Clinical Trials Registry-- India
EDL	- Essential Drug List
EMEA	- Europe, the Middle East and Africa
EMR	- Extra Mural Research
ENT	- Ear Nose Throat
EPO	- European Patent Office
ESI	- Employees' State Insurance
GAP	- Good Agricultural Practices
GCIM	- Graduate of the College of Integrated Medicine
GCP	- Good Clinical Practices
GMP	- Good Manufacturing Practices
GSMC	- Government Siddha Medical College
HIV	- Human Immuno deficiency Virus





HPIM	- High Proficiency in Indian Medicine
HPTLC	- High Performance Thin Layer Chromatography
HRDC	- Human Resource Development Centre
IAEC	- Institutional Animal Ethics Committee
ICCR	- Indian Council for Cultural Relations
ICMR	- Indian Council of Medical Research
IEC	- Information, Education and Communication
IEC	- Institutional Ethics Committee
IGC	- Inter Governmental Committee
IIHM	- Indian Institute of History of Medicine
IIT	- Indian Institute of Technology
IMCC	- Indian Medicine Central Council
IMPCOPS	- Indian Medical Practitioners Co-operative Pharmacy and Stores
IMR	- Intra Mural Research
IPD	- In-patient Department
IPR	- Intellectual Property Rights
ISM	- Indian Systems of Medicine
ISM & H	- Indian Systems of Medicine and Homoeopathy
IT	- Information Technology
ITEC	- Indian Technical and Economic Cooperation
JRAS	- Journal of Research in Ayurveda and Siddha
LIM	- Licentiate in Indian Medicine
LR&DD	- Literary Research and Documentation Department
M.D (S)	- Doctor of Medicine – Siddha
MoU	- Memorandum of Understanding
NABH	- National Accreditation Board for Hospitals and Health Care Providers
NABL	- National Accreditation Board for Laboratories
NAM	- National AYUSH Mission
NIE	- National Institute of Epidemiology
NIIMH	- National Institute of Indian Medical Heritage
NIS	- National Institute of Siddha
NMPB	- National Medicinal Plants Board
NPTAC	- National Pharmacovigilance Technical Advisory Committee
NRHM	- National Rural Health Mission
OPD	- Out-Patient Department
ORAC	- Oxygen Radical Absorption Capacity
PCIMH	- Pharmacopoeial Commission of Indian Medicine and Homoeopathy
PHC	- Primary Health Centre





PLIM	- Pharmacopoeial Laboratory of Indian Medicine
QCI	- Quality Council of India
QOL	- Quality of Life
RCH	- Reproductive Child Health
RET	- Rare Endemic Threatened
ROTP	- Reorientation Training Programme
RPC	- Regional Pharmacovigilance Centre
SAB	- Scientific Advisory Board
SAC	- Scientific Advisory Committee
SCRI	- Siddha Central Research Institute
SRRI	- Siddha Regional Research Institute
SCRU	- Siddha Clinical Research Unit
SIRO	- Scientific Industrial Research Organisation
SMPB	- State Medicinal Plants Board
SMPG	- Siddha Medicinal Plants Garden
SMPU	- Survey of Medicinal Plants Unit
SOP	- Standard Operating Procedures
SPC	- Siddha Pharmacopoeia Committee
TAMPCOL	- Tamil Nadu Medicinal Plant Farms and Herbal Medicine Corporation Ltd.
TANUVAS	- Tamil Nadu Veterinary and Animal Sciences University
TCM	- Traditional and Complimentary Medicine
TKDL	- Traditional Knowledge Digital Library
TLC	- Thin Layer Chromatography
UKPTO	- United Kingdom Patent and Trademark Office
USFDA	- United States Food and Drug Administration
VHN	- Village Health Nurse
WHO	- World Health Organisation







THE TRANSLITERATION TABLE WITH DIACRITICAL MARKS

ஆ	a	A	க்	k	K
ஆ	ā	Ā	ங்	ṅ	Ṇ
இ	i	I	ச்	c	C
ஈ	ī	Ī	ஞ்	ñ	Ñ
உ	u	U	ட்	ṭ	Ṭ
ஊ	ū	Ū	ண்	ṇ	Ṇ
ஏ	e	E	த்	t	T
ஏ	ē	Ē	ந்	n	N
ஐ	ai	Ai	ப்	p	P
ஓ	o	O	ம்	m	M
ஔ	ō	Ō	ய்	y	Y
ஔ	au	Au	ர்	r	R
ஃ	ḥ	Ḥ	ல்	l	L
			வ்	v	V
			ழ்	z	Z
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SOURCE: LEAP OFFICE 2000, C-DAC, PUNE







EXECUTIVE SUMMARY

The Siddha system of Medicine is one of the traditional medical system, providing preventive, promotive, curative, rejuvenative and rehabilitative health care by adopting scientific and holistic approach. The word 'Siddha' is derived from the root word 'Citti' meaning attainment of perfection, eternal bliss and accomplishment. In Indian subcontinent, Siddha medicine has strong roots reflecting the culture, tradition and heritage of India.

The Siddha system has four main divisions:

1. Chemistry/Iatrochemistry Alchemy (Vātam / Iracavātam),
2. Treatment (Vaiṭṭiyam),
3. Yogic Practices (Yōkam)
4. Wisdom (Ñānam)

Siddha system of Medicine is evolved based on Ninety-six tools otherwise called Tattuvam, which include physical, physiological, psychological and intellectual aspects of every human being. Among the ninety-six tools, the five elements (Pañcapūtam) are the fundamental units for everything in the human body and the Cosmos. There are three vital life factors responsible for good health. The three vital life factors are formed by the appropriate combination of elements even from intra uterine life. Vali (Vātam) is formed by the combination of the elements of air and space. Azal (Pittam) is formed by the fire element and Aiyam (Kapam) by the combination of earth and water elements. There are seven physical constituents (similar to tissues) in our body, and the physiological and pathological features of these tissues have been detailed in Siddha literature and they are applied in practice.

The Siddha system is believed to have evolved from 10000 - 4000 B.C. With its Dravidian origin, it serves mostly the people living in southern India, Sri Lanka, Malaysia, Singapore, Mauritius and some of the South-East Asian countries.

The oldest Tamil book 'Tolkāppiyam' of 1400 BC contains medical information. Tirukkuraḷ written in 2nd century B.C. has a separate chapter named Maruntu Atikāram. Some of the ethical works in Tamil have been named after Siddha Medicines like Tirikaṭukam (Three pungent drugs) and Ēlāti (indicating Cardamom), which talk about healthy living, though they have no direct reference to medicine. In Maṇimēkalai, an ancient Tamil classic literature belonging to 2nd century A.D, the contemporary concepts on atom, soul, almighty and matter are dealt with in a chapter titled: 'Camayakaṇakkār Tam Tiraṇ Kēṭṭa Kātai. In the 10th century A.D, the Caiva Cittaṇtā cult obtained some of the early Cāṇkiyam - Ācīvakaṁ philosophies which reflected the ancient thoughts of Siddha Medicine. Princess Kuntavai Nācciyar established a free dispensary in the name of her father Cuntara Cozan. A 13th century inscription found in Citamparam temple depicts a list of grants given to Siddha Physicians (Vaiṭṭiyarkaḷ) and mid-wives.





The highly evolved consciousness, intellect and heightened intuition of Siddhars resulting from their Yogic powers enabled them to explore the world around them and utilise its natural resources for the wellbeing of humanity. Their findings on the characteristics of plants, minerals and animal products and their knowledge of the properties of drugs, their purification, processing, dosage, toxicity, antidote and clinical application have been preserved and handed down.

Significant contributions have emerged from the experiences of various traditional healers who have documented their experiences and knowledge. Siddha, in its present education system, has various branches such as Siddha Pharmacology (Kuṇapāṭam), Siddha Toxicology (Nañcu Maruttuvam), Siddha Pathology (Nōy Nāṭai), General Medicine (Maruttuvam), Obstetrics and Gynaecology (Cūl Marṛum, Makalir Maruttuvam), Siddha Paediatrics (Kuzantai Maruttavam), Surgery (Aruvai Maruttuvam), Dermatology (Tōl Maruttuvam), Ear Nose Throat (Kātu, Mūkku, Toṇṭai Maruttuvam), Ophthalmology (Kaṇ Maruttuvam), Psychiatry (Kirikai noi Maruttuvam), Pressure Manipulation Therapy (Varmam), External Therapy (Pura Maruttuvam), Geriatrics (Mutiyōr Maruttuvam), Yogam and Rejuvenation (Kāyakarpam).

A well-developed infrastructure of Siddha system exists in India, which includes Educational Institutes, Research organizations, public and private hospitals, dispensaries and registered private practitioners. At administrative level, there is Ministry of AYUSH, Government of India and there are separate Directorates of AYUSH in most of the states and union territories functioning for monitoring regulating and development of the AYUSH health care services and Education system. The health care services through Siddha are being extended to the masses through a huge network of hospitals.

Siddha education was earlier imparted traditionally through teacher – student (Kuru Cīṭaṇ Paramparai) relationship but now it is imparted through formal education system. There are eleven educational institutions including one National Institute of Siddha. Among the eleven, two colleges are run by Government of Tamil Nadu conducting postgraduate courses in addition to undergraduate courses. The National Institute of Siddha (NIS), Chennai, an autonomous organization under the Ministry of AYUSH, Government of India, offers postgraduate courses and doctoral research programmes, besides providing medical care and undertakes research to promote and propagate the Siddha Medicine.

Siddha medicine is also practiced in Sri Lanka, Malaysia and Singapore where there is a sizeable Tamil population. Malaysian Government regulates Siddha practice by registering under Traditional and Complementary Medicine (TCM). In Sri Lanka, a Siddha department affiliated to Jaffna University and another Institute in Trincomalee Campus affiliated to Eastern University impart Siddha education (Undergraduate Course). There are also good number of Siddha hospitals and dispensaries providing service in different provinces of Sri Lanka.



Propagation of Siddha system across the world is done by establishing AYUSH information Cells / Health centres in Indian embassies / missions and the cultural centres set up by Indian Council for Cultural Relations (ICCR) in foreign countries and deputation of experts and International AYUSH fellowship programme for foreign nationals in Premier Institutions of India.

The establishment of Central Council of Indian Medicine, Central Council for Research in Siddha and National Institute of Siddha are the major establishments initiated by the Government of India for setting standards for clinical practice, education and research in Siddha.

In September 2010, the Central Council for Research in Siddha (CCRS) was created by bifurcation of the erstwhile Central Council for Research in Ayurveda and Siddha (CCRAS). CCRS is an autonomous body registered under societies act in July 2010 under the then Department of AYUSH, Government of India. It is an apex body for research, setting standards for research methodology and preparing standard treatment protocols in Siddha.

Traditional Knowledge Digital Library (TKDL) is a project of Council of Scientific and Industrial Research (CSIR). TKDL involves documentation of the knowledge available in public domain on traditional knowledge from the existing literature of Siddha, Ayurveda, Unani, 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.

The strength of the Siddha Medicine lies in its holistic approach -- the physical, mental, social and spiritual well-being by adapting simple lifestyle practices (postures, breathing exercises, meditation, etc.) dietary regimens relevant to six tastes, usage of safe and effective plant based drugs and drugs of mineral and animal origin. Another aspect of Siddha for its universal adaptability is its unique therapeutic methods-- pressure manipulation therapy i.e. Varmam and physical manipulation therapy i.e. Tokkanam, that are skillfully carried out by trained practitioners.

The process of ageing brings along with it a numerous degenerative physical and mental changes which are managed in Siddha system by the rejuvenative (Kāyakarṇam) practices involving simple herbal formulations (powerful antioxidants) prescribed with specific dose to be taken for a particular length of period and Yōkam techniques.

In Siddha, diagnosis is based on the following eight kinds of diagnostic tools -
- Pulse (Nāṭi), Perception by palpation (Paricam), Tongue (Nā), Complexion (Nīram), Speech (Mozi), Eye (Vizi), Faeces (Malam) and Urine (Mūttiram). Examination of pulse and urine are very important because they are helpful not only in arriving at the diagnosis but also in assessing the prognosis of the disease. In the area of diagnosis, the pulse diagnosis, which is predominantly dependent on the clinical acumen of the practitioner, could be carried out in any location.



Treatment procedures in Siddha help in normalizing the altered vital life factors (Mukkuṛṇam i.e. Vali, Azal and Aiyam). Therapeutic purgation normalises Vali therapeutic emesis normalises Azal therapeutic instillation of nasal drops and collyrium normalises the Aiyam.

The cornerstone of Siddha Medicine for healthy living is food and life style. 'Food itself is medicine and medicine itself is food' is one of the basic principles of Siddha system of medicine. Selection of food according to the landscape where one lives, the climate one is exposed to and the lifestyle that one adopts is essential to lead a healthy life.

Siddhars have recommended certain basic lifestyle guidelines -- preventive measures (Piṇiyaṇukā Vitti) that help to prevent diseases. Rejuvenating procedures (Kāyakaṛṇam) increase our immunity.

Siddha Medicine plays a vital role in maintaining the health of the elderly. Significant causes of morbidity among these people are chronic inflammatory and degenerative conditions, metabolic diseases like diabetes, hypertension, musculo-skeletal disorders, psychiatric disorders, urinary problems, etc. Siddha intervention activates physiological processes that influence metabolic and immunological status and offers cost effective palliative care for the elderly patients.

The therapy in any medical system is two-fold-- preventive and curative. In Siddha, a unique class of Kāyakaṛṇam therapy emphasizes promotive and rejuvenative health approaches. In addition, Kāyakaṛṇam enhances the life span, delays ageing, and improves intelligence and memory.

The classical text Tirumantiram defines medicine as the one that cures physical and psychological ailments, the one that prevents diseases and the one that ensures longevity. Thirty two types of internal medicines and thirty two types of external therapies and treatment procedures are elaborated in Siddha. Source materials for the preparation of Siddha drugs are obtained from plants, minerals and substances of animal origin. The compound drugs consist of poly-herbal, herbo-mineral and mineral preparations. Siddhars were the pioneers in using minerals as therapeutic agents. In search of medicines that could prevent the body from perishing, Siddhars chose minerals and developed inorganic compounds, called Paṛṇam (Calx), Centūram (Calcined red oxide) etc., which are minute particles that can be easily absorbed and assimilated in the body.

Pharmaco-dynamics of Siddha drugs is based on the concepts of Taste (Cuvai), Property of a drug (Kuṇam), Potency (Vīriyam), Post-digestive Transformation (Pirivu) and Specific pharmacological action (Makimai). Adjuvant (Tuṇai Maruntu), Vehicle (Anupāṇam) and Dietary regimen (Pattiyam) also play a role in pharmacodynamics.

Siddha drugs are manufactured under drug-manufacturing license issued by the State Licensing Authority of the state where the drug-manufacturing unit is established.



Pharmacopoeia Commission for Indian Medicine and Homoeopathy was constituted by Government of India. It is an autonomous body with main objectives of publication and periodical revision of the Ayurveda, Siddha, Unani and Homoeopathy Pharmacopoeia of India.

Ayurveda Siddha Unani Drugs Technical Advisory Board (ASUDTAB) is a statutory body under the Drugs and Cosmetics Act, constituted by Ministry of Health and Family Welfare, Government of India to provide technical advice in the matters of Ayurveda, Siddha and Unani drugs.

Pharmacovigilance is a key activity relating to collection, detection, assessment, monitoring and prevention of adverse effects with pharmaceutical products. This is applicable to Siddha drugs also.

Certain special therapies/external therapy techniques such as Pressure Manipulation Therapy (Varmam), Physical Manipulation Therapy (Tokkanam), Bone setting (Otiyu Murivu Maruthuvam) and Parenteral Administration (Kutōri Maruttuvam) reveal the individuality and unique identity of this system.

With the increasing awareness among the public and scientific developments, Siddha system will soon reach greater heights in providing health care delivery to the public.

This document is structured into seven chapters detailing the history, the basic concepts, the holistic health management approach, drugs, specialised therapeutic procedures, research, education and clinical practice of Siddha system of Medicine.







ORGANIZATION OF THE DOCUMENT

Chapter 1

The 'Introduction' chapter deals with the historical evolution of Siddha, important Siddhars, major milestones of Siddha system, infrastructure and network in India, organizations including Central Council for Research in Siddha, National Institute of Siddha, and Global Scenario. It also deals with initiatives of Indian Government and areas of strength of Siddha.

Chapter 2

The chapter on 'Fundamental Concepts' deals with basic principles of Siddha, vital life factors, diagnostic and treatment principles along with selection of medicines.

Chapter 3

The chapter on 'Holistic health management' deals with lifestyle, dietary principles, daily and seasonal regimen, do's and don'ts, rejuvenation therapy, geriatric care, care of mother and child and Yōkam.

Chapter 4

The chapter on 'Drugs' gives an idea about the origin of drugs used in Siddha, their characters, therapeutic usage, different forms of medicine and special medications in Siddha. It also deals about ASUDTAB, standardization, essential drugs list and Siddha pharmacopoeia.

Chapter 5

The chapter on 'Special Therapeutic Approaches, External Medication & Treatment procedures' explain about the unique treatment procedures in Siddha i.e Pressure Manipulation Therapy, Physical Manipulation Therapy, Traditional Bone Setting, etc.

Chapter 6

The chapter on 'Research and Development' gives information about various Siddha Research Institutes/Units functioning under CCRS and their research outcomes.

Chapter 7

The chapter on 'Education and Practice' gives details about the various Siddha educational institutes in India and abroad, various branches of study in Siddha system, Siddha healthcare delivery system and about the regulatory mechanisms in education and Siddha practice.





1. INTRODUCTION

The Siddha system of Medicine is a traditional medical system, which provides 'Holistic Health'. The system provides preventive, promotive, curative, rejuvenative and rehabilitative health care with scientific and holistic approach. The word 'Siddha' is derived from the root word 'Citti', which means attaining perfection, eternal bliss and accomplishment.

The Siddha system comprises essentially of philosophical concepts including the four main components: 1. Iatro-chemistry, 2. Medical practice, 3. Yogic practice and 4. Wisdom. The Siddha system is evolved based on ninety-six tools (96 Tattuvam) which include physical, physiological, psychological and intellectual aspects of every human being. Among them the five elements viz, are the fundamental units of everything in the human body and the cosmos. There are three vital life factors (Vāḷi, Azal, Aiyam) responsible for good health. These life constituents are formed by five elements in different combinations. There are seven physical constituents in our body-- nourishing essence, blood, muscle, fat, bone, nervous tissue and sperm/ovum. Their physiological and pathological features are explained in Siddha literature and they are applied in the practice.

Holistic approach is the cornerstone of Siddha treatment. Treatment procedures in Siddha system of Medicine help in normalizing the altered vital life factors. Taste of food and medicine has been accorded lot of importance in the principle of treatment. Every taste is constituted by the combination of two basic elements. Selection of drugs for the treatment of diseases is also based on the six tastes. In addition to primary healthcare, Siddha treatment is popular in the treatment of acute and chronic ailments like arthritis, diabetes mellitus, obesity, hyperlipidaemia, hemiplegia, paraplegia, parkinsonism, muscular disorders, respiratory diseases, digestive disorders, gynaecological disorders and skin diseases including psoriasis and vitiligo.

1.1 Historical evolution

The Siddha system is believed to have evolved from 4000 BC. The Siddha system has evolved into a well-documented medical stream from the ancient medical practices by Siddhars and by way of keen observations and experimentations. In Indian subcontinent, Siddha Medicine has its strong roots reflecting India's culture, tradition and heritage. With its Dravidian origin, Siddha system serves mostly the people living in Southern India, Sri Lanka, Malaysia, Singapore, Mauritius and some of the South-East Asian countries.

The oldest Tamil classic 'Tolkāppiyam' is considered to have been written in 1400 B.C. 'Tolkāppiyam' contains a lot of medical information. It describes the five-element theory, theory of five senses and the sixth sense - the sense of reasoning by human being. Tirukkuṟaḷ written in 2nd Century B.C. has a separate chapter on Maruntu Atikāram i.e. verses explaining medicine and the three vital forces. Some of the ethical works in Tamil have been named after medicines like Tirikaṭṭukam (Three pungent drugs) and Ēlāti (Cardamom), which talk about healthy living, though they have no direct reference to medicine. Like 'Tirukkuṟaḷ' they are the literary evidences for the antiquity of the medicine.





In Maṇimēkalai, an ancient Tamil classic belonging to 2nd century A.D, the contemporary concepts on atom, soul, almighty and matter are dealt in the chapter titled: ‘Camayakaṇakkar Tam Tiraṇ Kēṭṭa Kātai’.

In the 10th century A.D, the Caiva Cittaṇṭā cult obtained some of the early Cārṅkiyam - Ācīvākam philosophies which reflected the ancient thoughts of Siddha Medicine. Saivites preached their philosophy along with medicine. Siddhar Karuvūrār and Siddhar Koṅkaṇar were some of the important Siddha philosophers of that period. Siddhar Civavākkīyar strongly advocated the inner quest for God.

Princess Kuntavai Nācciyar established a free dispensary in the name of her father Cuntara Cozan. A 13th century inscription found in Citamparam temple depicts a list of grants given to Siddha physicians (Vaittiyarkal) and mid-wives.

