



PROCEEDINGS

INTERNATIONAL RESEARCH CONFERENCE ON

SIDDHA MEDICINE (IRCSM-2022)

“Enhance Immunity for Healthy Life through Siddha Medicine”

under the sphere of

JAFFNA UNIVERSITY INTERNATIONAL CONFERENCE-2022

[JUICE-2022]

Unit of Siddha Medicine,

University of Jaffna.

Kaithady, Jaffna, Sri Lanka

29th January 2022



**PEOPLE'S
BANK**

Pride of the Nation



Link Natural



PROCEEDINGS

INTERNATIONAL RESEARCH CONFERENCE ON

SIDDHA MEDICINE (IRCSM-2022)

“Enhance Immunity for Healthy Life through Siddha Medicine”

under the sphere of

JAFFNA UNIVERSITY INTERNATIONAL CONFERENCE-2022

[JUICE-2022]

**Unit of Siddha Medicine,
University of Jaffna.
Kaithady, Jaffna, Sri Lanka
29th January 2022**

**Proceedings of the 3rd International Research Conference on
Siddha Medicine (3rd IRCSM-2022)**

© Copy Rights : Unit of Siddha Medicine, University of Jaffna.
Published : Unit of Siddha Medicine, University of Jaffna.
Kaithady, Jaffna, Sri Lanka.
Telephone No : 021 205 7146
Web : www.siddha.jfn.ac.lk
Printed By : Printmaster
No, 136 K.K.S Road,
Kokuvil.
ISBN No : ISBN 978-624-6150-01-93

This Proceeding book is the copyright property of the Unit of Siddha Medicine, University of Jaffna, Kaithady, Sri Lanka. The Editorial Board has made considerable efforts to present accurate and reliable information in this proceeding. However, Editorial Board does not take any legal responsibility for the accuracy, completeness, usefulness, plagiarism or copyright issues of the information herein.

Message from the Vice-Chancellor, University of Jaffna



It is with immense pleasure that I write this message for the 3rd International Research Conference on Siddha Medicine (IRCSM-2022) hosted by the Unit of Siddha Medicine, University of Jaffna. In the past years, this Siddha conference provided a venue for research scholars who investigate the Indigenous medical practices of Sri Lanka to disseminate their discoveries and novel ideas.

I am hopeful this year's conference too will lead to productive conversations and future collaborations. Siddha Medicine is an Indigenous Medicine which is practiced by the Tamil speaking peoples of this country. In the context of COVID 19 pandemic the theme of the conference, "Enhance Immunity for Healthy life through Siddha Medicine" has timely significance. It is recommended that Siddha Medicine graduates have to do the clinical practise in their own. Siddha Medicine related researches and clinical studies should be carried out to prove the nature of Siddha Medicine.

Furthermore, Unit of Siddha Medicine is going to upgrade as a Faculty of Siddha Medicine. Therefore, the Unit has to enhance its activities and should focus on the research to invent new methods to produce natural products and drugs to manage the COVID 19 outbreak. I am optimistic that this conference will be a step towards exploring solutions to the challenges faced by Siddha Medicine and the communities. I congratulate the Head of the Unit of Siddha Medicine and the organizing committee of the IRCSM 2022 for organizing this landmark conference and wish the conference and its participants all success.

Prof. S. Srisatkunarajah,

Vice-Chancellor,

University of Jaffna, Sri Lanka

Message from the Chief Guest



I am happy to give this message to the 3rd International Research Conference on Siddha Medicine (IRCSM) 2022. “Enhance Immunity for healthy life through Siddha Medicine” is the theme of this conference and it has more appropriate in the current context COVID 19 pandemic situation. This is the fourth time the Unit of Siddha Medicine, University of Jaffna is conducting this Conference and

for the first time under the umbrella of JUICE.

Furthermore, the Unit of Siddha Medicine is going to be upgraded into the Faculty of Siddha Medicine. Therefore, the Unit has to enhance its academic activities and should focus on collaborative research, clinical practices, and dissemination of knowledge to the Society. Conducting conferences is mainly to bring the research and developments taking place in the field and to get to know the development in the related fields nationally and internationally.

I congratulate the Management Committee, the Head, Staff, and the students of Unit of Siddha Medicine for taking a good effort to conduct this conference successfully. I again wish all those who are involved with this venture and pray for the success of the event.

Prof. (Ms.) V. Arasaratnam,

Senior Professor of Biochemistry

Chairperson Standing Committee of Indigenous Medicine, UGC

Message from the Former Council Member



I am extremely happy to send this message and blessings to the 3rd IRCSM-2022. I am very proud to observe the establishment and growth of our Siddha Medicine at our University of Jaffna. The Siddha Medicine is a proud heritage of our culture and medicine in Sri Lanka. This course of study of Siddha Medicine at our university is a backbone to the field of studies of the university.

I am very happy to state that I am associated with the Unit of Siddha Medicine from its inception by many ways starting as a visiting lecturer from Dept. of Chemistry in mid-eighties and up to end of 2021 as a shadow Dean from my capture as a council member. The Vice Chancellor Prof. S. Srisatkunarajah has taken all the steps to upgrade the Unit of Siddha Medicine to a faculty. The present action of holding an International conference for the 3rd time is an ample example of its growth in academic excellence.

During the current year, the Unit of Siddha Medicine is going to start a Postgraduate Diploma in Siddha Medicine and this is another step toward the fulfillment of its growth to a Faculty and eventually to a University of Siddha.