1.2 Siddha Science and Siddhars

Both Tolkāppiyar and Tiruvaḷḷuvar mention three vital life factors, namely Vall, Azal and Aiyam i.e. Vātam, Pittam and Kapam. Cilappatikāram and Maṇimēkalai, the twin epics, quote theories of five senses, logic (Aḷavaikal), Tacanāṭi, Tacavāyu, Aṇuviyal and Ācivākam. Tirivaṭuṭuṇai inscription of Vikrama Cozan dating back to A.D 1121 refers to a medical school.

The highly evolved consciousness, intellect and intuition of Siddhars resulting from their yogic powers enabled them to explore the world around them and utilise its natural resources for the sake of humanity. Their findings on the characteristics of plants, minerals and animal products and their knowledge of the properties of drugs, purification, processing, dosage, toxicity, antidote and their clinical application have been preserved and handed down to the posterity. This sharing of knowledge was in the form of verses initially by word of mouth (traditional teacher – student relationship), later as copper inscriptions, transcripts on palm leaf manuscripts and presently in the form of printed books.

The pre-existing traditional medical knowledge of the Dravidian region was codified by the Siddhars and then this oral tradition was named Siddha system of Medicine. Siddhars are the enlightened super natural personalities who attained perfection physically, mentally, intellectually and spiritually and are the followers of the Siddhanta philosophy, which essentially relies on logic and reasoning. Some of their contributions are listed below:

Siddhar Akattiyaṇar is considered to be the first among the Siddhars and he has contributed to the body of knowledge of materia medica (Akattiyaṇar Kuṇavākaṭam) in which the detailed medicinal effects of food ingredients and herbs are explained. The herbal and herbo – mineral formulations find a place in the formulary of Siddha medicine.

Yet another contribution of Akattiyaṇar is the understanding of human Embryology. His treatise on Ophthalmology (Akattiyaṇar Nayanaviṭi) is a pioneering work guiding ophthalmic practice even today. Akattiyaṇar’s treatise on surgical practices describes 26 types of surgical instruments and explains certain procedures.





Tirumūlar's Tirumantiram details the basic concepts of Siddha and also Yogic practices of regulated breathing, yogic postures, meditation and mind-body control.

Siddhar Yūki for the first time classified diseases according to the clinical signs and symptoms in addition to humoral classification in his treatise Yūki Vaittiya Cintāmaṇi. He was also an exponent of alchemy, which served as the primary source for inorganic drug development.

Siddhar Tēraiyaṛ provided insight into various life style adaptations for a healthy living. Piṇiyaṇukāṁviti deals with preventive science contemporary to modern era. Tēraiyaṛ Yamaka veṇṇpā deals with rejuvenation therapy and preparation of inorganic drugs. These drugs with longer shelf life are effective even in smaller doses and are used for a shorter duration of time. Physical manipulation therapy is dealt with in Tēraiyaṛ taru. Significant contributions in his treatise on diagnostic methods include pulse diagnosis, urine (Tēraiyaṛ Nīrkkurī and Neykkurī) and stool examinations. Formulations of medicated oil find a place in Tēraiyaṛ taillavarkka curukkam. Tēraiyaṛ Maruttuva Pāratam is a treatise which describes the features of the diseases comparing it with characters of the well-known Indian epic Makāpāratam. The treatment is also compared to the armour and handlers who destroy the undesired.

Siddhar Pōkar's works explore the identification and properties of inorganic materials used as drugs and their higher order pharmaceutical forms such as Kaṭṭu, Kaḷaṅku, Cattu, Urukku and Cuṇṇam (Kattu, Kalangu, Sathu, Urukku and Chunnam) further the bondage of inorganic materials which are indicated for various diseases. A classical example of a bonded (consolidated) inorganic material is the idol in the Paṇṇi temple.

Another significant contribution is the synthesis of drugs when the natural source is unavailable. This is elaborated in Carakku Vaippu 700. Pōkar has also authored a treatise on Rejuvenation therapy (Kāyakaṛṇam).

Siddhar Pulippāṇi in his work Pulippāṇi Vaittiyam 500, has provided a recipe of life saving drugs. The most extensively used herbo-mineral combination, 'Iracakanti Meṇṇu' (RGM), with mercury and sulphur as key ingredients is a contribution of Pulippāṇi.

Siddhar Nākamūṇi is a pioneer in the field of head and neck diseases more particularly eye diseases (Nākamūṇi Nayaṇaviti - a treatise in ophthalmology) and ENT problems. Important contributions of Koṅkaṇar are in the areas of alchemy, synthesis of drugs and rejuvenation.

Rest of the other Siddhars including Maccamūṇi, Karuvūrār, Caṭṭaimūṇi have dealt in detail with alchemy, rejuvenation, drug purification methods and various Siddha formulations. Most of the Siddhars have also compiled encyclopedia which cover herbs, synonyms and technical terminologies, utility, synonyms of disease classification and these treatises are called Nikaṇṭu.





Ancient Siddha Medical Practice in Malaysia

Shri Periya Tampi rendered Siddha medical service in the 1870's in Malaysia. This piece of information was gained from the descendent of that family, Cīṇivācaṇ, a Siddha medical practitioner. He is the grandson of Shri Anṇacāmi, who served as a Siddha physician to the royals at Tañcai palace in Kumpakōṇam, South India. Shri Periya Tampi who belongs to Civarājā Yogi Tradition from Tamil Nadu, India came to Malaysia at the age of five. It is said that he had approximately 50 students who learnt the trait from him. Even at that time, he used a van to provide medical services to the people. He passed away in 1943 at the age of 95.

Branches of Siddha Medicine

Siddha system of Medicine has various branches such as Pharmacology (Kuṇapāṭam), Toxicology (Nañcu Maruttuvam), Pathology (Nōy Nāṭai), General Medicine (Maruttuvam), Obstetrics and Gynaecology (Cūl Marṛum, Makalir Maruttuvam), Paediatrics (Kuzantai Maruttavam), Surgery (Aṛuvai Maruttuvam), Dermatology (Tōl Maruttuvam), E. N. T (Kātu, Mūkku, Toṇṭai Maruttuvam), Ophthalmology (Kaṇ Maruttuvam), Psychiatry (Kirikai noi Maruttuvam), Pressure Manipulation Therapy (Varmam), Physical Manipulation Therapy (Tokkaṇam), Geriatrics (Mutiyōr Maruttuvam) and Rejuvenation therapy (Kāyakarpam).

Siddha Maruttuvam deals with diseases, their aetiology, classification, signs and symptoms, complications, prognosis and treatment. It also suggests dietary pattern and restrictions.

Pharmacology (Kuṇapāṭam) deals with raw drugs of plants, minerals and animal substances, their purification, methods of preparation of medicines and their therapeutic usages with appropriate doses.

Surgery (Aṛuvai Maruttuvam) in Siddha deals with surgical procedures such as Kāram (use of Kāra Cīlai i.e. medicated gauze, Kāra Nūl i.e. medicated thread), Cautery or Scorching techniques (Cuṭṭikai), Bone setting consisting of Reduction (Muriccal) and Splinting (Kompu Kaṭṭai) i.e. therapeutic fracture manipulation, Excision (Aṛuvai), Incision (Kīṛai), Leech therapy (Aṭṭai Viṭai) etc. and surgical conditions like haemorrhoids, uro-genital diseases including urinary calculi, fistula-in-ano, hernia, ophthalmic, ear, nose & throat and dental diseases. Ancient methods of surgically treating cataract, pterygium and prevention of eye diseases are also highlighted.

Siddha Pathology (Nōy Nāṭai) deals with diagnosis of diseases. Eight diagnostic methods. (Eṇvakai Tērvu) are elaborately discussed along with signs and symptoms of clinical entities. It also includes a unique diagnostic technique Maṇikkaṭainūl (Measurement of wrist circumference with the help of an inelastic thread) and medical astrology (Cōṭṭam).

Siddha Toxicology (Nañcu Maruttuvam) deals with toxic conditions, toxic effects of drugs in plant, mineral and animal origin, the poisonous effects of animal bites, insect stings and their management. It also deals with antidotes and synthetic drugs (Vaippu Carakkukal) Iṭu Maruntu, Pāṭāṇaṅkal etc.

Obstetrics (Cūl Maruttuvam) in Siddha deals with antenatal, perinatal (labour), postnatal care and its related diseases.



Siddha Paediatrics (Pālavākaṭam) deals with prevention of diseases, management of diseases of children including the new-born.

Period*	Major Milestones
3000 BC	Tirumantiram written by Tirumūlar deals elaborately with Mind - Body relationship, Embryology (Karuvuṛpatti), Five element theory, Aṭṭāṅka Yōkam and Atomic theory.
1400 BC	Tolkāppiyam, the earliest extant Tamil grammar book deals with the concept of five basic elements (Aimpūtam)
600 BC	Ācivakam - Philosophy and basics of Tamil medicine
600 BC	Jain literature - Philosophy of Siddha medicine
200 BC	Tirukkuraḷ - A chapter on medicine -- Maruntu Atikāram
AD 200	Manimekalai -- Theory of Logic (Aḷavai)
AD 100 - 500	Ēlāti, Tirikaṭukam have been named after Siddha drugs
AD 700	Tiruvācakam, an ancient Tamil literature contains details of Caiva Cittānta philosophy which forms an integral part of Siddha fundamental concepts
AD 1121	Princess Kuntavai Nācciyār established a free dispensary in the name of her father Cuntarac Cōḻaṇ
AD 1200	Periyapurāṇam contains description of certain diseases
AD 1700	Maṇṇar Carapōji of Tañcāvūr took interest in the preservation and propagation of indigenous systems of medicine. He was instrumental in the compilation of ‘Carapēntira Vaittiya Muṛaikal’ and researches were done in Indian systems like Siddha, Ayurveda and Unani
AD 1925	Government School of Indian Medicine was established in Madras to teach Siddha, Ayurveda and Unani (institutionalising of Siddha medical education)
AD 1926	A Government Hospital of Indian Medicine was established and attached to the school of Indian Medicine
AD 1940	Sir Mohammed Usman Committee was constituted to develop Indian systems of medicine in Tamil Nadu.
AD 1944	The Indian Medical Practitioners Co-Operative Pharmacy and Stores (IMPCOPS) was established in Madras for manufacturing of Siddha drugs.
AD 1947	The school of Indian medicine was renamed as College of Indian medicine to award the ‘Graduate of College of Indigenous Medicine’ (G.C.I.M) degree.
AD 1955	The College of Indian medicine was renamed as College of Integrated Medicine, (integration of both Indian and western medicine) and the graduates came under the Integrated Medical Practitioners Act of 1956.



AD 1960	Siddha Research in Gujarat Ayurved University, Jam Nagar was established.
AD 1964 and AD 1966	5-year Siddha degree (B.I.M) course was started at Government College of Indian Systems of Medicine, Palayamkottai, Tirunelveli. (Initially affiliated to Madras University, Madras and from 1966 affiliated to Madurai Kamaraj University, Madurai).
AD 1969	Central Council for Research in Indian Medicine and Homoeopathy (CCRIM & H) was established.
AD 1970	A separate department was established as Directorate of Indian Medicine and Homoeopathy by Government of Tamil Nadu.
AD 1971	Central Council of Indian Medicine (CCIM) was constituted under the IMCC Act 1970.
AD 1971	Establishment of Central Research Institute for Siddha in Chennai for conducting scientific research on Siddha medicines under CCRIM&H.
AD 1971	Establishment of historical research unit, Indian Institute of History of Medicine (IIHM) in Hyderabad.
AD 1975	The Siddha Pharmacopoeia Committee (SPC) was constituted.
AD 1977	B.I.M. degree course was renamed Bachelor of Siddha Medicine and Surgery (B.S.M.S) subsequent to the enforcement of IMCC Act 1970.
AD 1978	Establishment of Central Council for Research in Ayurveda and Siddha (CCRAS).
AD 1985	Starting of the second Siddha Medical College for B.S.M.S Degree Course by Government of Tamil Nadu at Pazhani (affiliated to Madurai Kamaraj University) and it was later shifted to Chennai in 1993.
AD 1995	A separate department of Indian Systems of Medicine and Homoeopathy was created by Government of India under the Ministry of Health & Family Welfare. The department was renamed as Department of AYUSH in 2003.
AD 1999	National Institute of Siddha was established by Department of AYUSH in Chennai. It was formally inaugurated by the then Honourable Prime Minister of India Dr. Manmohan Singh in 2005.
AD 2001	Initiation of the project Traditional Knowledge Digital Library by Department of AYUSH.
AD 2004	Siddha Medicinal Plants Garden was established at Mettur Dam under CCRAS.
AD 2010	Central Council for Research in Siddha (CCRS) was established under Department of AYUSH, Government of India by bifurcating the erstwhile Central Council for Research in Ayurveda and Siddha.
AD 2014	Department of AYUSH, which was functioning under Ministry of Health and Family Welfare, Government of India, became Ministry of AYUSH.
AD 2017	Through ITEC programme, a Siddha (Varmam) Unit started functioning since 2017 in Sungai Buloh Hospital near Kuala Lumpur, Malaysia.





1.4 Infrastructure and network in India

A well-developed infrastructure for Siddha system exists in India. It includes educational institutions, research organizations, public and private hospitals, dispensaries. The Ministry of AYUSH, Government of India at the centre and separate Directorates of AYUSH in most of the states and union territories are in existence. Siddha medical services are generally co-located in modern medical college hospitals, community health centres and government hospitals. The health care services through Siddha are being provided through a network of Siddha colleges, hospitals and dispensaries by the government and private.

Premier Organisations of Siddha - A glance

Central Council for Research in Siddha (CCRS) , Ministry of AYUSH, Government of India, Anna Hospital Campus, Arumbakkam, Chennai -600 106 www.siddhacouncil.in	An autonomous apex research organisation in India for undertaking, coordinating, formulating, developing and promoting research in Siddha.
National Institute of Siddha (NIS) Ministry of AYUSH, Government of India, Tambaram Sanatorium Chennai – 600 047 www.nischennai.org	An autonomous apex academic organization offering postgraduate courses and doctoral programmes in Siddha attached with 200 bedded Ayothidoss Pandithar Hospital. To add merit, this has been accorded NABH accreditation by QCI.
Indian Medical Practitioners Cooperative Pharmacy and Stores (IMPCOPS) Kalki Krishnamurthy Salai, Thiruvanmiyur, Chennai - 600 041. www.impcops.org	Manufacturer of Siddha, Ayurveda and Unani medicines
Tamil Nadu Medicinal Plant Farms and Herbal Medicine Corporation Ltd. (TAMPCOL) C 29, SIDCO Industrial Estate, Alathur, Thiruporur, Kancheepuram District - 603 110 www.tampcol.in	TAMPCOL is a corporation fully owned by the Government of Tamil Nadu manufacturing Siddha medicines.
Department of Siddha , Tamil University, Thanjavur, Tamil Nadu.	Functioning as a department in Tamil University, promotes publication and literary research in Siddha.
Department of Siddha , The Tamil Nadu Dr. MGR Medical University, 69, Anna Salai, Guindy, Chennai – 600 032. www.tnmgrmu.ac.in	Governance and regulation of AYUSH Colleges in Tamil Nadu-- and awards degrees --- B.S.M.S, M.D (Siddha) and Ph.D (Siddha).





Other institutions /organisations carrying out Siddha research activities

(1)	Tamil Nadu Veterinary and Animal Sciences University [TANUVAS] Madhavaram, Chennai – 600 051, Tamil Nadu. www.tanuvass.tn.nic.in	Engaged in pre-clinical studies of Siddha medicine.
(2)	Anna University – KB Chandrasekar [AU-KBC] Research Centre, Madras Institute of Technology Campus, Chennai, Tamil Nadu. www.au-kbc.org	Actively engaged in research works in Indian medicine and life sciences.
(3)	Dr. ALM Postgraduate Institute of Basic Medical Sciences, (IBMS), University of Madras, Taramani Campus, Chennai – 600 113, Tamil Nadu.	Actively engaged in interdisciplinary academic and research works in Siddha medicine and basic medical sciences.
(4)	Tamil Valarchi Kazhagam (Tamil Academy), University of Madras Campus, Chennai. Tamil Nadu.	Publishing Siddha books in Tamil and English.
(5)	National Institute of Indian Medical Heritage (NIIMH), Hyderabad – 500 036, Andhra Pradesh. www.niimh.nic.in	Manuscript research, digitization of Siddha medical manuscripts and publication of research in history and basic principles of Siddha medicine.
(6)	Indian Institute of Technology (IIT) Taramani, Chennai – 600 113, Tamil Nadu. www.iof.iitam.ac.in	Engaged in promoting Siddha research in Varmam and Pulse diagnosis in Siddha system
(7)	Santhigiri Health care and Research organization, Santhigiri Ashram, Thiruvananthapuram, Kerala. ssmc.santhigiriashram.org	Santhigiri Siddha Medical College (English Medium) was established by Santhigiri Ashram in 2002 in Kerala.
(8)	Centre for Traditional Medicine and Research, 4A, 4 th Cross Street, Mahalakshmi Nagar, Adambakkam, Chennai – 600088. www.ctmr.org.in	Engaged in literary research, digitization of Siddha palm leaf manuscripts, publication, documentation and validation of local health tradition, epidemiological research on traditional medicine, sustainable utilization and conservation of medicinal plants and process standardization of Siddha drugs.





1.5 Global Scenario

Apart from India, Siddha system of Medicine is practiced in Sri Lanka, Malaysia and Singapore where there is a sizeable Tamil population. Malaysian Government regulates Siddha practice by registering the practitioners under Traditional and Complementary Medicine (TCM) division. In Sri Lanka, a Siddha department affiliated to Jaffna University and another institute in Trincomalee Campus affiliated to Eastern University are imparting Siddha education (undergraduate course).

Sensing the resurgence of global interest in AYUSH medical systems, the Government of India has taken many initiatives for promotion and propagation of AYUSH systems. India is a prominent member in the Inter-Governmental Committee (IGC) on Traditional Knowledge, Genetic Resources and Folklore of the World Intellectual Property Organization. Some such initiatives are listed below:

- (1) International exchange of experts and officers to different countries for establishing chairs and bringing mutual recognition of AYUSH medical qualifications including Siddha.
- (2) Incentive to drug manufacturers, entrepreneurs, Siddha institutions, etc. for propagation of Siddha systems internationally and registration of their products by USFDA/EMA for export.
- (3) Support for international market development and Siddha promotion-related activities. Translation and publication of Siddha literature into foreign languages.
- (4) Establishment of AYUSH information cells/health centres in Indian embassies/missions and the cultural centres set up by Indian Council for Cultural Relations (ICCR) in foreign countries and deputation of experts. International fellowship programmes for foreign nationals undertaking AYUSH courses in premier Siddha institutions in India.

Under the Department's International Cooperation scheme, the Ministry of AYUSH has set up an AYUSH information cell in the premises of the Indian Cultural Center in Malaysia with the support of Indian High Commission in Kuala Lumpur, Malaysia. Through ITEC programme, a Siddha (Varmam) Unit is functioning since 2017 in Sungai Buloh Hospital near Kuala Lumpur, Malaysia. One Research Officer (Siddha) from CCRS has been posted (on deputation) in this Unit by the Ministry of AYUSH.

The Ministry of AYUSH has been supporting several International Conferences/Seminars/Workshops/Trade fairs in collaboration with Indian Missions, Universities, Associations and other agencies promoting traditional systems of medicine overseas. Siddha experts are deputed as resource persons to such events and for facilitating continuing medical education (CME) and training programmes on AYUSH systems in foreign universities.





1.6 Initiatives of Indian Government

India possesses an unmatched heritage represented by its ancient systems of medicine Siddha and Ayurveda which are treasure houses of knowledge for both preventive and curative healthcare. The positive features of the Siddha Medicine are: diversity of plant use, accessibility, affordability, a broad acceptance by a section of the general public, comparatively affordable, appropriate technological input and growing economic value. These features have great potential to meet the health care needs of larger sections of our people. The Government of India in its national health policy of 1983 and 2002 has reiterated that Siddha, Ayurveda, Unani, Yoga and Naturopathy offer a wide range of preventive, promotive and curative treatments, which are both cost effective and efficacious. Budgetary support has been augmented and fiscal incentives and concessions that are available to modern pharmaceutical industries have been assured to ISM sector. Government of India has initiated a National AYUSH Mission (NAM) to mainstream Siddha with other AYUSH systems.

Committees and Regulations

Government of India, since independence, has constituted various committees to examine the promotion, regulation and to create research and educational infrastructure for the Siddha, Ayurveda and Unani systems of medicine. The outcome of the committee reports have led to formation of various Acts. These Acts in turn set standards for education, practice and research in Indian systems of medicine including Siddha, besides standards for Siddha drugs and their Good Manufacturing Practices (GMP) as per the Drugs and Cosmetics Act.

Regulation of teaching, practice and research in indigenous medicine continued after Independence in accordance with the following Acts:

1. The Indian Medicine Council Act, 1933
2. The Madras Registration of Practitioners of Integrated Medicine Act, 1956
3. The Indian Medicine Central Council Act, 1970

The most importance of these Acts, from the point of view of present-day Siddha practice, are those of 1933 and 1970. Due to the former Act the first professional registration for Ayurveda, Siddha and Unani practitioners came into existence, creating a pan-national profession for the first time.

The major initiatives of the Government of India for setting standards for clinical practice, education and research are the establishment of Central Council of Indian Medicine, Research Councils and National Institutes.

Central Council of Indian Medicine

In accordance with the IMCC Act 1970, the CCIM became the central regulatory body for overseeing indigenous medical education and maintaining a register of recognised practitioners. The Central Council of Indian Medicine objectives are as follows:

1. To prescribe minimum standards of education in Indian systems of medicine, i.e. Siddha, Ayurveda and Unani





2. To recommend Government of India in matters relating to recognition and approval of Ayurveda, Siddha and Unani Medical Colleges in India.
3. To maintain the updated Central Register of Indian Medicine
4. To prescribe standards of professional conduct, etiquette and code of ethics to the practitioners.

The IMCC Act 1970 has got the following Schedules:

The First Schedule deals with the number of members to be elected among the practitioners registered in the state registers of the Councils.

The Second Schedule has got the details of recognised medical qualifications in Indian medicine [Ayurveda, Siddha, Unani], granting Universities, Boards or other recognised Medical Institutions in India.

The Third Schedule, include the qualifications granted by certain medical Institutions before 15th August, 1947 in areas within India as defined in the Government of India Act, 1935.

The Fourth Schedule, includes qualifications granted by Medical Institutions of other countries like Sri Lanka, with which there is a scheme of reciprocity.

The CCIM has brought out minimum standards of education for Siddha medical colleges, curriculum and syllabus for Siddha education. The CCIM is also updating them at regular intervals in order to make them relevant to present times and to improve the quality of education. The council also regulates practitioners and prescribes ethical standards for practice.

Subsequent to these initiatives, the Government of India has formulated and adopted its National Health Policy in 1983. This Health Policy was influenced by the Alma Ata Declaration of WHO.

Research infrastructure – CCRS (Central Council of Research in Siddha)

Systematic research in Siddha and other Indian systems of medicine under government patronage was initiated with the establishment of Central Council for Research in Indian Medicine and Homoeopathy as an autonomous organization under the Ministry of Health and Family Welfare in 1969. In the year 1978, Central Council for Research in Ayurveda and Siddha was carved out so as to further develop research in these systems in consonance with the basic principles of the respective systems. In 2010, a separate Council for Research in Siddha was established. The Central Council for Research in Siddha is the apex body for carrying out research activities and setting standards for research methodology in Siddha. It is fully funded by the Government of India. The research priorities are influenced by the National needs for developing treatment protocols for challenging disease conditions, setting pharmacopoeial standards for Siddha Medicine, evaluating safety and efficacy of Siddha drugs. The research activities are continuously reviewed by technical experts and policy makers. Multi-locational clinical research units carry out coordinated research studies.





Higher Education Initiative - National Institute of Siddha

National Institute of Siddha was established by the Government of India in 1999. Though this Institute started treating out-patients from October 2004, it was dedicated to the Nation on 3rd September 2005 by the then Prime Minister of India. Apart from imparting higher education in Siddha, the Institute is a recognized research centre for research scholars of Siddha (Ph.D. programme).

Government of India Schemes for development of Siddha

In order to continuously enhance the human resources in Siddha Medicine, schemes for Reorientation Training Program for teachers (RoTP), Continuing Medical Education (CME) and Exposure Programs are initiated by the Government of India. Almost all the members of the teaching faculty of Siddha colleges expect to attend one RoTP/CME every year. The colleges and other institutes of Siddha get financial support from Government of India to become 'Centres of Excellence', which enables them for further strengthening of the infrastructure.

Being a traditional system, most of the knowledge about the Siddha system of Medicine remained preserved either in palm leaf manuscripts or in paper manuscripts. With the support rendered by the government of India, acquisition, cataloguing, digitization and publication of Siddha manuscripts are being carried out.

The traditional health knowledge lying with traditional healers and households are slowly disappearing due to various reasons. The Government has initiated a scheme to document, validate and revitalize local (Siddha) health traditions in Tamil Nadu besides the specialized practices like bone setting, treatment of jaundice, poisonous bites and stings, and mother and child health.

In order to strengthen Siddha drug industry, a common facility for procurement of herbs, processing, storage, manufacturing drugs of GMP standard, the Government of India has brought out a scheme under the AYUSH industry cluster.

To extend specialty treatments in taluk and district Siddha hospitals, financial support is extended to 275 Siddha wings in Government hospitals by the Government of India.

1.7 Strength of Siddha

The strength of the Siddha medical system lies in its holistic approach for a healthy living. The healing science encompasses the physical, mental, social and spiritual well-being by adapting simple lifestyle practices, dietary regimen, safe and effective drugs of vegetable, mineral and substances of animal origin. The focus has all along been on preventive, promotive and rejuvenative methods for maintaining good health, defying ageing and curative procedures including cleansing therapies and external therapies. Most resources used in this system are obtained from renewable biological resources including plant products, animal products and marine products as well as naturally occurring geological products. The system emphasizes on living in harmony with nature. There is a clear understanding of the



correlation between a sound mind and a sound body and lifestyle practices are suggested as daily and seasonal regimen, accordingly.

Another aspect of Siddha for its universal adaptability is its unique therapeutic methods -- pressure manipulation therapy i.e. Varmam and physical manipulation therapy i.e. Tokkanam, that are skillfully carried out by trained practitioners particularly for pain management in case of trauma, postural disorders, etc.

Siddha system also offers effective treatment options for various common ailments, helps to improve the quality of life by better management of lifestyle disorders and illnesses of various systems of the body. In most of the refractive illnesses, the reversal of the disease condition and return to normalcy is faster than what is perceived by people.

The process of ageing brings numerous physical and mental changes. In the rejuvenative (Kāyakarṇam) practices of Siddha system, simple herbal formulations are prescribed with specific dose for a particular period. Most of these formulations have been proved as powerful free radical scavengers with good Oxygen Radical Absorption Capacity (ORAC). Some of the rejuvenative (Kāyakarṇam) drugs are system specific, (Kāyakarṇam) that corrects neurological derangement.

In addition, the strength of Siddha system lies in the area of diagnosis, particularly the pulse diagnosis, which is predominantly dependant on the clinical acumen of the practitioner. It could be carried out in any location and it gives precision in diagnosis. It helps in curtailing expensive laboratory investigations to diagnose an illness.

Generally, most of the Siddha formulations are based on food ingredients, spices and medicinal plants have been proven safe. Further many of the inorganic substances such as coral, pearl oyster, conch shell, cowrie shells, mercury, arsenic, gold, copper, zinc, etc. are also used. These inorganics subjected to calcination process are safe in the micro particulate state and in the prescribed dose level.



2. FUNDAMENTAL CONCEPTS

Siddha system of Medicine has its own basic principles, *materia medica*, methods of diagnosis, line of treatment and unique values. It is needless to say that the comprehensive and holistic approach of Siddha system is fully evolved and practiced based on these fundamental principles.

2.1 Basic Concepts

Siddha system is named after the founders of this system called 'Siddhars'. They are the ancient seers with profound intellect. The term 'Siddha' itself is derived from the root word 'Citti'/'Cittu' which means 'complete knowledge' or accomplishment.

The Siddha system is comprised essentially of philosophical concepts and also the following four components:

1. Chemistry/Iatrochemistry/Alchemy (Vātam / Iracavātam)
2. Treatment (Vaiṭṭiyam)
3. Yogic Practices (Yōkam)
4. Wisdom (Ñānam)

Concept of Basic Principles - 96 Tattuvam

According to Siddha system human being is constituted by basic principles / tools called as Tattuvam and they are 96 in number. They are considered as a science that deals with basic functions of the human body. These 96 principles includes the physical, functional, psychological and intellectual components.

Among the 96 tools, the five elements i.e. pañcapūtam namely Earth, Water, Fire, Air and Space are the fundamental units of everything in the human body and the cosmos. Individually they are subtle components and collectively they perform. These subtle components combine in various proportions to form gross substances. This manifestation is explained as 'five fold combination' – Pañcapūta Pañcīkaraṇam. Therefore, from these subtle elements, gross structures like bone, muscle, fat etc. i.e. the physical constituents of human beings develop.

Five elements and Pañcīkaraṇam

All substances of the Universe including human beings are composed of the five primordial elements, namely Earth, Water, Fire, Air and Space. There is a balanced condensation / rarefaction / transformation of these elements in different proportions as different structure and function of the human body. These five elements are responsible for the formation of living and non-living things and they may exist in gross or subtle state. These five elements are individually in subtle state; they manifest into gross state and become visible. This significant process of manifestation of the five elements from the subtle state to the gross state is called Pañcīkaraṇam (Mutual Intra Inclusion) i.e., fusion of five elements in different and appropriate proportions. These elements act always with mutual co-ordination and never act independently. The physical and functional constituents of human beings are also constituted by these five elements.





According to Siddha medicine, every substance is understood by five characters, which depends upon the elements present in them. They are taste, property, potency, post digestive transformation and unique biological activity or specific pharmacological action. Three vital life factors and seven physical constituents are also formed by the combination of five elements.

Physical Constituents (Uṭaltātukkaḷ)

The human body has seven physical constituents. The tissues of the body are the structural where humors are physiological entities derived from different combination of the five elements / pañcapūtam (Uṭaltātukkaḷ). The physiological and pathological features of these seven physical constituents have been detailed in Siddha literature.

The seven Physical Constituents are:

1. Nourishing fluid (Cāram)
2. Blood (Cennīr)
3. Muscles (Ūṇ)
4. Adipose tissue (Kozuppu)
5. Bone (Eṇpu)
6. Nervous system (Mūḷai)
7. Sperm / Ovum (Cukkilaṁ / Curōṇitam)

Physical constituents (Uṭaltātukkaḷ)	Basic elements	Functions
Nourishing fluid	Water	Nourishment -- growth and development
Blood	Fire + Water	Nourishes the muscle and other tissues, imparts colour to the skin (complexion) and improves intellect
Muscle	Earth + Water	Responsible for the shape of the body.
Adipose tissue	Water + Earth	Lubricates joints and maintains balance.
Bone	Earth + Air	Supports body structure and is responsible for posture and movements.
Marrow and Nervous tissue	Water + Air	Imparts strength and endurance to bone / knowledge and wisdom
Sperm / Ovum	Fire + Air	Responsible for reproduction.



Three vital life factors (Uyirtātukkāl)

The three vital life factors or functional constituents are formed by the appropriate combination of the five elements even from intra-uterine life. They are three components i.e. Vali (Vātam), Azal (Pittam) and Aiyam (Kapam). Vali (Vātam) is formed by the combination of the elements of Air and Space. Azal (Pittam) is formed by the Fire element and Aiyam (Kapam) is formed by the combination of Earth and Water elements. The main element of Vali (Vātam) is Air which works on Air principles. Similarly main element of Azal (Pittam) is Fire and Aiyam (Kapam) is Water which acts on Fire and Water principles respectively. They are referred as Tātu / Uyirtātu when they are balanced in state. The imbalance between the three Tātu due to food or life style changes will lead to disturbance in their equilibrium eventually causing diseases.

Among the vital life factors Vali (Vātam) is classified into ten types in accordance with the areas of reigning. Azal (Pittam) and Aiyam (Kapam) are also classified into five types each.

Vital life factors	Basic elements	Functions
Vali	Air + Space	Responsible for movements, respiratory, cardiac and neurologic functions (Creative force)
Azal	Fire	Functions of digestion, blood cell production, maintenance of body temperature, intellect and vision, lustre to the skin. (Sustaining force)
Aiyam	Earth + Water	Gives strength and stability to the body structures, supports the functions of respiration, appreciation of taste, cooling of eyes, function of digestion, lubricating joints. (Destructive/ Eliminating force)

The Relation between Microcosm and Macrocosm

Human is the Microcosm of the Universe the Macrocosm; what exists in the Universe also exists in human. Therefore, human must be looked upon as an integral part of the Universe. Further, the matters in the Microcosm or human are identical with those of the Macrocosm or the Universe. Caṭāmuni in his work Caṭāmuni Nāṇam, explains this concept.

The concept of the five elements constituting the Macrocosm (Universal level) and also down to the smallest Microcosm physical level. The same pattern is reproduced in all levels of cosmos. Hence the state of Universe has a telling effect over the human body.

The vital organs of the human body are correlated to the solar planets, which exercise their influence on them. For instance, the function of kidney is influenced by the planet Venus. Likewise the following organs are related to different planets as follows: Heart - Sun, Brain - Moon, Lungs - Mercury, Liver-Jupiter, Spleen- Saturn and Gall bladder - Mars.





In the cosmos, the influence of the planets is sometimes responsible for abnormal changes (natural calamities), such as earthquakes, storms, lightning and heavy rainfalls resulting in floods. Similarly, in human beings, the planet forces act abnormally and cause diseases.

2.2 Diagnosis

Siddha system diagnostic method is about identifying the diseases and their causes. The diagnosis made by observing and the methods of diagnosis is divided into three as follows:

1. Examination through the physicians' sense organs (Poriyal Arital)
2. Examining the patients' sensory functions (Pulan Arital)
3. Examination by interrogation

Generally, in Siddha system of Medicine there are classified eight types of Examination methods which are said to be tools or armamentarium of the Siddha physicians. They are based on both physical and lab diagnosis. They are listed as follows:

1. Nāṭi (Siddha way of Pulse examination)
2. Paricam (Touch and palpation)
3. Nā (Tongue examination)
4. Niṛam (Colour, complexion, discolouration etc.)
5. Moṇi (Voice examination)
6. Viṇi (Eyes examination)
7. Malam (Stools examination)
8. Mūttiram (Urine examination)
 - a. Urine Sign
 - b. Oil on Urine Sign

Oil on Urine Sign (Neykkuṛi Examination)

Neykkuṛi or oil on urine sign is a unique method in Siddha system of Medicine to arrive at the diagnosis and prognosis of the disease conditions. In this test an oil drop preferably of sesame oil is instilled over the surface of the urine sample surface and the spreading pattern of the oil drop is observed over a minute and viewed. Basically this test is done to identify the vitiated humour (s) in the body. Vātam when affected it is reflected in the Neykkuṛi sign as an elongation of the oil drop in a serpentine fashion. Pittam when affected is manifested as a ring like or sea like spreading of the oil drop. Kapam manifests itself in the pattern of oil drop staying like a pearl over the sample surface. Examination of pulse and urine are very important because they are helpful in arriving at the diagnosis and also in assessing the prognosis of the disease.



Wrist Circumferential Sign (Maṇikkaṭai Nūl)

In Siddha system, apart from the eight investigatory tools of diagnosis described above, the measurement of wrist circumference, Maṇikkaṭai nūl is an interesting method of diagnosing the diseases (preponderance) by measuring the wrist circumference with the help of a thread. In this method, the wrist circumference of an individual is measured by means of an inelastic thread and expressed in terms of that particular individual's finger breadth and the same is compared with the list of diseases and health chart mentioned in classical literature of Siddha.

This methodology was propounded by sage Agathiar in his literary classic 'Cūṭāmaṇi kayaṛu cūttiram'

Treatment Principles

Holistic approach is the highlight of Siddha treatment. Treatment procedures in Siddha help in normalizing the altered vital life factors (Mukkurram viz Vali, Azal and Aiyam).

Therapeutic purgation normalizes Vali

Therapeutic emesis normalizes Azal

Therapeutic (instillation of) nasal drops and collyrium normalizes the Aiyam.

There are three types of treatment strategies:

- i. Synergistic method (Oppurai)
- ii. Antagonistic method (Etirurai)
- iii. Mixed method (Kalappurai)

Selection of Medicines for Treatment

Taste (Cuvai) plays a vital role in the principle of treatment. Every taste is constituted by the combination of two basic elements. Three vital life factors are also formed by five elements in different combinations. Selection of drugs for the treatment of diseases is also based on the six tastes.



3. HOLISTIC HEALTH MANAGEMENT

The cornerstone of Siddha Medicine for healthy living is food and life style. 'Food itself is medicine and medicine itself is food' is one of the basic principles of Siddha system of Medicine. Selection of food according to the landscape where one lives, the climate one is exposed to and the lifestyle one adopts are essential for a healthy life.

3.1 Dietetics and Nutrition

The health and disease of an individual is determined by what the person eats. Therefore, food and appropriate nutrition are considered important in Siddha Medicine.

Food

Appropriate foods prepared with grains, greens, fruits and meat are advocated. Many couplets in the chapter on medicine in Tirukkural lay emphasis on healthy food habits and balanced diet. In one of the couplets it is stated – 'If food is taken only after earlier meal gets digested, one will not have disease'. Imbalance in the state of the three vital life factors will lead to disease and therefore emphasis is laid on a balanced diet to keep the three vital life factors in a balanced state. According to Siddha, the consumption of food should be in proportion to a person's appetite. Solid food shall be avoided during excessive hunger, anger or grief. The food we eat influences our mind in accordance with its natural quality.

Types of Food

In Siddha system of medicine, food has been categorized into three types, i.e. the food that promotes noble qualities (Cattuvam), the food that promotes energetic / active qualities (Irācatam) and the food that promotes inert qualities (Tamacam). Another categorization of three types of food in Siddha system is based on the three vital life factors i.e. Valli food/diet – the food that increases Valli, Azal food/diet – the food that increases Azal and Aiyam food/diet – the food that increases Aiyam in the body.

Healthy Food Habits

Adherence to food habits based on proper regimen and the functional quality of food, sequence of eating, etc. are well described in Siddha. Periodical fasting is recommended for healthy life. Fasting once in a month is good for the digestive system. Excessive eating or frequent eating may lead to indigestion, obesity and loss of appetite. Drinking water during the course of a meal is not advisable, as it reduces intake of food and also hampers digestion.

Food containing fruits, vegetables, cereals, pulses, fish, meat, etc. should be a part of our meal. Breakfast should include steam cooked food and fruits. A variety of traditional rice items are advocated with functional benefits. A rice variety like Maṇi Campā is good for diabetic patients. Cīraka Campa and Kuṇṇimaṇi Campā are good for Valli ailments. Many traditional varieties of rice are indicated for various ailments in Siddha. Various kinds of porridge are advised for patients during medication and observation of dietary regimen (Pattiyam).



Milletts like Italian millet, finger millet, pearl millet, kodo millet and little millet were mentioned as regular food in olden days. Each millet has specific functional properties. Finger millet is helpful in Vajī āṣa combined conditions and useful in abdominal discomfort. Pearl millet is indicated to reduce heat in the body. Italian millet is useful in reducing Āya āṣa Nōykal and its porridge is indicated for dropsy. Split green gram (Pācippayīru) is considered to be the best among the pulses.

A food can turn toxic when it combines with certain other food items and such combinations should be avoided. For instance, milk and fish should not be taken together. On the contrary, certain combinations of food have proved extremely useful in removing the ill effects. For example, jack fruit taken along with ghee or honey and groundnut along with palm jaggery is considered as an ideal combination. Honey is one of the best functional food mentioned by Siddhars and used as adjuvant in many medications.

Substances which balance the three vital life factors (Tiritōṭac camapporuṭkal)

In the process of cooking a meal, adding certain food materials causes interaction and produces ill-effects. Pulses, if taken excessively, produce flatulence. So seasoning during or after cooking with certain spices, condiments, herbs etc. helps improving the flavour and neutralizing the toxic or ill- effects, which occur during cooking or due to addition of various ingredients in the food. Eight spices, namely cardamom, cumin seeds, turmeric, pepper, dry ginger, garlic, asafoetida and fenugreek are used for seasoning food during or after cooking. These spices can balance the vital life factors i.e. Tiritōṭam. Various ethno-medical and ethno-botanical research works in the recent years on the therapeutic effects of all these eight Tiritōṭac camapporuṭkal i.e. balancing spices reveal that they have anti-diabetic, anti-lipidemic, anti-oxidant, anti-cancer and immune modulating activities.

Greens

Siddha recommends several greens such as Chinese amaranth - *Amaranthus tricolor* L., Mediterranean amaranth - *Amaranthus blitum* L., Malabar spinach - *Basella rubra* L., Vegetable Humming bird - *Sesbania grandiflora* (L.) Pers., Sessile joyweed - *Alternanthera sessilis* (L.) R. Br. ex DC. and Obscure morning glory - *Ipomoea obscura* (L.) Ker. Gawl as functional foods. Recent science endorses that these greens are low in calories and packed with nutrients like minerals and vitamins.

Vegetables and Fruits

Tender vegetables such as Lablab - *Lablab purpureus* (L.) Sweet, Brinjal - *Solanum melongena* L., Plantain (Tender unripe fruit) - *Musa paradisiaca* L., Bitter gourd - *Momordica charantia* L., etc. are often recommended even during convalescence. Fruits such as gooseberry, pomegranate, black berry, mango, banana, dates, figs and pineapple are highly recommended as beneficial to our health and they should be a part of our diet.

Oils

Oils like sesame oil and coconut oil were commonly used as edible oils in those days. The contemporary research reveals that these traditional oils are beneficial to health. Sesame oil is considered the best among the cooking oils. The cold compressed oil is good. Reheating and reusing the oil should be avoided.



Milk

Though considered an important part of our diet, milk must be rationally used. New-born babies should be fed only with Mother's milk at least for the first six months. After six months, semi-solid and solid foods could be given along with mother's milk. This can be continued for several months. This helps in proper physiological and psychological development of a child. For young children Cow's milk is considered as best. Goat's milk and Donkey's milk are advised as therapeutically beneficial milk varieties. Buttermilk is always preferable than curd in diet especially for those who are obese, diabetic or having high cholesterol. Optimum quantity of Cow's clarified butter or butter oil in regular diet is also good.

Meat

Mutton is advisable in anaemia, general debility and psychological disorders and during convalescence. Lamb meat, beef and pork should be avoided. Meat of rabbit is advised for psychological disorders and tuberculosis. Flesh of chicken causes Vajī ailments and aggravates haemorrhoids but improves spermatogenesis. Meat of black fowl is good for health. Meat of duck increases skin ailments and aggravates wounds. Steamed fish, sea foods and simmered chicken can be included in meals with fruits and vegetables. Eggs of the birds like ducks should be avoided as they may cause gastritis. Eggs of fowl are good for Vajī and Aiyam ailments but they aggravate Azāl and eczema (Karappāṇ).

Siddha system recommends dietary regimen to enhance the therapeutic activities of drugs. In certain clinical conditions, to avoid drug-diet interaction, usage of bitter gourd, sesbania leaf, yellow pumpkin, fish and dry fish and garnishing of food should be avoided.

3.2 Lifestyle Management

Siddhars have recommended certain basic lifestyle guidelines to be followed for healthy living and they include observation of certain regimen as mentioned in preventive measures (Piṇiyaṇukā Viti) that help to prevent diseases. The concept of rejuvenating procedures (Kāyakaṛpam) for prevention of diseases is highly admirable as it increases the immunity. The concepts pertaining to habitat, seasonal diet (Tiṇai/ Nilam, Nāḷ Ozukkam, Kāla Ozukkam, Uṇavu,) etc. are easily adaptable as a preventive measures for a disease - free life. These guidelines when strictly followed ensure longevity. These simple preventive measures have scientific value. These instructions are being followed from generation to generation.

Daily Regimen (Nāḷ Ozukkam)

Daily regimen (Nāḷ Ozukkam) enumerates the systematic order of everyday activities that every person needs to follow in order to avoid lifestyle disorders. It describes the procedure to be followed for taking good care of our body and mind.

The appropriate time for waking up is before sunrise. It helps to breathe fresh air and it helps the three vital life factors (Uyirtātukkal) to be in a state of equilibrium. It also induces secretion of pineal gland (Civakkuṭilai Nīr). It brings immense pleasure to one's mind and so it is the apt time to perform meditation and worship.



Passing of urine and stools (Malacalam Kazittal) are the acts or functions to eliminate the waste products of digestion and other metabolic activities. Defaecation and urination are the functional activities of Vaḷḷ and hence it should be performed soon after waking up. One should not suppress these two physiological urges as it will cause discomfort and diseases. Proper excretion indicates proper digestion and it helps the three vital life factors (Uyirātukkāl) stay in equilibrium.

Oral hygiene is very important for healthy living. Plaque deposits should be cleaned properly in order to prevent infection. Siddhars have mentioned the use of herbal twigs of astringent taste like banyan tree and powders for healthy dental care. The act of chewing the herbal twig increases salivation and releases the juice of that particular twig which has astringent and disinfectant properties. The bristles so formed help to remove plaque easily. This twig is usually selected without any nodes and from a fresh, well grown tree. In cases where people suffer from ailments like ulcer of the mouths, the use of twigs are restricted and instead of the herbal twigs, the use of appropriate herbal powder is advised.

Our body becomes a repository of diseases when not involved in proper physical exercise. As a part of Nāḷ Ozukkam (daily regimen), Siddhars have mentioned the importance of practicing Yōkam which includes Ācaṇam (postures), Pirāṇāyāmam (breathing techniques), Tiyāṇam (meditation techniques), etc. These practices are aimed at strengthening the body and rendering peace of mind resulting in health and harmony. Early morning is the best time to perform Yōkam as it helps to face the day with great energy and enthusiasm. To refresh oneself after a day's activities, physical exercises can be done in the evening in a well-ventilated area before food or 2-3 hours after food.

Yōkam techniques and physical exercises practiced under proper guidance along with appropriate diet habits facilitate proper functioning of internal organs which lead to longevity.

Physical exercise is followed by bath for cleaning oneself of the sweat and dirt. A bath before sunrise is considered good for health. Oil bath is recommended once in four days to give strength to the motor and sensory organs. The method prescribed is the application of gingelly oil/ clarified Cow's butter/ certain medicated oil all over the body and scalp usually followed by use of an herbal bath powder (Pañcakarpam) for removal of oil. This practice is believed to protect the body against illnesses of all seasons. Procedure for taking oil bath with reference to seasons and diet restrictions have been clearly mentioned in ancient Siddha literature.

Season-wise specific dress code for men and women has been given due importance in day-to-day life. Influence of planets on humans, their relation to ornamental gems and their usefulness to treat diseases have been mentioned in Siddha literature.



Sleep is nature's way of providing rest to our body. Proper sleep is required after a day's work and it is therefore best to sleep by the end of a day. Sleep helps our body to carry out repair activities. The quantity and quality of sleep equally influences one's good health. A person deprived of sleep develops varied disorders. Siddhars have mentioned certain procedures to be followed with regard to sleep. Sleep during day time must be avoided in order to have adequate sleep during night and the day sleep will increase the Vātam.

Good psychological traits

As a part of daily chores (Nāḷ Ozukkam), good psychic traits such as calmness, sincerity, charity, humanity, humility, honesty, politeness, justice, love and care for others are also encouraged since they result in purity and calmness of mind and will enhance our chances of success in achieving eternal bliss.

Season (Pozutu)

Seasons (Perumpozutu) are six. Every year is divided into six seasons of 2 months each. Each day is divided into six periods of 4 hours each (Cirupozutu). The effect of season on the incidence as well as the nature of the diseases has been clearly indicated and the seasonal conduct has been advised to prevent diseases. The reference about the vitiated vital life factors in every season has also been given. It has been mentioned that in circadian rhythm a particular organ of our body is influenced at a particular time of the day.

Concepts regarding Habitat and Season

Siddha science, which visualizes human as a Microcosm, believes that planetary changes and natural rhythms that occur in six seasons of a year (Perumpozutu) and six periods of a day (Cirupozutu) produce corresponding physiological changes in living beings of the Macrocosm, viz., the Universe. The geographical regions are classified as hilly mountains, forest, agrarian, coastal and desert regions. Disease pattern is also based on this geoclimatic zones. Siddha system recommends specific life style and food habits for each geoclimatic zones based on the natural resources available in that region.

Seasonal Regimen (Kāla Ozukkam)

There are guidelines related to modifications in diet, lifestyle, etc. to be followed with respect to a particular season.

3.3 Preventive Measures

Tēraiyyar, one of the Siddhars, has recommended preventive measures for promotion of health, which include observation of certain regimen as mentioned in 'Piṇṇiyaṇukā viti' (Preventive measures), i.e. guidelines that help to prevent diseases. The concepts pertaining to habitat, seasons and diet (Tiṇṇai/Nilam, Nāḷ Ozukkam, Kāla Ozukkam, Uṇavu) are both preventive and curative. Some of them are as follows:



To be followed

1. Drink warm water after boiling.
2. Take food twice a day.
3. Take diluted buttermilk and melted clarified butter oil.
4. Take sufficient quantity of Cow's milk.
5. Always have food to the level of hunger.
6. Always consume well-fermented curd.
7. Practice short walking after food.
8. Have therapeutic emesis once in six months.
9. Have therapeutic purgation once in four months.
10. Instill nasal drops once in 45 days.
11. Take oil bath (applying oil all over the body and scalp and taking bath) once in every four days.
12. Use warm water while taking oil bath.
13. Apply collyrium (medicated eye-liner) once in three days.
14. Lie in the left lateral position while sleeping.
15. Stay away from water splashing from hairs and nails.
16. Worship God, ancestors and teachers (Kuru).

To be avoided

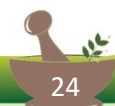
1. Avoid eating root tubers except yam – *Typhonium trilobatum* (L.) Schott. (Piṭṭikaruṇaiḱ kizāṅku).
2. Never consume food that was prepared the previous day i.e. stale food.
3. Don't drink water during the course of a meal.
4. Never suppress any of the 14 natural urges -- urination, defaecation, etc.
5. Avoid sleep during day time.
6. Avoid excessive sexual indulgence.
7. Avoid sex after consumption of heavy food.
8. Never smell fragrant flowers during midnight.
9. Never lie close to articles emitting dust.
10. Never sleep under a tree or near a burning lamp in the night.

The above instructions when followed judiciously promote longevity.

3.4 Rejuvenation Therapy (Kāyakaṛpam)

Kāyakaṛpam means rejuvenation of the body or preventing/postponing greying of hair, wrinkling of skin, onset of diseases, ageing and thereby increasing longevity. It ensures sharp intellect and acuity of the sense organs. It is of two types i.e. Kaṛpāvīṭṭam (medicines useful for rejuvenation) and Kaṛpayōkam (practice of yogic techniques for rejuvenation).

As per Siddha materia medica, Kaṛpāvīṭṭam formulations include herbs, minerals and products or substances of animal kingdom and it is further broadly classified into two types --General elixir (Potukkaṛpam -- preventive) and Special elixir (Ciṛappukkaṛpam -- curative).





General Elixir (Potukkarpam)

This is meant for maintaining optimum health, beauty and longevity. It prevents morbidity and increases the immunity. e.g. *Zingiber officinale* Rosc. (Ginger), *Piper nigrum* L. (Pepper), *Azadirachta indica* A. Juss. (Neem), etc.

Special Elixir (Cīrappukarpam)

It is taken during specific conditions such as anaemia, immuno-deficiencies and liver disorders. Some of the examples of special elixir are *Phyllanthus amarus* Schum. & Thonn (Indian Phyllanthus) for liver disorders, *Phyllanthus emblica* L. (Indian gooseberry) for immuno-deficiency, Aya Campīrakarpam for anaemia.

3.5 Geriatric Care (Mūppukālap Parāmarippu) (Care of the elders)

Longevity and ageing with elegance is an important specialty of Siddha system. Siddha medicine plays a major role in maintaining the health of the elderly. Significant morbidity conditions among elderly are degenerative arthritis, senile dementia, psychiatric disorders, metabolic diseases like diabetes mellitus, hypertension, musculoskeletal disorders, altered bowel habits, incontinence and diminished perceptions. Lifestyle modifications are easily adaptable and they can be combined with drugs for healthy living. These conditions are effectively managed by Siddha interventions, which include drug supplementation and other procedures. Siddha intervention activates physiological processes that influence metabolic and immunological status in the context of geriatric care. Moreover, it offers cost effective palliative care for patients.

The therapy in any medical system is mainly two-fold -- preventive and curative. In Siddha, in addition, a unique class of Kāyākarpam therapy emphasises promotive and rejuvenative health approaches. Kāyākarpam enhances the life span, delays ageing and improves intelligence and memory. It also reverses the disease process and prevents re-occurrence. This therapy enhances the qualities of physical constituents, enrich them with nutrients and help one attain longevity. In this science of longevity, about one hundred and eight herbal and herbo-mineral medicines are recommended both for healthy living of normal individuals and for the restoration of health in diseased conditions. Many of these herbs thus listed have scientifically proven anti-ageing properties.

The major problems confronted by the elderly are senile dementia, degenerative arthritis, slowing down of reflexes, altered bowel habits, incontinence and diminished perceptions.

3.6 Mother and Child Healthcare

Maternal and child healthcare are inseparable. Siddha medicine emphasises the care even from the adolescent phase of a girl to have a quality reproductive phase. During the adolescent period whole grain, black gram, traditional rice varieties are specifically mentioned for women's health e.g. Nīlam Campā, moong dal porridges, sesame seed recipes and seasonal fruits need to be added to their regular food plan to strengthen the reproductive system. Customized Siddha dietary schedule is recommended based on the body constitution, season and place of living.



Siddhars like Akattiyar, Tēraiṇar, Yūki muṇivar, Piramma muṇivar and Tirumūlar have significantly contributed to women and child health care in Siddha system. Several Siddha literatures like 'Akattiyar 2000', 'Akattiyar Kuṇavākaṭam', 'Yūki Vaitṭiyac cintāmaṇi' and 'Pararāca cēcakaram' describe the aetiology, pathology, signs and symptoms and management of various gynaecological disorders.

Maintenance of good health during pregnancy

Sage Akattiyar in his 'Akattiyar Piṇṭōṟpatti' has distinctly mentioned about the probable pathological signs and symptoms, which manifest during gestation and also has explained specific therapeutic formulations.

Another text 'Pararāca cēcakaram' emphasises a specified month wise regimen of Siddha formulations to maintain the healthy state of pregnant women, prevent miscarriages and to ensure healthy intrauterine growth of the foetus.

In 'Tēraiṇar Tailavarkka Curukkam', Cittar Tēraiṇar recommends the administration of 'Pāvaṇa Pañcārṅkulat Tailam', an oil based Siddha formulation, to relieve constipation during pregnancy and to ensure easy delivery.

Antenatal care in Siddha

The antenatal care in Siddha is from the first month of gestation and lasts till delivery. In the first trimester, pomegranate fruit juice based syrups are advised to overcome the symptoms like vomiting (morning sickness), loss of appetite, tiredness and anaemia.

From the third month onwards, specific procedures, diet and supplements are prescribed for the expecting mother. This ensures better maternal and foetal health. Since anaemia is a common problem Siddha herbo-mineral haematinics are recommended.

External application of medicated oil over the abdomen in general and oil application over the perineum from the 3rd trimester is suggested. Vaginal pack is prescribed during the last month of pregnancy to ensure normal delivery. This prevents the need for caesarean section.

Practising Yōkam including Pirāṇāyāmam (breathing techniques) minimizes the untoward effects of current day lifestyle, brings down stress, prevents perineal tear and ensures easy delivery.

Postpartum Care

The normal puerperium of the mother is taken into account by gradual introduction of normal food and beverages to the mother along with certain Siddha medicines like Caupākkiya Cuṇṭi Lēkiyam and the care of the new-born is achieved through introduction of medicines like Cēy Ney and Urai Māttirai.

Child care

The texts like Ātma Iraṭcāmirtam and Jīva Iraṭcāmirtam deal mainly with the diseases of the children and their management. Siddhars have classified paediatric diseases occurred during intra uterine period and neo natal period. They have mentioned detailed remedial measures also.



Urai Māttirai, a Siddha formulation is an effective immune-booster for children. Special therapies i.e. Varmam, Tokkaṇam and Yōkam are useful in the treatment of neurological diseases like infantile hemiplegia (Pāla vātam), cerebral palsy (Ciratampa vātam) and muscular diseases like muscular dystrophy (Tacai Vātam) etc.

3.7 Yōkam

The term Yōkam means Union. Siddhars have defined Yōkam as an art having eight stages which is one of the Kāya Kaṇṇam methods that preserve physical and mental health. Tirumūlar's Tirumantiram deals elaborately with Aṭṭāṇkayōkam i.e. the eight steps or limbs of Yōkam.

The eight steps or stages of Yōkam are serially presented in a verse of Tirumantiram:

‘Iyama Niyamamē Eṇṇilā Ātaṇam
Nayamuru Pirāṇāyāmam Pirattiyākāram
Cayamiku Tāraṇai Tiyāṇam Camāti
Ayamiku Aṭṭāṇka Māvatu Māmē’

(1) Iyamam: It is an internal practice of cleansing or purifying the mind.

(2) Niyamam: ‘Niyamam’ means ‘Purity of action’. Observing purity or truthfulness in one's day to day activities is Niyamam.

(3) Ācaṇam: This is the third step or stage of Yōkam. ‘Ācaṇam’ is also called as ‘Ātaṇam’ by Siddhars. Ācaṇam means posture or pose that is, the position of our body with reference to the space. Ācaṇam strengthens not only the external body structures and voluntary muscles but also the internal organs (especially heart, lungs, stomach, liver, spleen, kidneys, uterus) and stimulate and regulate their functions. They ensure proper glandular secretions, regulate digestion of food, excretion of waste materials, maintain proper circulation, ventilation and body temperature. They regulate the functions of endocrine glands which prevail over one's lifetime.

(4) Pirāṇāyāmam: It comes fourth, next to Ācaṇam, in Aṭṭāṇkayōkam. The perfect and scientific art of controlling one's breathing is called Pirāṇāyāmam. It is also called ‘Vāci’ and ‘Vāci Yōkam’. Pirāṇāyāmam is one of the rejuvenation techniques, which prolong one's lifetime. Tirumūlar says, Pirāṇāyāmam is preventing Emaṇ (The God of death) from approaching the one who practises it.

(5) Pirattiyākāram: The practice of controlling or withdrawing of senses is known as Pirattiyākāram.

(6) Tāraṇai: It is the method or practice of concentration or fixation of the mind. The practice of Tāraṇai, a technique for concentrating the mind, is a prerequisite for Tiyāṇam (Meditation), the next step of Yōkam.

(7) Tiyāṇam: It is the art of gaining complete control over (mastering) the mind. Tiyāṇam can also be defined as cessation of all thoughts.





(8) **Camāti** is the last step of Yōkam. Camam + Āti = Camāti which means attaining the state equal to God, which may be called thoughtless self-meditation. It is the desireless state of Ātmā (soul) residing within the body along with senses and sense organs but remaining separated from it; it is a supreme state of forgetting oneself and one's surroundings; it is a state fully free from consciousness and feeling.

Rāca Yōkam: Siddhars have also explained about Rāca Yōkam which means raising the Kuṇṭaliṇi (serpent power) from Mūlātāram to Ākṇai and attaining eternal bliss.





4. DRUGS

The classical text Tirumantiram defines medicine is the one that cures physical and mental ailments, prevents diseases and the one that ensures longevity. Source materials for the preparation of Siddha drugs are obtained from plants, minerals and products of animal origin. 'Akattiyar Kuṇavākaṭam' and 'Paṭārtta Kuṇacintāmaṇi' are the important Siddha texts dealing with the properties of the crude drugs used in single and compound formulations.

The compound drugs consist of polyherbal, herbomineral and mineral preparations. Siddhars were the pioneers in using minerals as therapeutic agents. In search of medicines that could prevent the body from perishing, Siddhars were naturally attracted by the materials which themselves will not perish. They evolved the drugs that would postpone the decay of the body and chose minerals and developed inorganic compounds, called Paṇṇam (Calx), Centūram (Calcined red oxide) etc., which were minute particles facilitating easy absorption and assimilation of the drug.

4.1 Principles of Drug Action

Pharmacodynamics of Siddha drugs are based on the concepts of taste (Cuvai), property of a drug (Kuṇam), potency (Vīriyam), post-digestive transformation (Pirivu) and specific pharmacological action (Makimai). Adjuvant (Tuṇai Maruntu), vehicle (Aṇupāṇam) and dietary regimen (Pattiyam) also play a role in Pharmacodynamics. Many drugs are prescribed for various ailments based on the clinical manifestation, body constitution and age. The same drug / formulation, by merely changing the vehicle, can possibly change the signalling pathways of medicine and probably target different receptors resulting in different therapeutic effects.

Taste (Cuvai): In Siddha system, each substance is classified according to its taste. Every individual taste is constituted by two active primordial elements and the tastes hold their own therapeutic properties. There are six primary tastes mentioned, whereas the western science classifies taste into four types, namely sweet, sour, salt and bitter tastes but Siddha science classifies taste into six types with the addition of pungent and astringent tastes.

The following table illustrates the relationship between the six tastes and the five elements.

Elements	Taste
Earth + Water	Sweet (Inippu)
Earth + Fire	Sour (Puḷippu)
Fire + Water	Salty (Uppu)
Air + Space	Bitter (Kaippu)
Air + Fire	Pungent (Kārppu)
Air + Earth	Astringent (Tuvarppu)



Property of a Drug (Kuṇam): Kuṇam means property of a drug. Vāyu possesses the properties such as spreading, dryness, mobility and subtleness. Warmth, subtleness, fluidity, swiftness and mobility are the properties of drugs having the element Fire in them. Coldness, solidity, tenacity and viscosity are the properties of drugs having the Water element.

Potency (Vīriyam): It is the classification of the drugs as Veppam (Hot) and Taṭṭam (Cold) based on the presence of Fire or Water element in them.

Post-digestive Transformation (Pirivu): It is a concept explaining the disintegration / assimilation of six tastes in the digestive tract into three primary tastes namely Sweet, Sour and Pungent tastes. Mostly Sweet and Salt becomes Sweet, Sour remains Sour, Bitter, Pungent and Astringent becomes Pungent.

Specific pharmacological action (Makimai): It is a specific inexplicable action (of a drug/food material), different from the four properties (Cuvai, Kuṇam, Vīriyam and Pirivu) mentioned earlier.

4.2 Pharmacology (Kuṇapāṭam)

Siddha pharmacology (Kuṇapāṭam) deals with the detailed study of Siddha drugs. Siddha pharmacology is based on the concept of five basic elements or Pañcapūtam and taste (Cuvai) of the drug. Innumerable varieties of medicinal plants, minerals and animal products have been mentioned in Siddha literature. This branch of Siddha medicine describes about raw drugs (Mūlapporuṭṭai), purification of raw drugs (Cutti) and methods of preparation of medicines (Maruntukaliṇ Ceymuṭṭai). Based on their origin, raw drugs are categorized as materials of medicinal plant (Mūlikai Vakuppu), mineral (Tātu Vakuppu) and animal origin (Cīva Vakuppu).

4.2.1 Drugs of Herbal Origin

Among the 6000 species of medicinal plants documented and published in medical and ethno-botanical literatures in India, 750 species are commonly used in Siddha. Raw drugs obtained from plant kingdom are used not only in herbal preparations but also in Siddha preparations involving minerals and substances of animal origin.

4.2.2 Drugs of Mineral Origin

Siddha literatures describe 220 minerals. They are studied under the following four headings: Metals (Uṭṭam - 11), Salts (Kāracāram - 25), Mercury and Arsenic compounds (Pāṭāṇam - 64) and other minerals (Uparacam - 120).

4.2.3 Drugs of Animal Origin

Raw drugs obtained from animal kingdom are also used in medicinal preparations in Siddha. e.g. Coral, Conch, Horn of deer, Musk, Honey, etc.

4.2.4 Purification Process (Cutti)

Raw drugs of animal, mineral and herbal origin are subjected to purification before they are added in the preparation of medicines. Purification helps in detoxification and enhancing the bio-availability.





4.2.5 Pharmaceutical (Dosage) Forms

All pharmaceutical forms of drugs and therapeutic procedures are broadly classified into 64 categories --- internal medicines - 32 and external medications and treatment procedures-32.

a. Internal Medicines: In Siddha system, internal medicines are categorized according to dosage form and shelf life. The drugs which contain moisture like heat treated juice, juice, decoction etc. have shorter shelf life whereas drugs which have no moisture like Kaṭṭu, Kaḷaṅku, Urukku, Cattu etc., have longer shelf life.

Sl. No.	Types of Internal Medicines (Ul Marunthukal)	Description
1.	Heat treated Juice (Curacam)	Medicinal juice processed by introducing a hot iron rod into it.
2.	Juice (Cāru)	Juice prepared by pressing / squeezing the medicinal plants/raw materials (fresh)
3.	Decoction (Kuṭinīr)	A medicine prepared by adding water to the raw drugs (dried or fresh ones) and boiling it till the water content is reduced to 1/16 th 1/8 th , 1/4 th or so as indicated in the process.
4.	Herbal paste (Kaṛkam)	Paste obtained by grinding wet drug or adding water or decoction to the dry powders.
5.	Pudding (Uṭkal)	This is so named as the inner contents are wet and paste-like while the outer surface is dry. This is prepared by using raw or boiled rice, fried and pounded to a flour form or by grinding black gram into a paste or by powdering seeds and adding water sufficient to make a paste and with this, sugar or jaggery is added and heated on a fire keeping the paste in a mud pot until it is cooked into a gruel form. Some ghee is added and the gruel should not be sticky
6.	Pan cake (Aṭai)	Some leaves are added to rice flour and ground properly if needed, by adding water (small quantity) and baked in hot oven after adding ghee
7.	Powder (Cūraṇam)	The dried raw drugs are purified separately, pounded separately, sieved and mixed according to the prescribed ratio, with or without adding jaggery or sugar.
8.	Steamed medicinal powder (Piṭṭu)	A preparation processed by steaming moistened medicinal powder
9.	Lozenge / troche (Vaṭakam)	The raw drugs are made into fine powder individually, filtered through a cloth and mixed to homogeneity. Palm sugar or jaggery is then added. An earthen pot is taken and equal volume of cow's milk and water are poured into the



		pot. The mouth of the pot is covered with cloth. The drugs mixed as said above, are placed on it and covered with a mud pan. The pot is then heated until the milk is completely evaporated. Then the Pittu so formed is ground and rolled into small pills.
10.	Medicated butter (Venṇey)	The powdered raw drugs are taken together and mixed with twice its volume of butter in an iron spoon and heated so that the raw drugs melt completely and mix with the butter. This is poured into an earthen pot containing water and churned properly to obtain butter like substance.
11.	Syrup (Maṇappāku)	Some herbal drugs like flowers, fruits, etc. are separately made into decoction --- or fruit juices are taken separately-- - then boiled by adding sugar or jaggery till a sweet aromatic odour comes and then powdered raw materials are sprinkled over it.
12.	Medicated ghee (Ney)	It is ghee based herbal preparation prepared by boiling a mixture of ghee with specified medicinal pastes, juices, decoctions and milk, according to the composition of the recipes.
13.	Dry Confection (Irācayanam)	A type of medicine in semi-solid form which is prepared by adding sugar and ghee to a Cūraṇam prepared from certain raw drugs.
14.	Electuary (Ilakam/Lēkiyam)	A medicine that is prepared by heating certain decoctions, juices and milk with the addition of sugar till a thick syrupy consistency is reached. At that stage, the specific drug powders are added and mixed to homogeneity after which ghee is mixed, and the mixture is cooled and then honey is added and preserved.
15.	Medicated oil (Eṇṇey/Thailam)	Oily medications prepared by boiling decoctions, juices, milk and pastes of other raw materials with oil.
16.	Pills/Tablet (Māththirai)	The raw drugs are triturated with the juices of leaves or decoction (Kuṭṭinīr). They are rolled into different sizes of pills, dried and stored.
17.	Sediments (Kaṭuku)	The raw drugs are added to oil and boiled till mustard like granules or sediments form. The Kaṭuku is taken internally and the oil is used externally.
18.	Processed medicines (Pakkuvam)	The drug to be processed is soaked in raw rice water or water. Subsequently it is soaked either in butter milk, lime juice, ginger juice or some other leaf juices and it is preserved for medical use.
19.	Honey infused drug (Thēṇūṛai)	Ginger, Indian gooseberry or gall nut are first soaked in water and made into small pieces. The pieces are subsequently soaked in honey or jaggery syrup.



20.	Distilled extracts (Thīnīr)	This is the process in which the drugs are boiled with water in a special distillation pot. The vapour of the medicated water is cooled and collected.
21.	Medicinal wax (Mezuku)	They are of two kinds: i) Araippu Mezuku -- Obtained by grinding certain mercurial compounds separately or with other raw drugs by adding juices or honey into a semisolid form. ii) Curukku Mezuku: Certain mercurial drugs or poisonous substances are slowly heated adding oil substances or juices and made into a semi-solid form and ground well.
22.	Medicated semisolid mixture (Kuzampu)	To a mixture of some juices or a single juice taken in a vessel, fine powder of raw drugs are added, heated and taken in a liquid form. Some drugs are ground well with oily substances to semisolid form.
23.	Sublimates (Pataṅkam)	Pataṅkam is a sublimate prepared from inorganic substances by using a special sublimation apparatus (Pataṅkak Karuvi).
24.	Calcined red oxides / sulphides (Centūram)	Metallic substances or salts or toxic salts are made into red coloured powders, by the process of either burning them or drying them or exposing them to the sunlight or keeping them in specialized tubes by adding decoctions, Ceyanīr, Tirāvakam, etc.
25.	Calcined oxide/Calx (Paṛpam/Nīru)	Calx (Paṛpam) is an atomized mineral oxide preparation. Siddhars were the pioneers in using minerals as therapeutic agents. In the search for medicines that could prevent the body from perishing, Siddhars were naturally attracted to materials which themselves do not perish. They evolved the drugs that would postpone the decay of the body and chose minerals and developed inorganic compounds which were nanoparticles facilitating easy absorption and assimilation of drug.
26.	Consolidation (Kaṭṭu) (Non-volatile form of volatile inorganic substances / materials)	Kaṭṭu literally means 'that which is bound' and Kaṭṭu in its appropriate sense means consolidation. It is a process where the mercurial and the arsenic compounds, which are volatile, are converted into non-volatile form. In other words, it is the art of consolidating the substances, which readily pass off into vapour in fire.
27.	Solidification (Urukku)	Certain metals and toxic minerals along with their incompatible materials are placed in crucibles and sealed properly. The crucible is subjected to intense heat using blowers utilising natural coal obtained from wood. The drugs in the crucible is melted by this process and collected after allowing it to cool.



28.	Amalgam (Kaḷaṅku)	These are medicaments of metals and easily volatile substances such as mercury, mercurial compounds and arsenic compounds. In this recipe, mercury or mercurial components should be present while processing. In this process, the metals become finely brittle. The metals and other ingredients are melted in a pan with moderate fire. The easily volatile substances are separately melted very cautiously taking care not to volatilize them. While they are still hot or in a molten state, plant juices or distillates (Ceyanīr or Pukainīr / Tīrāvakaṁ), as specified in the formulation, are added in small increments periodically to get them absorbed completely.
29.	Calcinated caustic compounds (Cuṇṇam)	Cuṇṇam is prepared by heating or calcining a metal / mineral / animal product to convert it into a calx as per the procedure mentioned in the formulation. They possess alkaline properties similar to that of limestone. When treated with a pinch of turmeric powder Cuṇṇam turns red.
30.	Rejuvenating / Elixir drugs (Kaṛpam)	This is a process in which leaves, herbs, roots, salts and minerals are consumed in a specific dose for a given period, along with the dietary regimen prescribed for it. They could be prepared daily or already prepared medicines could be used.
31.	Quintessence (Cattu)	Drugs like iron powder, magnetite, organic salts, poisonous drugs are ground well with egg white and kept in a crucible (Mūcai) and blown; the above process is repeated three times. Then mercury, gold and sulphur are added to it and it is made into Centūram by burning process.
32.	Master pill (Kuru Kuḷikai)	The sublime mercury is made into beads in its amalgam form. Mercury could be called as the sheet anchor of Siddha therapeutics. These mercurial pills possess marvellous properties of transmuting metals and rejuvenating the entire human system.

It is pertinent to mention here that among the previously mentioned 32 internal medicines there are few special therapeutic forms, which are exclusive to Siddha system of medicine. They are listed below:

- Sublimates (Pataṅkam)
- Consolidation (Kaṭṭu)
- Solidification (Urukku)
- Amalgamation (Kaḷaṅku)
- Calcinated caustic compounds (Cuṇṇam)
- Quintessence (Cattu)
- Master Pill (Kuru Kuḷikai)

b. External Medications and Treatment procedures are explained in chapter 5



Muppu – Unique Preparation / Drug

Apart from the previously mentioned 32 internal medicines, there is a unique entity in Siddha called 'Muppu', which literally means a combination of three salts. It is also known as 'The Crown of Siddhars'. The basic material used is alkaline Earth (Pūnīru) which is collected in specific regions during midnight on a full moon day in April (Cittirai).

Types of Muppu:

- i. Transmuting simple metals into higher metal is called Vāta Muppu
- ii. Potentiating the action of drugs and enabling easy completion of certain complicated processes is called Vaittiya Muppu
- iii. Regulating the internal secretions of the body by the practice of Yōkam is called Yōka Muppu
- iv. Obtaining divine knowledge and spiritual wisdom to attain salvation is called Nāṇa Muppu

4.3 Siddha Drug Manufacturing

Siddha drugs are manufactured under drug manufacturing licence issued by the state licensing authority of the state where the drug-manufacturing unit is established and is regulated by the Drugs and Cosmetics Act 1940.

Drugs manufactured by Siddha pharmaceutical industry are of two types:

Drugs prepared as per the formulations of Siddha classic books mentioned in Drugs and Cosmetics Act 1940 are called classical drugs.

New combinations evolved by researchers from the Siddha books mentioned in the Drugs and Cosmetics Act 1940 subjecting them to safety and efficacy studies and complying with quality standards are called proprietary or patent medicines.

A cultivation programme for medicinal plants is implemented to ensure optimal yield in terms of both quality and quantity of any medicinal plant by observing the guidelines for Good Agricultural Practices (GAP). These guidelines set standards for production of raw materials that go into the making of the ASU medicines. It also ensures standardization of the production processes from field to factory. To ensure cultivation and supply of quality plant materials for ASU (Ayurveda, Siddha and Unani) drug industry, National Medicinal Plants Board has been established. The NMPB ensures conservation of medicinal plants, gene pool and promoting cultivation of species of high trade value and establishment of medicinal plants processing zones. It is also helpful for promoting and strengthening of regulatory mechanism for ensuring quality control, research and development (R&D) and processing technology involving accredited laboratories in the government and non-government sectors.

4.4 Drug Regulation

Licence to manufacture Siddha, Ayurveda and Unani medicines is issued by the appropriate Drug licensing authority for Indian systems of medicine in all states and union territories of India.





Ayurveda Siddha Unani Drug Technical Advisory Board

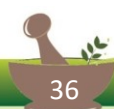
ASUDTAB is a statutory body under the Drugs and Cosmetics Act 1940 constituted by Ministry of Health and Family Welfare, Government of India to provide technical advice in the matters of Ayurveda, Siddha and Unani drugs. This body also includes independent subject experts and representatives of stakeholders. ASUDTAB assures uniformity of drug regulations pertaining to ASU administration. Framing of any new rules under the Drugs and Cosmetics Act 1940 is based on the advice of ASUDTAB.

Pharmacovigilance

Pharmacovigilance is also known as drug safety. It is a pharmacological science relating to collection, detection, assessment, monitoring and prevention of adverse effects with pharmaceutical products. Pharmacovigilance is carried out in ASU systems to reassure and to make known to the world both the claims – the drugs are always safe or drugs are not safe at all. The drugs are classified as toxic, semi-toxic or to be used with precaution etc. Nañcu Maruttuvam (Siddha toxicology) clearly explains the possible Adverse Drug Reactions (ADRs) of Siddha drugs or toxicities and their management in detail. However, it is the need of the hour to prove that the drugs of these systems are safe, based upon a comprehensive safety data.

Ministry of AYUSH has introduced new Central Sector Scheme for promoting pharmacovigilance of Ayurveda, Siddha, Unani and Homoeopathy (ASU&H) Drugs. Prime objective of the scheme is to develop the culture of documenting adverse effects and undertake safety monitoring of ASU&H drugs and surveillance of misleading advertisements appearing in the print and electronic media. The scheme was rolled out for implementation in the country during the year 2017-18. The scheme intends to facilitate the establishment of three-tier network of National Pharmacovigilance Centre (NPvCC), Intermediary Pharmacovigilance Centres (IPvCCs) and Peripheral Pharmacovigilance Centres (PPvCC). All India Institute of Ayurveda, New Delhi, an autonomous body under the Ministry of AYUSH, has been designated as National Pharmacovigilance Centre for coordinating various activities of the initiative.

National Institute of Siddha, Chennai is designated as the Intermediary Pharmacovigilance Centre for Siddha Medicine under which more than 10 centres were identified as Peripheral Pharmacovigilance Centres for Siddha Medicine to take up the work of reporting, documentation, analysis, and causality assessment of the adverse reactions and events associated with the consumption of Siddha drugs. Siddha Central Research Institute, Chennai, Siddha Regional Research Institute, Puducherry, Siddha Regional Research Institute, Thiruvananthapuram and Siddha Clinical Research Unit, New Delhi are identified as Peripheral Pharmacovigilance Centres (PPvCC). Pharmacovigilance initiative will facilitate detection of potentially unsafe ASU&H medicines and misleading advertisements for taking regulatory action against them.





Standardization and Quality Control

To ensure the quality of Siddha Medicines, Government of India is very keen on implementing standardization and quality control procedures. In line with global thinking to ensure the quality of herbal drugs and traditional medicines, Government of India has issued regulation for Siddha sector. Good Manufacturing Practice under Schedule 'T' of the Drugs and Cosmetics Act 1940 has been notified by Government of India to ensure and enhance the quality of ASU medicines. It also ensures that raw materials used in the manufacturing of drugs are authentic, of prescribed quality and are free from contamination.

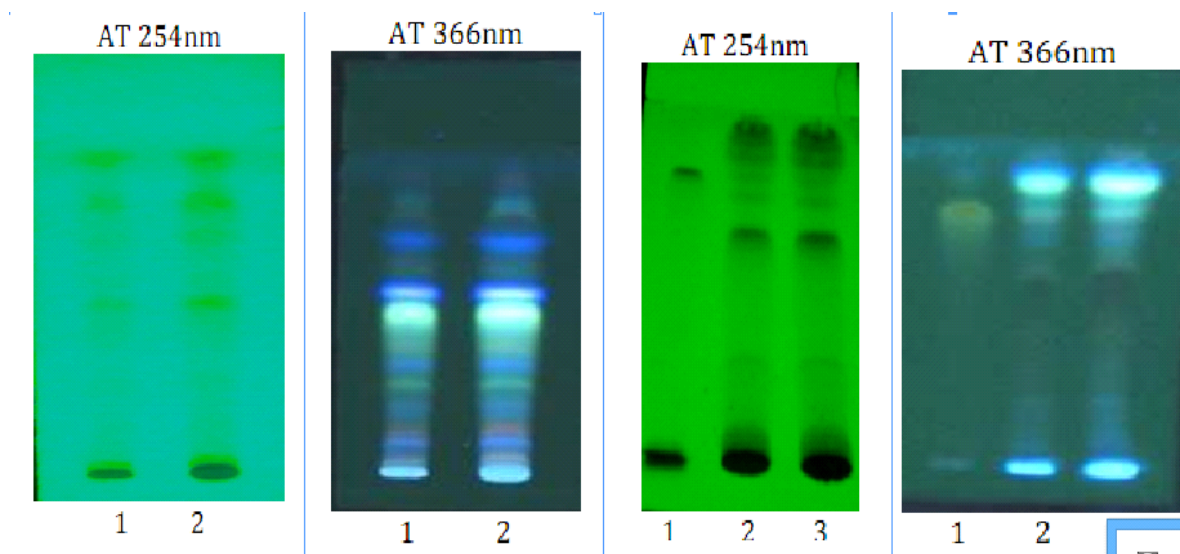


Figure 1 HPTLC Finger printing for Iracakanti Mezuku

Iracakanti Mezuku (RGM) is one of the well investigated Siddha drug extensively used in clinical practice. The above pictures provide a view on the standardization techniques adopted and reproducibility of the findings.

Pharmacopoeia Commission for Indian Medicine and Homoeopathy

Pharmacopoeia Commission for Indian Medicine and Homoeopathy (PCIMH) was established by Government of India, as an Autonomous Body with main objectives of publication and revision of the Ayurveda, Siddha, Unani and Homoeopathy pharmacopoeia of India at suitable intervals and releasing them for public use.

The PCIMH plays an important role in developing standards and quality specifications for identity, purity and strength of raw materials and compound formulations and also in developing standard operative procedures (SOPs) for the processes of manufacture included in the Ayurveda, Siddha, Unani and Homoeopathy Pharmacopoeias and Formularies. Twenty Siddha compound formulations are being analyzed through projects funded by PCIMH.



Siddha Pharmacopoeia Committee

Siddha Pharmacopoeia Committee set up by Government of India was functioning independently from 1975 and Siddha Pharmacopoeia of India, Part-1, Volume-1 with 73 single drug monographs and Volume-2 with 66 single drug monographs were published. The monographs give details of macroscopic description of the drug, microscopic tissue structures, limits of identity, purity and strength with respect to tolerance of foreign matter, contents of total ash, acid insoluble ash, water and alcohol soluble extractive etc.

The first part of the Siddha Formulary of India with 248 compound formulations and the second part with 151 compound formulations have been published.

Siddha Pharmacopoeia Committee functions under the scientific body of PCIMH and the functions of Siddha Pharmacopoeia Committee are:

- To prepare official Formuleries and Pharmacopoeias of single drugs and compound formulations
- To provide standards for drugs and medicines of therapeutic use for pharmaceutical industries
- To lay down tests for identity, quality and purity
- To ensure as far as possible uniformity in physical properties and active constituents
- To provide all the scientific information regarding the distinguishing characteristics, methods of preparation, dosage, mode of administration with various Anupāṇam or vehicle / adjuvant and the toxicity of the drugs
- To develop testing methods for various formulations

4.5 Processing of Metals and Minerals

Siddhars have used minerals mostly in chronic conditions and as life saving agents. They have described the possible adverse effects in a drug preparation when the Standard Operating Procedure (SOP) is not followed. A proper purification process (Cutti) and strict adherence to the SOP laid down by Siddhars in preparing the medicine, correct dosage, adjuvant and duration of administration will ensure safety of Siddha formulations. Thus, perfectly processed drugs can be safely used as therapeutic agents.



4.6 Important Medicinal Plants of Siddha



Figure 2
Solanum trilobatum L.
(Tūtuvēlai)

Uses: Cough, Bronchitis, Asthma



Figure 3
Evolvulus alsinoides L.
(Viṣṇukiranti)

Uses: Fever, Indigestion in children



Figure 4
Cardiospermum halicacabum L.
(Muṭakkaruttāṇ)
Uses: Constipation, Dysentery,
Infertility, Arthritis



Figure 5
Indigofera aspalathoides DC.
(Civaṇārvēmpu)
Uses: Leprosy, Eczema, Cancer, Fistula



Figure 6

Cissus quadrangularis L.
(Piraṇṭai)

Uses: Peptic ulcer, Haemorrhoids,
Ascites, Stomach ache, Indigestion,
Anorexia



Figure 7

Mukia maderaspatana (L.) M. Roem
(Mucumucukkai)

Uses: Cough, Asthma, Anorexia,
Indigestion, Vomiting, Anaemia



Figure 8

Indigofera tinctoria L.
(Avuri)

Uses: Infantile eczema, Hair growth,
Fistula, Inguinal bubo



Figure 9

Oldenlandia umbellata L.
(Impūrai)

Uses: Hemoptysis, Hematemesis,
Malena, Bleeding disorders, Cough



Figure 10
Sphagneticola calendulacea (L.) Pruski
 (Mañcaḷ Karicālai)
 Uses: Diarrhoea, Haemorrhoids,
 Halitosis, Venereal diseases



Figure 11
Spermacoce hispida L.
 (Nattaiccūri)
 Uses: Fever, Cough, Obesity,
 Hyperlipidaemia



Figure 12
Andrographis paniculata (Burm. f.) Nees
 (Nilavēmpu)
 Uses: Fever



Figure 13
Solanum surattense Burm. f.
 (Kaṇṭaṅkattiri)
 Uses: Chronic obstructive pulmonary
 disease, Vitiligo, Whooping cough,
 Constipation, Worm infestation



Figure 14
Ocimum tenuiflorum L.
(Tulaci)

Uses: Fever, Cough, Diseases due to deranged *vai* humour, Constipation in children



Figure 15
Coccinia grandis (L.) Voigt
(Kōvai)

Uses: Diabetes mellitus, Fever, Anaemia, Ascites, Indigestion, Wound, Fungal infection, Scrofula



Figure 16
Senna alata (L.) Roxb.
(Cīmai Akatti)

Uses: Fungal infections, Skin diseases



Figure 17
Cyphostemma setosum (Roxb.) Alston
(Pulīnaraḷai)

Uses: Eczema, Chronic ulcer



Figure 18

Corallocarpus epigaeus (Rottl.) Hook. f.
(Ākācakkaruṭaṇ)

Uses: Leprosy, Snake bite, Scorfula,
Venereal disease, Haemorrhoids, Head
diseases



Figure 19

Cassia fistula L.
(Carakkonṇai)

Uses: Ascites, Jaundice, Haemorrhoids,
Oliguria



Figure 20

Semecarpus anacardium L.
(Cērāṅkoṭṭai)

Uses: Rheumatoid arthritis, Cancer,
Leprosy, Venereal disease, Inguinal
bubo, Urolithiasis, Fistula, Sinusitis



Figure 21

Phyllanthus amarus Schum. & Thonn.
(Kīzānelli)

Uses: Jaundice, Diabetes mellitus,
Fever, Anorexia, Anaemia, Vomiting,
Dysentery



Figure 22
Myristica fragrans Houtt.
(Cāṭikkāy)

Uses: Aphthous ulcer, Peptic ulcer



Figure 23
Centella asiatica (L.) Urb.
(Vallōrai)

Uses: Constipation, Venereal diseases,
Cough, Bronchial asthma, Vomiting,
Oliguria, Anasarca, Memory enhancer



Figure 24
Enicostema axillare (Poir. ex Lam.) A.
Raynal
(Vellāṛuku)

Uses: Leucorrhoea, Skin diseases,
Diabetes mellitus



Figure 25
Hybanthus enneaspermus (L.) F. Muell.
(Ōritaztāmarai)

Uses: Venereal diseases, Gonorrhoea,
Oliguria, Constipation, Haemorrhoids,
Infertility



Figure 26
Justicia adhatoda L.
(Āṭātōṭai)

Uses: Chronic cough, Bronchial asthma,
Anorexia, Haemorrhoids,
Hoarseness of voice



Figure 27
Wrightia tinctoria R. Br.
(Veṭpālai)

Uses: Psoriasis, Venereal disease,
All types of cancer.

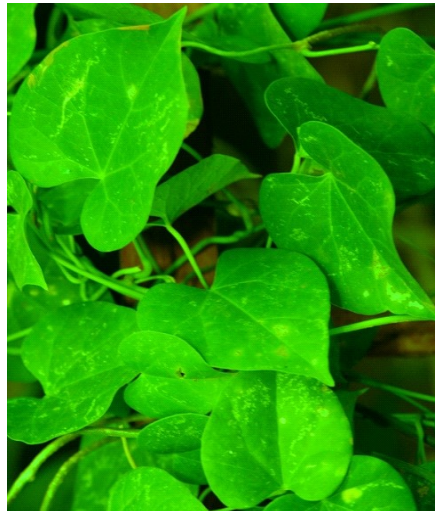


Figure 28
Tinospora sinensis (Lour.) Merr.
(Cīntil)

Uses: Sinusitis, Diabetes mellitus, Scabies, Abscess, Wound, Venereal disease,
Cough



5. SPECIAL THERAPEUTIC APPROACHES

Certain special therapies/external therapy techniques such as Pressure Manipulation Therapy (Varmam), Physical Manipulation Therapy (Tokkaṇam), Bone setting (Oṭivu Murivu Maruthuvam) and Parenteral Administration (Kuṭōri Maruttuvam) reveal the individuality and unique identity of this system.

5.1 Varmam (Pressure Manipulation Therapy)

In Siddha Medicine, the term Varmam indicates the pranic energy, which remains concentrated in certain specific points in our body. Kālam, Aṭakkam, Marmam, Cūṭcam, Vaṇmam, Ēmam, Īṭu, etc. are some of the synonyms of Varmam.

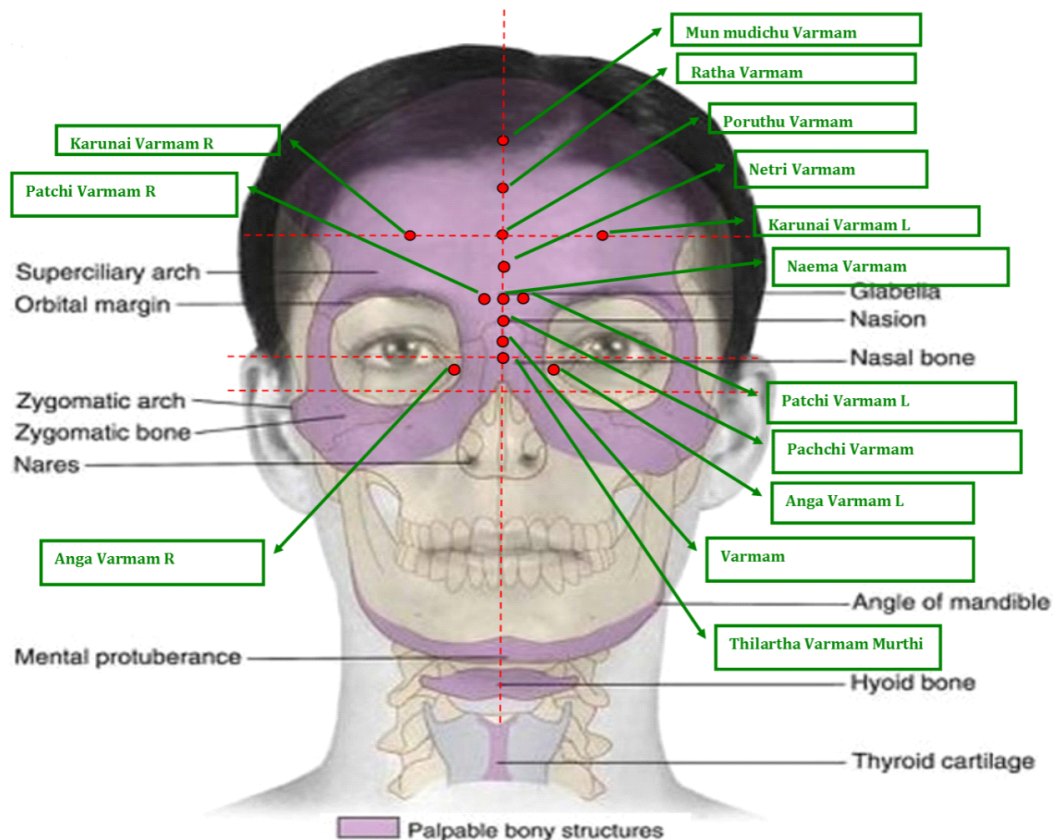


Figure 29 Therapeutic Varmam Points

Varmam Points

Two major classifications with respect to Varmam points are mentioned in Siddha literatures viz. Paṭu Varmam - 12 and Toṭu Varmam - 96, which have been well established and are widely in use. However, it is observed that hundreds of other Varmam points are mentioned in several literatures.

Classification of Varmam

Paṭu Varmam	Major Points - 12
Toṭu Varmam	Minor Points - 96
Taṭṭu Varmam	Activating the Varmam point by tapping / slapping - 8
Pakka Varmam	Proximally located Varmam points



Iṇṇai Varmam	Paired Varmam points
Nāḷṇai Varmam / Naṭcattira Varmam	Varmam points related to 27 Stars
Ellīṇṇai Varmam	Points located in between the joints
Ūtu Varmam	Stimulation of points by blowing (air)
Nakku Varmam	Activation of points by licking
Nōkku Varmam	Activation of Varmam by merely staring at the patients (without touching the patient)

Application of Varmam

Varmam points are stimulated gently with the fingers. The pressure varies from $\frac{1}{4}$ unit, $\frac{1}{2}$ unit, $\frac{3}{4}$ unit to 1 unit/2 units (Unit = Māttirai). Depending on the nature of the illness, weight and age of the patient, the application may be of pressing, pacing, lifting, braiding, making even and gentle clockwise or anticlockwise rotation, pinching, slipping pinch, tapping and gentle stroking.

The occurrence of changes in the body on hitting some specific points directly or indirectly with a particular force is also known as Varmam. The signs and symptoms manifesting in the body varies with the location of the points, force of hitting, duration of pressure and the physical strength of the patient. The effects may include pain, swelling, bleeding, spasm of the limbs, loss of function of the organs, vomiting, protrusion or in-drawing of the tongue, in-drawing or herniation of testicles, protruded eyeball, breathlessness, fainting and even death.

Varmam Therapy

Varmam therapy is the pressure manipulation over prescribed Varmam points with a particular force for the specified time. This will regulate the flow of pranic energy, which is obstructed due to assault on these points (Varmam points) or due to any other causes.

The basic principle is to normalize the flow of Varmam energy. The methods of Varmam treatment practiced today can be classified as follows:

1. Energy based treatment
2. Vital air based treatment
3. Nervous system based treatment
4. Bone based treatment
5. Muscle based treatment
6. Internal organ based treatment

The above said treatment procedures are appropriately chosen and carried out by well-trained Varmam experts by using fingers.

If a person get injured in the Varmam point and becomes unconscious and if he is not revived within the stipulated time, complications may occur including fatality. Therefore, it is essential to revive (Iḷakku Muṇṇai) the person with pressure manipulation therapy (Varmam therapy) immediately.





The Practice of Varmam

The science and art of Varmam is largely practised in Southern parts of India especially in Tamil Nadu and South Kerala. The expert in Varmam technique is called 'Varmāṇi'. He teaches this art to other persons only after analysing their character whether they have noble (Cattuvam) qualities or not. Being an important part of the curriculum in Siddha Medicine, it is taught in Siddha Institutions under Special medicine (Cīrappu maruttuvam) and finds wide therapeutic application.

Numerous books are available in the field of Varmam. The study of Varmam includes (i) the location of Varmam points (ii) the signs and symptoms of Varmam assault (iii) application of techniques for releasing affected Varmam (Ilakku Muṛai) (iv) manipulation over the vital Varmam points (Aṭaṅkal), if the patient is unconscious (v) application of the external therapies such as nasal drops (Naciyam) and ear drops and (vi) treatment with herbs and dietary regimen related to Varmam manipulation.

Therapeutic benefits of Varmam

Varmam therapy is mainly useful in the treatment of neuro-musculo-skeletal disorders and joint disorders like:-

1. Cervical spondylosis
2. Lumbar spondylosis
3. Osteoarthritis
4. Hemiplegia
5. Paraplegia
6. Sciatica
7. Peripheral neuropathy etc.

5.2 Tokkaṇam (Physical Manipulation Therapy)

Tokkaṇam (Physical Manipulation Therapy) is one of the unique external treatment procedures of Siddha system of Medicine. It is a therapeutic manipulation performed over the body with or without the use of oil. It (Tokkaṇam) is a process normally consisting in striking and pressing with fist and then pressing the body or affected body parts of an ailing patient. It is also called Marttaṇam which was performed with the help of wrestlers (Mallars) in olden days. Initially Physical Manipulation Therapy (Tokkaṇam) was rarely used for rejuvenation but now-a-days it is practised as a common therapeutic technique.

Types of Tokkaṇam

Tokkaṇam is of nine types: Tapping / Punching (Taṭṭal), Compressing / Gripping (Iṛukkal), Grasping / Holding (Piṭṭal), Twisting (Muṛukkal), Encompass manoeuvre (Kaikaṭṭal), Pulling (Iḻuttal), Supinating (Mallāttutal), Pressing (Aḻuttutal), Shaking / Mobilising (Acaittal).

Therapeutic benefits of Tokkaṇam

Tokkaṇam nourishes the body cells, improves sleep and sexual function; relieves body pain, tiredness and expels gas. Tokkaṇam tones up skin, muscles and nerves, improves blood circulation and facilitates lymphatic drainage.



Tokkanam is useful in treating diseases of neuro - muscular and musculo - skeletal systems. Tokkanam is also useful in treating Azal and Aiyam diseases. Tokkanam, by normalising the altered Vali, helps in rejuvenation and rehabilitation. Hemiplegia, paraplegia, muscle weakness, dystrophies, sciatica, cervical and lumbar spondylosis are some of the neuromuscular and joint disorders treated by Tokkanam.

5.3 Oṭivu muṛivu Maruttuvam (Bone setting)

Bone setting (Oṭivu muṛivu) is one of the specialities in Siddha Medicine. Despite the developments in modern medical practice, it is still practised successfully and kept thriving by the skill of the Siddha physicians and the belief of the people in these methods. Majority of the people suffering from bone fractures are being treated successfully by this cost - effective and time-tested method.

The bone setting treatment consists of the following special procedures viz.

- Muṛiccal (Reduction) -- Diagnosis by simply touching the affected part with fingers and thereafter reduction of fracture by various methods.
- Kompukaṭṭal (Splinting) -- Immobilisation by use of traditional splints made of bamboo.
- Traditional medicated cloth bandages prepared using egg white, black gram powder, pounded rice, tamarind seeds, *Shorea robusta* Gaertn. (Sal resin), *Senna occidentalis* (L.) Link (Coffee senna), etc.
- External application of specific medicated oils (Tailam) like Kāya Tirumēṇit Tailam, Kāya Carvāṅkat Tailam, Vacaveṇṇey etc., to reduce pain, swelling and facilitate rapid union of fractured bones.
- Specific internal medicines like Varmāṇi Kuḷikai, Varma Ney, Kāya Tirumēṇit Tailam etc., are prescribed along with the above procedures.

A commonly used Siddha medicine is the powder of *Cissus quadrangularis* L. (Bone-setter plant) with milk, which has a proven efficacy in rapid union of fractures.

5.4 Other External Therapies

External medications and Treatment procedures

External medications deal with medications and treatment procedures used both as a mainstream therapy or supportive therapy. These include minor surgical procedures and are done either as curative or prophylactic. This forms an important part of Siddha system as it ensures good results with no side effects.

Sl. No	Types of external therapies / treatment procedures (Puramaruntukaḷ / Maruttuva Muṛaikal)	Description
1.	Parru (Poultice)	Parru is a soft moist mass, usually made of herbs, which is applied on areas affected by skin diseases as emollient, anti-microbial, anti-allergic, anti-inflammatory and analgesic.
2.	Pūccu (Topical application)	Pūccu is topical application of medicated liquid.



3.	Mai (Collyrium /Medicated eye- liner)	Mai is a method of applying drugs into one or both eyes. The medication may be in the form of a paste applied on the inner margin of the lower eyelid.
4.	Podi timiral (Powder anointing / Powder smearing)	Podi timiral is the rubbing of the whole body with some medicinal powders.
5.	Kalikkam (Eye drops)	Kalikkam is applying eye drops prepared by dissolving medicated pills in honey, mother's milk, plant juice, rose water etc.
6.	Naciyam (Nasal drops)	Naciyam is a process of instillation of drugs in liquid form through the nostrils.
7.	Ākkirāṇam (Medicated snuff)	Ākkirāṇam is inhaling medicated substances in powder form.
8.	Kaḷimpu (Ointment)	Kaḷimpu is a viscous semisolid preparation for topical application.
9.	Cīlai (Medicated gauze/Plaster)	Cīlai is an adjunct used for application on a wound in order to promote healing.
10.	Nīr (Medicated water)	Nīr is use of infusion / decoction for washing wounds, eyes etc., for antiseptic / anti-inflammatory purpose.
11.	Vartti (Medicated wick)	Vartti is prepared by soaking gauze in or smearing gauze with herbal juices / decoctions / substances that are ground well with herbal juices / decoctions.
12.	Pacai (Ointment/Cream)	Pacai is a semi-solid, fat, wax or resin/gum based application for local use.
13.	Kaḷi (Paste)	Medicinal materials are mixed with rice flour or flour of any cereals or pulses and cooked to obtain in a paste form is Kaḷi.
14.	Poṭi (Dusting powder)	Poṭi is dry fine powder of medicinal substances for external use.
15.	Kāram (Caustic ablation)	Kāram is application of caustic substances to the part/tissue to be excised or to chronic ulcers, where from unwanted growth, slough and debris are removed and healing process is promoted.
16.	Kaṭṭu (Dressing and bandaging)	Kaṭṭu is the application of medicine prepared from herbs, inorganic substances etc. to the affected area and bandaging it.
17.	Ōṛṛaṭam (Fomentation)	Ōṛṛaṭam is application of hot or cold, dried or wet packs topically.
18.	Vētu (Inhalation or exposure to steam)	1. A steam inhalation and steam application to either localized regions or the whole body is Vētu. 2. Vapour inhalation. – Vapour bath / Steam bath.
19.	Poṭṭaṇam (Medicated pouches)	Poṭṭaṇam are heated packs of herbal powder applied on the body to stimulate perspiration.



20.	Tokkaṇam (Physical manipulation therapy)	Tokkaṇam is special therapy consisting of 9 types of manipulation techniques such as pressing, grasping, encompass manoeuvre, pulling, moving, gripping, twisting, supinating and striking with fist with or without applying oil in the treatment especially of Vajī diseases.
21.	Pukai (Fumigation)	Pukai is artificial impregnation of the atmosphere with the fumes or the smoke of medicinal plant material or aromatic substance, which is also used in inhalation therapy.
22.	Ūthal (Blowing)	The physician chewing the medicated substance and blowing the aroma into the ears or nose of the patient is Ūthal.
23.	Cuṭṭikai (Cauterization)	Local application of heat with a specialized instrument/ herbal twig is Cuṭṭikai
24.	Cālāikai iṭal (Probing)	The instrument used for probing is Cālāikai iṭal. The probe has three faces and is usually made of copper. It should be of 10 centimeters in length and 60 grams in weight.
25.	Muṛiccal (Therapeutic fracture manipulation)	Muṛiccal is physical manipulation by which dislocated joints and mal-united or fractured bones are brought to their normal position by means of either simple reduction or breaking of mal-united bones, as it may require.
26.	Kīṛal (Incision)	Kīṛal is a surgical procedure to remove accumulated pus, blood etc.
27.	Aṭṭai Viṭal (Leech therapy)	Aṭṭai Viṭal is leech application for therapeutic purpose.
28.	Aṛuvai Cikiccai (Surgical procedures)	Aṛuvai Cikiccai is a set of treatment procedures including incision, excision, scrapping, puncturing, probing, extraction, letting out of fluid etc.
29.	Kompu Kaṭṭal (Bone setting with bamboo splints)	Kompu Kaṭṭal is a procedure for immobilising the fractured bone using bamboo splints and bandages.
30.	Urīñcal (Suction/Aspiration)	Urīñcal is the oral suction of the accumulated fluids/pus/blood from abscess/ulcers by using specialized instruments.
31.	Kuruthi Vāṛṅkal (Blood-letting)	Kuruthi Vāṛṅkal is removal of blood from the body for therapeutic purpose.
32.	Pīccu (Enema)	Pīccu is administration of medicated water or medicated oil through anus or genitalia for therapeutic purpose.



5.5 Surgery in Siddha

Surgical Practices in Siddha

Man began to explore and develop tools to facilitate and leverage many of his daily chores. One of the very ancient civilizations that thrived on the South Indian peninsula promoted the use of such tools for the mechanistic treatment. Stone inscriptions excavated by archaeologists in parts of Tamil Nadu like Tirumukkūṭal shows that the surgical treatment in Siddha system of Medicine was practiced during that period. Many Tamil literary treatises like *Puṛaṇāṇūru*, *Kamparāmāyaṇam*, *Kuṇṭalakēci* and *Kuṛiṇcippāṭṭu* describe the surgical management of olden times.

Surgery in Siddha system of Medicine consists of the section in which surgical instruments and tools are used to deal with structural problems of the body, which are not solely amenable to medical treatment. A detailed classification of the surgical instruments is expounded in the text of *Akattiyaṇa Nayaṇa viti*, which explains about the usage of 26 types of surgical instruments. Apart from surgical interventions with instruments, caustic applications (*Kāram*) and heat applications (*Cuṭṭikai*) were also used to get rid of the non-viable tissues of the body to facilitate healing. According to the need for specific management of the diseases, the above three modalities of surgery are divided into various sub-types like bloodletting, leech therapy, heliotherapy, splinting, etc.

The caustic application therapy or ‘*Kāra Cikiṭṭai*’ is elaborately dealt with in texts such as ‘*Cīva Raṭcāmirtam*’, *Yūki Cintāmaṇi* and *Akattiyaṇa Raṇa Vaittiyaṇam*. *Kāranūl*, a special treatment procedure, under the heading *Kāram* is the application of a thread charged with caustic substances like salts of *Achyranthes aspera* L., *Sesamum indicum* L. (Sesame seed), latex of *Pergularia daemia* (Forssk.) Chiov., *Calotropis gigantea* (L.) Ait.f. and copper sulphate to ligate, obliterate and cut the fistulae, sinuses, haemorrhoidal masses and warty excrescence.

In Siddha system, the surgical ophthalmology is elaborately dealt with in *Akattiyaṇa Nayaṇa viti* and *Nākamunṇi Nayaṇa viti*. The instruments used and methodology adopted for cataract surgery is clearly mentioned in *Akattiyaṇa Nayaṇaviti*. Some of the special surgical treatments mentioned for diseases like Pterygium (*Nākapāṭalam*), Ulcerative blepharitis (*Mayir Puṇuvēṭṭu*), Ophthalmia neonatorum (*Amaram*), Dacryocystitis (*Kuṇṭalai Vippuruti*), Presbyopia (*Vellezuttu*), Episcleritis (*Turmāmicam*) and Trichiasis (*Muṭamayir*). Though the surgical practices were given in detail, due to restrictions of the cadaver study during the Buddhists and Jains period, the surgical practice went into oblivion. However, certain practices like venesection, leech therapy, blood letting, thermal and chemical cautery are still in practice.

Kāranūl Cikiṭṭai (Caustic Thread Application Therapy)

It is a unique surgical treatment carried out for the management of fistula-in-ano. It is a method of chemical cauterization of the patient’s fistulous tract. Caustic substances processed from *Achyranthes aspera* L., *Pergularia daemia* (Forsk.) etc. are smeared on a surgical linen thread, which is used to cut the tract. The major advantages of this procedure are, it will preserve the function of continence and prevents the recurrence of the condition.





Cuṭṭikai (Cauterization)

The act of burning or scorching of morbid flesh with a red hot needle or turmeric rhizome taking care by avoiding the directions of arteries and veins in the systems. It is done in two ways i) by direct application of heat to the bodily parts or areas to cause tissue damage (metallic cautery) ii) by exposing the tissues directly to heat (hot air therapy, mud cautery and sun bath). Thermal cautery is used in arthritis, in cancerous ulcers and any other over growth like warts.

Pukai (Fumigation)

Fumigation is an inhalation therapy with medicinal herbs and the main purpose of this procedure is infection control. Fume inhalation therapy is given to the patients with respiratory ailments like sinusitis, bronchitis, allergies, ear diseases, dental caries and asthma. This method is also done on different parts of the body apart from inhalation as in non-healing ulcers, fistula and other ano-rectal diseases, poisonous bites, stings and skin diseases.

Kuṭṭōri Maruttuvam (Parenteral Administration)

This is a special method of treatment during emergencies by administering Siddha Medicine directly into blood stream. It is done by making an incision and inserting the medicine, for fever with syncope, unconsciousness and delirium. But this practice is not in use at present.



6. RESEARCH AND DEVELOPMENT

The concept of research can be traced back to 2nd century A.D. from the text *Caiva Citānta Aḷavai* in which various terminologies such as Observation (*Kāṇṭai*), Inference (*Karutal*), Evidence (*Urai*) and Comparison (*Upamāṇam*) are found and they are suitable for contemporary research. *Kurramarṛa Kāṭci* in *Aḷavai* is the analogue for standing without bias in research. The words Hypothesis (*Meññāṇam*) and Scientific interpretation (*Viññāṇam*) used in basic materialistic science (*Poruḷ Tattuvam*) indicate the basis of scientific research.

After independence, the movement for revival of rich and centuries old heritage of medical sciences in India gained greater momentum. First of all these systems were officially recognised and became part of National health care programme. The state and central governments have established hospitals, dispensaries, institutions and research organizations throughout India for mainstreaming these systems for catering to the primary health needs of our country. The clinical research is supported by literary research and drug standardization. These departments gained importance and started functioning with their exclusive mandate of supporting research.

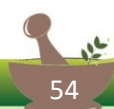
For developing the research activities, Central Council for Research in Indian systems of Medicine and Homoeopathy (CCRIMH) was established in the year 1969. Subsequently it was trifurcated into Central Council for Research in Ayurveda and Siddha (CCRAS), Central Council for Research in Unani Medicine (CCRUM) and Central Council for Research in Homoeopathy (CCRH) in the year 1978. These councils were set up under the then Department of AYUSH, Ministry of Health and Family Welfare, Government of India for the formation, coordination and development of research activities.

6.1 Central Council for Research in Siddha (CCRS)

The Central Council for Research in Siddha (CCRS) after bifurcation from Central Council for Research in Ayurveda and Siddha (CCRAS) is functioning since September 2010. CCRS is an autonomous body registered under societies Act in July 2010 under the Department of AYUSH, Ministry of Health and Family Welfare, Government of India.

The main objectives are:

- To formulate the aims and patterns of research on scientific lines in Siddha.
- To undertake any research or other related programmes in Siddha.
- To initiate, aid, develop and coordinate scientific research in different aspects, fundamental and applied aspects of Siddha and to promote and assist institutions of research for the study of diseases, their prevention, causation and remedy.
- To exchange information with other institutions, associations and societies interested in the objects similar to those of the Central Council and especially in observation and study of diseases.





- To prepare, print, publish and exhibit any papers, posters, pamphlets, periodicals and books for furtherance of the objects of the Central Council and contribute to such literature.
- To undertake R & D Consultancy projects and transfer of patents on drugs and process to industry.
- To undertake international and inter-agency collaboration.
- To constitute Management Committees consisting of eminent Scientists/Physicians 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.

6.2 Premier Institutions of CCRS

Siddha Central Research Institute, Chennai (CCRS-SCRIC):

Siddha Central Research Institute (SCRI) is identified as a potential centre of excellence for clinical research. This Institute is located in the campus of Anna Government Hospital of Indian systems of Medicine and Homoeopathy at Arumbakkam, Chennai. Central Research Institute for Siddha was established in the year 1971. It has all the facilities for preclinical and clinical studies. Pharmacognosy, phytochemistry, pharmacology, literary research, clinical research, biochemistry, clinical pathology and pharmacy are the various departments functioning under Siddha Central Research Institute. Siddha Central Research Institute is a referral hospital for Psoriasis. It has a 50-bedded research hospital for in-patients.

Siddha Regional Research Institute, Puducherry (CCRS-SRRIP):

The Regional Research Institute for Siddha in Puducherry was established on 22nd August, 1979. This Institute started functioning in its own premises at Kuyavarpalayam since 2003 with a well-maintained campus and picturesque herbal garden with more than 150 medicinal plants. This Institute has various departments like out-patient department, in-patient department, varmam clinic, dispensary, clinical pathology and Bio-Chemistry laboratories and a library. An in-patient department with 25 beds is being utilized for various clinical research projects.

Siddha Regional Research Institute, Thiruvananthapuram (CCRS-SRRIT):

During the year 1986, a Clinical Research Unit (Siddha) was established by the then Central Council for Research in Ayurveda and Siddha (CCRAS) in a rented building in the Poojappura area of Thiruvananthapuram and functioned there till 2002. Subsequently the unit was merged with Regional Research Institute (Drug Research), Poojappura, Thiruvananthapuram. Geriatric cases are treated in the outpatient department. A new outpatient department for Varmam therapy has been started in SRRIT, Thiruvananthapuram and patients suffering from various ailments are being treated by Varmam therapy.



Siddha Medicinal Plants Garden, Mettur Dam (CCRS-SMPGMD):

The Siddha Medicinal Plants Garden (SMPG), Mettur Dam was established in the year 2004. It is engaged in the maintenance and development of herbal garden and cultivation of medicinal plants. A polygreen house, covering an area of 0.12 acres with 500 live potted plants, which include 35 RET species, is located in this garden. An arboretum is being maintained with 511 trees covering 177 species. A nursery with 130 medicinal plants serves the visitors by providing medicinal plants at a nominal rate.

Major activities at SMPG, Mettur Dam:

- Medico-ethno botanical survey and collection of medicinal plants.
- Botanical identification of medicinal plants.
- Market drugs authentication.
- Market survey for collection of information on major crude drugs.
- Pharmacognosy.
- Herbarium and museum keeping.
- Documentation of herbal medicine in tribal communities.
- Photography and documentation.
- Publication of research activities.
- Collection and supply of authentic plant materials for research.
- Assessment on the cultivation of medicinal plants by different agencies.

Siddha Clinical Research Unit, Palayamkottai (CCRS-SCRUP):

The Siddha Clinical Research Unit was established on 6th February 1980 in the premises of Government Siddha Medical College campus, Palayamkottai. The Survey of Medicinal Plants Unit (SMPU), to its credit, has surveyed around 300 forest areas, which include both Eastern and Western Ghats of Tamil Nadu. A Herbarium hall with 9000 Herbarium sheets covering 1986 individual species and a Museum with 1000 crude drug materials are maintained. General OPD, Varmam OPD and External therapies like Fumigation, Poultice, Bandaging etc., are provided at Siddha Clinical Research Unit, Palayamkottai. An in-patient department with 10 beds is being utilized for various clinical research projects.

Siddha Clinical Research Institute, New Delhi (CCRS-SCRUND):

The Siddha Clinical Research Unit is functioning since 29th February 2016 in the campus of Ayurveda & Unani Tibbia College, Karol Bagh, New Delhi, in the space provided inside by the Department of AYUSH, Govt. of NCT of Delhi. At present, Out-patient Department (General and Varmam OPD) services, Geriatric OPD and Clinical research activities are being carried out at the Unit.

The Unit is also providing OPD services in the Integrated AYUSH OPD, All India Institute of Ayurveda (AIIA), Sarita Vihar, New Delhi on Fridays and Saturdays.





AYUSH Wellness Clinic, New Delhi (CCRS-AWCND):

AYUSH Wellness Clinic was inaugurated by the President of India on 25th July 2016, which has a Siddha wing along with the wings of other AYUSH systems. Keeping in view the emphasis laid by the Government to holistic methods of healing and therapy by Indian systems of Medicine & Homoeopathy, Rashtrapati Bhavan has established the AYUSH Wellness Clinic (AWC) in the President's Estate. The clinic is catering to the medical needs of the President, officials of President's Secretariat and residents of the President's Estate. Various disease conditions like vāḷi (Vāṭam) disorders, diabetes, psoriasis, eczema, bronchial asthma, haemorrhoids, renal calculi etc. are being treated. Treatment includes both internal medicines and external therapies as mentioned in Siddha literature and as per CCRS guidance. Varmam therapy is one of the unique therapies offered by this Siddha wing to patients suffering from all types of Vāḷi (Vāṭam) disorders. Apart from Varmam Therapy external therapies like Fumigation, Poultice, Bandaging, etc. therapies are also available for patients.

Siddha Clinical Research Institute, Bengaluru (CCRS-SCRUB):

Siddha Clinical Research Unit (SCRU) started functioning at the campus of Govt. Sri Jayachamarajendra Ayurveda Hospital, Dhanvantri Road, Bengaluru since 25th May, 2017. Specialty treatments like Varmam and Thokkanam therapies for Musculo-skeletal and neurological problems, are available for patients.

An overview of Traditional Knowledge Digital Library (TKDL)

India's vast traditional medical 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 then 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 project of Council of Scientific and Industrial Research (CSIR). 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 2.97 lakh medicinal formulations of Ayurveda, Siddha and Unani. 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.





7. EDUCATION AND PRACTICE

Siddha education and practice have been developing simultaneously and being handed down to the posterities – initially by oral tradition and then by palm leaf manuscripts/ inscriptions on temple stones and now in the form of printed books and e-books.

7.1 Education

The growth of medical education in India has been a matter of inheritance i.e. a traditional Kuruparamparai or Kurukulam or Kuru Cīṭaṇ form (teacher – student relationship) from time immemorial. Especially the non-codified systems like Traditional medicine, Martial art, Philosophy, Astrology, Alchemy and all the primitive sciences were developed and passed on from one generation to another.

Most of the traditional Siddha medical practitioners usually have a family lineage, which would run through generations.

In the medieval period, Caivam and Vaiṇavam mutts became centres of learning. These centres also formed a basis for medical education and the thoughts of Caivam and Vaiṇavam were codified later to develop into two different schools of thought.

Now there are eleven educational institutions including a National Institute of Siddha, among them two Government colleges run by Government of Tamil Nadu conduct postgraduate courses in addition to undergraduate course which are affiliated to concerned state University and is recognized by the Central Council for Indian Medicine, New Delhi.

Bachelor of Siddha Medicine and Surgery (B.S.M.S): 5 ½-years degree course including one year of Compulsory Rotatory Residential Internship. Candidates are eligible after passing higher secondary education with subjects of biology, physics and chemistry.

Doctorate of Medicine in Siddha [M.D.(Siddha)]: Post-graduation in Siddha Medicine, M.D (Siddha) is being offered on the following 8 specialities, affiliated to the Tamil Nadu Dr. M.G.R Medical University, Chennai and approved by CCIM, New Delhi:

1. Potu Maruttuvam (General Medicine – Siddha)
2. Kuṇappāṭam (Siddha Pharmacology)
3. Kuṇantai Maruttuvam (Siddha Paediatrics)
4. Nōy Nōṭal (Siddha Pathology)
5. Nañcu Nūlum Maruttuva Nīti Nūlum (Siddha Toxicology and Medical Jurisprudence)
6. Siddhar Yōka Maruttuvam (Siddha Yoga Medicine)
7. Pura Maruttuvam (Siddha External Therapies)
8. Varmam Maruttuvam (Siddha Varmam Therapy)





Colleges offering B.S.M.S & M.D (Siddha) Courses in Tamil Nadu & Kerala:

Sl. No	Name of the Institutions	Category	Courses offered	Sanctioned intake
1.	Government Siddha Medical College, Palayamkottai	Government of Tamil Nadu	B.S.M.S	100
			M.D (Siddha)	60
2.	Government Siddha Medical College, Chennai	Government of Tamil Nadu	B.S.M.S	60
			M.D (Siddha)	34
3.	National Institute of Siddha, Chennai	Government of India	M.D (Siddha)	46
4.	Sri Sai Ram Siddha Medical College and Research Centre, Chennai	Private	B.S.M.S	50
5.	Velumailu Siddha Medical College and Hospital, Sriperumpudhur, Kancheepuram District.	Private	B.S.M.S	40
6.	Akila Thiruvithancode Siddha Vaidhya Sangam Siddha Medical College, Munchirai, Kanyakumari District	Private	B.S.M.S	40
7.	RVS Siddha Medical College, Coimbatore.	Private	B.S.M.S	30
8.	Sivaraj Siddha Medical College, Salem.	Private	B.S.M.S	50
9.	Santhigiri Siddha Medical College, Thiruvananthapuram, Kerala State	Private (English medium)	B.S.M.S	50
10.	Maria Siddha Medical College and Hospital, Thottavaram, Moovatumugham Post, Thiruvattur, Kanyakumari District	Private	B.S.M.S	100
11.	JSA Medical College for Siddha & Research Centre, Ulundurpet	Private	B.S.M.S	60



7.2 Premier Educational Institutions of Siddha

- National Institute of Siddha, Tambaram Sanatorium, Chennai, Tamil Nadu, India.
- Government Siddha Medical College, Palayamkottai, Tirunelveli, Tamil Nadu, India.
- Government Siddha Medical College, Anna Hospital campus, Arumbakkam, Chennai, Tamil Nadu, India.

7.2.1 National Institute of Siddha (NIS), Chennai

The National Institute of Siddha (NIS), Chennai is an autonomous organization under the Ministry of AYUSH, Government of India. The institution was dedicated to the Nation on 3rd September 2005 by Dr. Manmohan Singh, Hon'ble Prime Minister of India and is striving to be a Centre of Excellence in Siddha system of Medicine. The Institute offers postgraduate courses and doctoral research programmes in Siddha, provides medical care and undertakes research to promote and propagate the Siddha system of Medicine.

Objectives

1. To impart postgraduate education in Siddha system
2. To conduct experiments and to develop pattern of teaching in PG education in Siddha system
3. To conduct research on various aspects of Siddha
4. To act as a centre of excellence in Siddha
5. To provide medical care through Siddha system of Medicine to the suffering humanity
6. To develop, promote and propagate the science and art of Siddha

Education and Academics

M.D (Siddha): Post-graduation in Siddha Medicine, M.D (Siddha) is being offered in 8 specialities, affiliated to the Tamil Nadu Dr. M.G.R Medical University, Chennai and approved by CCIM, New Delhi.

Ph.D - Siddha: To strengthen the research perspectives of Siddha, Ph.D programmes were initiated for both part time and full time research scholars. Ministry of AYUSH sanctioned 2 Ph.D fellowships with stipend for the following departments -- Maruttuvam, Kuṇapāṭam and Cīrappu Maruttuvam - from the academic year 2010-11. As of now, 6 Ph.D scholars (full time) and 15 faculty (part-time) have completed their Ph.D programme and the remaining faculty members are pursuing part-time Ph.D programme under approved guides of The Tamil Nadu Dr. M.G.R Medical University, Chennai.

Health Care Services: The Ayothidoss Pandithar hospital attached to National Institute of Siddha accredited by National Accreditation Board of Hospitals provides free Siddha medical care besides Special Clinical Services such as,

1. Cardiac diseases, Bronchial asthma and Diabetes mellitus
2. A specialty Geriatric out-patient clinic is being run and caters to the health needs of about 500 elderly patients per day.





3. Rejuvenation therapy and Cancer
4. Obesity and Cosmetology
5. Infertility, Renal diseases and Hypertension
6. Autism

A 200 bedded in-patient facility provides medical care to the in-patients. Along with the regular OPD and IPD services special therapies like Pressure manipulation therapy (Varmam), Physical manipulation therapy (Tokkanam), Yogam therapy (Yōkam), Fomentation (Orṛaṭam), Oil pooling (Puṛa Valaiyam/Enṇey Kaṭṭal), Cauterization (Cuṭṭikai), Enema/douche (Pīccu), Bone setting with bamboo splints (Kompu Kaṭṭal) and other external therapies (Puṛa Maruttuvam) are also provided to the needy patients.

An exclusive surgical OPD (Aṛuvai & Tōl Maruttuvam OPD) is also run to provide treatment for haemorrhoids, fistulae, abscesses, cancerous lesions, wounds etc.

Special Cancer OP in NIS:

NIS is conducting special Weekly OP for Cancer from the year 2014. Initially an average of 20 patients reported and it has increased to 50 patients at the special OP. It is observed that the Siddha treatment care had considerable effect in improving the quality of life and increasing the longevity. Many of the Cancer patients are being referred to NIS while taking chemotherapy and radiotherapy from reputed institutions after learning the effective concurrent management of side effects. Many of the Cancer patients who are not treatable by conventional therapy are referred by Cancer Institute, Adyar as NIS entered MoU with this Institution in the year 2017. Siddha treatment provides optional treatment / palliative treatment for those who want to avail effective treatment with less drug related adverse effect.

Mobile Clinical Units:

As an outreach programme, five free mobile clinical units have been established in nearby villages/semi-urban areas for providing free Siddha medical consultation and medicines, to cater the health care needs of the economically and socially backward rural population.

Tribal Health Care:

A Siddha division is also functioning for catering to the health care of the tribal population of the nearby districts.

NABH:

National Accreditation Board for Hospitals and Health care Providers (NABH) is constituent board of Quality Council of India, has developed standards in association with Ministry of AYUSH for providing a framework for quality assurance and quality improvement for Siddha hospitals. National Institute of Siddha has applied for NABH accreditation for our Ayothidoss Pandithar Hospital attached with this Institute during the month of June 2016. Then NABH has conducted Pre-Assessment in the year 2017 followed by Final Assessment in the year 2018. Finally NIS has received NABH accreditation with effect from 16-09-2018 to 15-9-2021. NIS is the first Siddha educational institution to get the prestigious NABH accreditation for the attached Hospital.





7.2.2 Government Siddha Medical College, Palayamkottai

This college is the oldest, prestigious and premier teaching Institute for Siddha Medicine. Thirteen Undergraduate and 8 Post-graduate departments are available. It is affiliated to The Tamil Nadu Dr. M.G.R Medical University, Chennai and recognized by the Central Council for Indian Medicine, New Delhi.

Diploma courses: Since 2009, Diploma in Integrated Pharmacy and Diploma in Integrated Nursing courses are being conducted by the Directorate of Indian Medicine and Homoeopathy. Presently, 50 students are admitted in Government Siddha Medical College, Palayamkottai and Government Siddha Medical College, Chennai in each diploma course and the students during their course of study undergo training in various colleges of Indian system of Medicine in Tamil Nadu.

Other facilities: To this college a hospital comprising an OPD and an IP ward with 250 beds and a pharmacy are attached. A library, with a wide range of collection of books on Siddha literature, Tamil literature and modern science, is functioning.

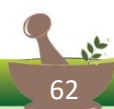
7.2.3 Government Siddha Medical College, Chennai

The Government Siddha Medical College, which is now situated at Arumbakkam, Chennai was originally started at Palani in the year 1985 and later shifted to Chennai in May 1993.

Ph.D - Siddha: The Tamil Nadu Dr. MGR Medical University has at present recognised National Institute of Siddha (NIS) and Siddha Central Research Institute (SCRI), Central Council for Research in Siddha (CCRS) Chennai for conducting Ph.D Programme. Inter-disciplinary Ph.D programmes are also being offered by Madras University in Chennai, Manonmaniam Sundaranar University at Tirunelveli and Tamil University at Thanjavur.

AYUSH Scholarship: Government of India, through the Indian Council for Cultural Relations (ICCR), has been offering scholarships to pursue Siddha Medicine in India since 2005. The total number of scholarships offered for AYUSH courses was initially 30. In view of resurgence of AYUSH at international level and increasing demand from foreign students to study in Indian institutions, the Department of AYUSH (presently Ministry of AYUSH) has proposed to support foreign nationals through its International Fellowship Programme for undertaking AYUSH courses at premier institutions in India. In addition to the 30 scholarships offered initially, 20 more scholarships are being provided under the International Co-operation scheme of the Ministry of AYUSH. The Ministry of AYUSH is also offering 20 scholarships to students of Malaysia. Scholarships are given for B.S.M.S and M.D (Siddha) courses. A scholarship is awarded only when the admission is confirmed by ICCR.

B.S.M.S degree is recognized by CCIM. It may be noted that amongst foreign universities degrees of Sri Lankan Universities i.e. B.A.M.S from Institute of Indigenous medicine, University of Colombo, Sri Lanka and B.S.M.S from University of Jaffna, Sri Lanka are recognized by CCIM.





Admission to the courses is in accordance with the rules and regulations prescribed by the Government from time to time based on National level eligibility test and All India AYUSH Post Graduate Entrance Test (AIAPGET).

7.3 Regulatory Mechanisms

Central Council of Indian Medicine (CCIM) is the apex body to regulate education and practice of Indian system of Medicine in India. Education, practice and manufacture and sale of Siddha Medicines are regulated by the following Rules and Acts:

A. Major Acts

1. Indian Medicine Central Council (IMCC) Act, 1970 for regulation of educational standards and clinical practices.
2. Drugs and Cosmetics Act 1940 and Rules 1945 have dedicated a chapter for regulation of Ayurveda, Siddha and Unani drugs.
3. Drugs and Magic remedies (Objectionable Advertisements) Act 1954 to prevent the misleading advertisements of certain cure claims on specific disease conditions.

7.4 Siddha Medical Practice

Siddha practice is done by institutionally qualified and registered graduates. After the enforcement of IMCC Act 1970 only institutionally qualified persons can alone practice. There are over 7000 institutionally qualified Siddha physicians practicing across the southern states of India and in Sri Lanka.

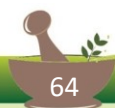
Health Services through Siddha: Siddha system of Medicine is considered as the first choice of treatment for neuro-skeletal, muscular disorders, respiratory diseases, non-communicable diseases and skin diseases. Nearly 23 million people per year are managed by the Siddha system of Medicine in the State of Tamil Nadu. The Government has also initiated a programme to manage the seasonal community epidemic outbreaks of viral fevers like Chikungunya, Dengue and Bird flu, where the efficacy of the Siddha drugs were evaluated in research laboratories as well as the clinical centres and the findings led to administration of these Siddha drugs along with allopathy drugs in all the Government hospitals.

In the late 1970s, the Government of Tamil Nadu started mainstreaming Siddha system by posting Siddha physicians in district headquarters hospitals, all taluk hospitals and block level Primary Health Centres. Thus, the distribution of functioning Siddha wings in the states/union territory of Tamil Nadu, Kerala and Puducherry is as follows:



Distribution of functioning Siddha Wings

Sl. No.	Details of Hospitals / Dispensaries / Siddha Wings	Tamil Nadu as on May 2018	Puducherry as on March 2018	Kerala as on March 2018	Total
1.	Colleges	10 (2 Government Colleges, 1 National Institute and 7 Private Colleges)	-	1 (Private college)	11
2.	Siddha Wings attached to Modern Medical Colleges	15	-	-	15
3.	Major hospitals	2	-	1	3
4.	Maternal and child health hospitals	1	-	-	1
5.	District Headquarters hospitals	31	1	-	32
6.	Varmam & Thokkanam Specialty Hospital	1	1	-	2
7.	Taluk hospitals	191	1	-	192
8.	Non-taluk hospitals	58	-	-	58
9.	Primary Health Centres	406	19	-	425
10.	Regular dispensaries	13	-	8	21
11.	Siddha Dispensaries in District Ayurveda Hospitals	-	-	8	8
12.	Tribal dispensaries	7	-	-	7
13.	Mobile Medical Unit	1	-	-	1
14.	Rural dispensaries	45	-	1	46
15.	National Rural Health Mission (NRHM) wings	275	7	-	282
16.	National Health Mission (NHM) wings	-	-	28	28
17.	NHM Sub-centre	-	-	1	1
18.	National AYUSH Mission Siddha Wing	11	-	4	15
19.	ESI dispensaries	28	-	-	28
20.	Collectorate Part Time Siddha Dispensaries	8	-	-	8
21.	Central Jail Dispensaries	1	-	-	1
22.	Community Health center	-	2	-	2
23.	Rashtriya Bal Swasthya Karyakram (RBSK) Scheme	-	3	-	3





IMPORTANT WEBSITES

- www.ayush.gov.in Ministry of AYUSH, New Delhi
- www.mohfw.nic.in Ministry of Health and Family Welfare, New Delhi
- www.siddharesearchcouncil.org Central Council for Research in Siddha, Chennai
- www.crisiddha.tn.nic.in Siddha Central Research Institute, Chennai
- www.ayushportal.nic.in AYUSH Research Portal
- www.tnhealth.org Tamil Nadu Health Department, Chennai
- <https://mohfw.gov.in/documents/policy> National Health Policy 2017
- www.nischennai.org National Institute of Siddha, Chennai
- www.nmpb.nic.in National Medicinal Plants Board New Delhi
- www.tnmgrmu.ac.in The Tamil Nadu Dr.M.G.R. Medical University, Chennai
- www.plimism.nic.in Pharmacopoeial Laboratory of Indian Medicine, Ghaziabad
- www.impcops.org IMPCOPS
- www.tampcol.in TAMPCOL



GLOSSARY

Sl. No.	Term	Description / Equivalent
1.	Acaittal	Mobilisation (Movement) – one of the types of Tokkaṇam (Pressure manipulation therapy)
2.	Ācāṇ	Teacher
3.	Ācaṇam	Keeping the body or part of the body steady and motionless in a particular posture for a specific time. A specific well-defined pose of body. – Posture or pose
4.	Ācayaṇkaḷ	Five types of resting places namely, Amarvācayam, Pakirvācayam, Calavācayam, Malavācayam and Cukkilavācayam. Internal viscera such as the stomach, the intestines, the bladder, the kidney etc. – Functional repositories
5.	Aiyam (Kapam).	One of the vital life factors. Condensed from the elements of Water and Earth. Aiyam is the principle of stabilizing energy and governs growth in the body and mind and is concerned with structure, stability, lubrication and fluid balance. Aiyam/kapam Bio-Energy - Water
6.	Ākkiṇai	One of the six psycho-physical centers located twelve finger breadth above Vicutti in between the two eye brows; it is a constituent of Space element.
7.	Amaram	A disease of the eye characterised by fleshy growth over the eyelids causing inability to open and close the eyelids leading to visual disturbance, pricking pain, watery and mucoid excrement and redness of the eyes – Ophthalmia neonatorum.
8.	Āṇmā	The soul
9.	Aṇupāṇam	Substances (water, honey, milk, ghee, etc.) to be taken /mixed along with medicines. – Vehicle
10.	Aṭṭāṇkayōkam	Eight stages of Yōkam /eight steps/components of Yōkam namely Iyamam, Niyamam, Ācaṇam, Pirāṇāyāmam, Pirattiyākāram, Tāraṇai, Tiyaṇam and Camāti.
11.	Aḷal (Pittam)	One of the three vital life factors formed from the element Fire. Aḷal is the principle of transformation of energy and governs heat and metabolism in the body and is concerned with the digestive, enzymatic and endocrine systems. Aḷal / Pittam / Bio-energy fire
12.	Aḷuttal	Pressure by using palm or fingers to press certain part of the body.
13.	Camaṇam	One of the six important religious faiths of India.
14.	Camāti	This is the final stage of Yōkam and it is a state of communion with God. – Spiritual Ecstasy





15.	Cāram	A physical constituent responsible for mental and physical perseverance. It is the first tissue created from food. - Chyme
16.	Cattuvam	One of the three qualities of human being - Noble qualities
17.	Cennīr	A physical constituent that imparts colour to the body nourishes the body. It is responsible for the ability and intellect of an individual. - Blood
18.	Ciñkācaṇam	Yogic posture. - Leonine Pose
19.	Cirappuk Kaṇṇam	A special preparation to maintain good health. - Special Elixir
20.	Cirappu maruttuvam	A speciality of Siddha Medicine dealing with special therapies like Kāyakarpam or Kāyakalpam (rejuvenation), Yōkam, Varmam, Tokkaṇam (external therapies) and treating musculoskeletal, neurological, geriatric, psychiatric and skin diseases. - Special Medicine
21.	Citti	It means attaining perfection, heavenly bliss and accomplishment.
22.	Civakkuṭilai Nīr	Ambrosia - Divine Elixir
23.	Civaṇ	Lord of Caiva Cittāntam. First Siddhar of Siddha cult. - Master/ God
24.	Cīvāṇmā	The individual soul
25.	Cukācaṇam	A Yogic posture. - Easy pose
26.	Cukkila Curōṇitam	A physical constituent of men responsible for reproduction. - Semen and of women responsible for reproduction. - Ovum respectively.
27.	Cutti	A general term for treating / purifying / refining / detoxifying process of the raw drugs.
28.	Cuvai	A sensation perceived through the tongue. - Taste
29.	Emaṇ	Name of the God of death
30.	Eṇpu	A physical constituent that constitutes the body frame. - Bone
31.	Inippu	A taste formed by the union of Earth and Water elements. It gives pleasure to the mind, enriches sense organs and nourishes the seven physical constituents. It increases Aiyam/ Kapam and balances Vali/ Vātam and Azal / Pittam vital life factors. - Sweet taste
32.	Iracakanti Mezuku	Name of the Siddha herbo-mineral formulation
33.	Irācatam	One of the three qualities of human beings - Active qualities
34.	Iṟukkal	A type of Tokkaṇam - Tightening and releasing of the muscles all over the body excluding those over the long bones, mildly with or without medicated oil. - Compressing/Gripping
35.	Īṭu	A synonym of Varmam



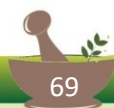


36.	Iṭumaruntu	Poisonous drugs in small quantities given to a person mixing it with food, beverages etc. to make the person in valid- Acquired poison.
37.	Iyamam / Iyalmam	The practice of cleansing or purifying the mind by observing moral codes and ethics. – Purity of mind/moral code. First step of Yōkam.
38.	Izuttal	A type of Tokkaṇam- A passive extension method of manipulation to be done with the help of medicated oil slowly over the bony prominence and in head. It can be done in all postures except supine and sitting posture. – Pulling/ Traction
39.	Kaippu	A taste formed by the union of Air and Space elements. It is obnoxious to taste. It cleanses the mouth and diminishes the appreciation of taste sensation. It increases Vali/ Vātam and balances Aiyam/ Kapam and Aḻal/ Pittam vital life factors. – Bitter taste.
40.	Kālam	A term to denote the period of time with various climatic conditions of a year. - Season
41.	Kāla ozukkam	The seasonal routine activities observed / performed. – Seasonal conduct.
42.	Kamparāmāyaṇam	Epic Irāmāyaṇam written by the author Kampar
43.	Kāracāram	A collective term to indicate all the acid and alkali salts, which are 25 in number and further classified into natural and synthetic salts. – Salts
44.	Kāram	Caustic substances. – Caustic.
45.	Kāranūl	A thread treated with turmeric and copper sulphate and immersed in the mixed latex of <i>Daemia</i> , <i>Calotrophis</i> and copper sulphate commonly used in the treatment of fistula-in-ano, gradual excision of over grown tissues, piles, polyps, warts, and non-healing chronic sinuses. – Medicated (Caustic) thread.
46.	Kāranūl Cikiṭcai	Treatment by Medicated (Caustic) thread
47.	Karappāṇ	Eczema – skin disease
48.	Karṇavizṭam	Rejuvenating substances.
49.	Karṇam/ Kāyakarṇam	Nomenclature of Tonics, Drugs or techniques (like Yōkam) which help to prevent signs of ageing such as greying of hair, wrinkling of skin, disease.
50.	Karṇayōkam	Rejuvenating Yōkam techniques.
51.	Kārppu	A taste formed by the union of Air and Fire elements, produces burning sensation at the tip of the tongue and jaws, increases the secretions of Eyes, Nose and the Mouth. It increases Vali / Vātam and Aḻal / Pittam balances Aiyam / Kapam. – Pungent taste
52.	Kozuppu	A physical constituent that provides lubrication to all the organs in the body for their effective function. – Fat
53.	Kukkuṭācaṇam	A yogic pose





54.	Kumpakam	Kumpakam retentive phase of breathing/respiration. – Retention of inspired air
55.	Kuṇam	Characters – Quality
56.	Kuṇapāṭam	A speciality of Siddha Medicine dealing with the source, nature, collection, processing, actions, therapeutics using raw drugs of herbal, metallic and faunal origin and preparation of Medicines. – Siddha materia medica
57.	Kuṇṭaliṇi	Serpent power lying dormant at the Mūlātāram.
58.	Kuru	Teacher
59.	Kuṭōri Maruttuvam	A Siddha procedure of administration of drugs.
60.	Makimai	Specific pharmacological action
61.	Malacalam Kazittal	Defaecation and urination. Answering the calls of nature.
62.	Mallāttutal	A therapeutic laying of the patient, with outstretched hands and face directed upwards. – Supinating.
63.	Maracuṭṭikai	Wooden cautery / cautery with turmeric rhizome
64.	Marmam	A synonym of Varmam
65.	Maruntukaḷiṇ Ceymurai	Methods of preparation of Medicines.
66.	Mayir Puḻuveṭṭu	Alopecia
67.	Meyñāṇam	Knowledge about truth
68.	Mukkurram / Tiritōṭam	A deranged or imbalanced condition of the three vital life factors. Vitiating state of all three vital life factors
69.	Mūlikaik Karpam	Drugs or medicaments prepared from leaves, barks, stems, roots and quintessence of plants. Taken for rejuvenation. – Herbal elixir
70.	Mullai	A physical constituent that occupies the medulla of the bones and gives strength and softness to them. – Bone Marrow
71.	Mūppiyal	Geriatrics
72.	Muppu	Mūppu is a unique higher order Siddha alkali containing the three basic elements (Air, Fire and Water) used as a catalytic agent – Supreme salt of Siddha Panacea
73.	Muṭamayir	A disease of the eye lids, characterized by thickening of the eyelids leading to the inward growth of the hair, of the eyelashes. – Trichiasis
74.	Muṛiccal	Physical manipulation by which dislocated bone joints are brought to their normal position. – Therapeutic fracture in malunion
75.	Muṛukkal	A type of Tokkaṇam - This procedure involves twisting and /or wringing motions done all over the body except the joints with fingers or palms. It is done in all postures except lying and walking postures. – Twisting
76.	Mūṭṭu Vilakal	Dislocation of joints
77.	Nākaṇaḷam	Pterigium
78.	Nāḷ Ozukkam	The daily routine activities. – Daily chores





79.	Nañcu Maruttuvam	A Speciality of Siddha Medicine dealing with toxic substances, their effects. The treatment with appropriate Medicines i.e., antidotes. - Toxicology.
80.	Ñāñēntiriyam	Five organs responsible the five senses. - Five organs of perception
81.	Nāṭi	A collective term to denote the ten humoral energy channels namely Iṭakalai, Piṅkalai, Cuzumuṇai, Cikuṇai, Puruṭaṇ, kāntāri, Atti, Alampuṭai, Caṅkuṇi and Kuku. - Ten Humoral Energy channels / Principal channels of Vital Spirit / Vital Air
82.	Neykkuṛi	A diagnostic procedure in which a drop of gingelly oil is dripped on the surface of urine (of the patient) collected in a bowel made of glass or porcelain and observing its mode of spread of oil.
83.	Nilam	Landscapes.
84.	Nīrkkurṛi	A diagnostic procedure in examining the physical properties of urine (colour, smell, specific gravity, froth and deposits). - Physical examination of urine
85.	Niyamam	Observing purity or truthfulness in one's activities. - Purity of action
86.	Nōy	Ill health - Disease
87.	Nōy nāṭal	A speciality of Siddha Medicine. - Siddha clinical diagnosis
88.	Oṭivu Muṛivu Maruttuvam	Therapeutic fracture manipulation - Bone setting.
89.	Pālavākaṭam	A speciality of Siddha Medicine dealing and treating the diseases of neonates and children. - Paediatrics
90.	Pañcapūtam	Five basic elements (Earth, Water, Fire, Air and Space).
91.	Pañcīkaraṇam	Five elements undergo fractionation and re-assortment among themselves.
92.	Paṭu Varmam	Varmam occurring due to injury or trauma.
93.	Pattiyam	Dietary regimen; and procedures to be followed strictly during the medical care.
94.	Pavuttiram	Fistula - in - Ano
95.	Perumpozutu	The duration of 12 months or 1 year period taken by the Earth to revolve around the Sun is known as Perumpozutu. It is divided into 6 periods namely, Kār (Early rainy season), Kūtir (latter rainy season), Muṇpaṇi (Early winter season), Piṇpaṇi (latter winter season), Iṭavēṇiṭṭi (Early summer season) and Mutuvēṇiṭṭi (latter summer season). Each season consists of two months. - Season
96.	Piṇiyaṇukāṇṭi	Preventive measures which are to be followed to be free from illness.
97.	Pirāṇāyāmam	The art of controlling breath. The art of conservative breathing - Breathing exercises/Breath control
98.	Pirivu	Post digestive transformation of food.



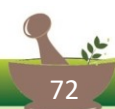


99.	Piṭṭital	The art of use of hand to grasp the muscles of the patient usually done during manipulating by hand. Holding
100.	Potukkarṇam	A preparation to prevent the process of ageing and to give strength and vigour, maintains immunity which can lead to longevity. – General Elixir
101.	Puḷippu	A sense of taste formed by the union of Earth and Fire element, It increases Aiyam/ Kapam and Aḷal/ Pittam and balances Vali/ Vātam vital life factors. – Sour taste
102.	Pūrakam	Inspiratory phase of breathing/respiration. – Inhalation
103.	Rēcakam	Expiratory phase of breathing/respiration. – Exhalation.
104.	Tamacam	One of the three human qualities (inert qualities)
105.	Tāraṇai	6 th Stage of Yōkam, concentration of mind
106.	Taṭṭal	The art of gentle tapping/stroking/punching done all over the body using hands with the force of wrist – Patting/Punching
107.	Taṭṭu Varmam	Varmam caused or occurred due to tapping on Varmam points resulting in morbid or pathological changes. – Varmam due to tapping
108.	Tātukkarṇam	Medicaments prepared from minerals, and their quintessence taken for rejuvenation. – Mineral Elixirs
109.	Tiyāṇam	The perfect art of gaining complete control over the mind. Cessation of all thoughts. – Meditation
110.	Tokkaṇam	Physical Manipulation Therapy
111.	Toṭu Varmam	Varmam caused by touch on the Varmam points resulting in morbid or pathological changes. – Varmam due to touch
112.	Tuṇaimaruntu	Adjuvant
113.	Tuvarppu	A taste formed by the union of the Earth and Air element. It increases Vali / Vātam and balances Aiyam / Kapam and Aḷal / Pittam vital life factors. – Astringent taste
114.	Ūṇ	A physical constituent that gives shape to the body. It is necessary for the physical functions. – Muscle
115.	Uṇavu	Food
116.	Uppu	A taste formed by the union of Fire and Water element. It increases Aiyam/Kapam and Aḷal/ Pittam and balances Vali/ Vātam vital life factors. – Salt taste
117.	Uṭaliyal	Physiology
118.	Uṭaltātukkaḷ	The seven basic physical constituents of body namely Cāram (Essence/chime), Cennīr (Blood), Ūṇ (Muscle), Kozuppu (Fat), Eṇpu (Bone), Mūḷai (Marrow) and Vintu/ Nātam– Physical constituents.
119.	Vāci	A synonym for Piraṇāyāmam
120.	Vāciyōkam	The art of controlling the breath.
121.	Vaiṭṭiya Muppu	A substance potentiates the efficacy of the Medicine. – Therapeutic Panacea.





122.	Vaḷi (Vātam)	One of the three vital life factors condensed from the elements Air and Space. Vaḷi is the principle of kinetic energy in the body and is concerned with the nervous system and with circulation, movement and pathology at all levels – cell, organ and body. It is eliminated from the body through defecation. - Vātam / Vaḷi / Bio- energy movement.
123.	Varmam / Vaṇmam	Energy concentric points where the flow of life force traverses through in a periodic manner. Changes occurring in the body on being hit at some specific point – Vital points/subtle energy stations.
124.	Vāta Muppu	A substance which helps to transmute the lower metals in to higher metals – Alchemical Panacea.
125.	Vāyu	A collective term to denote the ten humoral energy channels namely Iṭakalai, Piṅkalai, Culumuṇai, Cikuvai, Puruṭaṇ, Kāntāri, Atti, Alampuṭai, Caṅkuṇi and Kuku. - (principal channels of vital Spirit / vital Air).
126.	Vellezuttu	Presbyopia
127.	Vipākam	A concept explaining the disintegration / assimilation of six tastes in the digestive tract into three primary tastes namely sweet, sour and pungent. Mostly sweet and salt, becomes sweet, sour becomes sour and bitter, pungent and astringent becomes pungent. - Post digestive transformation of tastes
128.	Vīriyam	Pharmacognostic activity of the drugs. - Potency
129.	Viṣavaiṭṭiyam	Traditional treatment of poisoning / toxins.
130.	Yōkam	The perfect scientific art that unites the mind with the God or the truth. - Spiritual practices
131.	Yōka Muppu	An Elixir like substance produced with in the body itself which protects the body ageing and rejuvenate.





**Ministry of Ayurveda, Yoga & Naturopathy, Unani,
Siddha and Homoeopathy (AYUSH)**

AYUSH Bhawan, 'B' Block, GPO Complex, INA, New Delhi-110023

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