I have witnessed the 1st two International conferences and wished that the 3rd IRCSM-2022 will be a grand success. The research papers are accepted from researchers locally and internationally. The Head and staff of the Unit of Siddha Medicine and its associates are devoting to the success of the IRCSM-2022 and therefore I have pleasure in everything my blessings to the success of the conference.

Dr. S. Mohanadas

Former Council Member University of Jaffna

& Chancellor,

University of Vavuniya, Sri Lanka

Message from Chairman, Management committee of Siddha Medicine



Siddha Medicine become a Unit in University of Jaffna for more than 33 years and readily extends its service to the community. It has produced several Siddha doctors who are serving locally and in abroad. Efforts taken by many people in the Unit brought it to this level and it's a good message to all of us that Unit of Siddha Medicine is preparing now to expand further to extend their service to the people. Initiatives are taken well ahead to upgrade it as a Faculty of Siddha

Medicine soon. The infrastructure and human resources of the Siddha Medicine have to be strengthened to meet the requirements of a Faculty.

“உணவே மருந்து, மருந்தே உணவு” means ‘Food is Medicine and Medicine is the Food’. This quote explains the importance of food in Medicine and vice versa. The food we consume has to be balanced, healthy and nutritious to give healthy life to the people. Further the natural immunity against any infectious diseases will develop by consuming naturally grown plants, which are readily available in our motherland. The Unit also preparing its postgraduate program Postgraduate Diploma in Siddha Medicine to be delivered at the Faculty of Graduate studies after obtaining approval of the University Grants Commission. The Diploma in Yoga also in the pipeline to get it approved to disseminate healthy living exercise through a program. These initiatives explore more possibilities to the students of Siddha Medicine to strengthen their knowledge, research and other skills and experience through these meaningful programs.

This Third International Conference with the theme of “Enhance immunity for healthy life through Siddha Medicine” organized by the Unit of Siddha Medicine during first month this year is a unique event in the University under the auspices of JUICE - 2022. This provides a platform to the researchers to present their findings, demonstrate their activities and opened up healthy discussions on various fields of Siddha Medicine. This will enable the Siddha Students to interact with the research community and to demonstrate the importance of the indigenous medicine to all.

The dynamic leadership of the Vice Chancellor of the University is highly supportive

and instrumental to organize this conference and developments at the Unit of Siddha Medicine. The credibility goes to Head of the Unit, all the conference committee members, staff (Academic and Non-academic), alumni and the students for their timely effort towards the successful celebration of these events. It is noteworthy to appreciate the enthusiasm and energy invested by the Siddha Student Association for their engagement with these activities and use this opportunities to learn and experience themselves in conducting a similar program. The support rendered by the Dr. (Mrs.) K. Jebanamaganeshan, the Commissioner of Provincial Department of Indigenous Medicine, Northern Province and Dr. I. Jebanamaganeshan, Medical Officer-in-Charge of the Siddha Teaching Hospital, Kaithady as members in the Board of Management are commendable and this union is the strength of this Unit to deliver its services satisfactorily to the community.

Upon the request of the then Vice-Chancellor, Prof.(Ms.) Vasanthy Arasaratnam the Board of Management was reconstituted by the Senate and since 2016, the board played a vital role to support in decision making, assisted in enhancing quality and coordinated all the activities including initiation of the Research Conference. Necessary guidance and training are given to the staff members of the Unit of Siddha Medicine by having number of sub-committees and allowed them to discuss, deliberate and take up the decisions in their own. The experience gained over the years by actively involved in the issues discussed at the board of management will help them to take up the faculty once gazette.

On behalf of the Management committee of the Siddha Medicine I wish the third conference a success and the long awaited transformation into the faculty a reality during early part of this year.

Prof.G.Mikunthan

Department of Agriculture Biology,

Faculty of Agriculture.

University of Jaffna.

Message from the Conference Chair



It's with great pleasure, I write this message of felicitation to the Research Conference of Unit of Siddha Medicine (3rd IRCSM) to be held on 29th - 30th January 2022.

The Research sessions have been taking place once in two years at this Unit, and a forum was arranged for the Academics and Research students from all Faculties to present their research findings in front of an audience with high intellectual calibre.

On behalf of the organizing committee, I wish to express my profound gratitude to Prof. S. Srisatkunarajah, Vice-Chancellor University of Jaffna, whose original idea was to eventually conceive the 3rd IRCSM under the Juice umbrella.

Prof. V. Arasaradnam, Chairman / Standing Committee of Indigenous Medicine for accepting our invitation to be the Chief Guest of this occasion and also she guided our editors to edit the Research papers for the publication.

My gratitude also goes to Prof. G. Mikunthan, Chairman/ BoM, and members of BoM for providing support to organize the conference.

I would like to thank Dr. S. Mohanadas for providing wishing message in the Conference proceedings and my sincere thanks goes to Prof. P. Barathajothi, Head/ Dept. of Siddha Medicine, Tamil University, India for accepting to deliver plenary speech at the conference and to Dr. T. Sathiyaseelan, Prof. R. Sivakanesan, Mrs. G. Jeyalakshmi and Dr. R. Gowribalan for contributing as keynote speakers for the conference.

I take this opportunity to thank the contributors, Organizing Committee, the Editorial Committee, Sub Committees of the Conference and staff of Unit of Siddha Medicine who had a monumental task at their hands in handling and processing the abstracts, Proceedings, and other necessary arrangements to make 3rd IRCSM 2022 a huge success.

I welcome all participants and presenters to the Unit of Siddha Medicine, University of Jaffna, and wish their participation at 3rd IRCSM 2022 a memorable and rewarding experience.

I extend my sincere thanks to the sponsors and to all others who have contributed in various ways to make this congress a grand success.

Dr.T.Thayalini

Head/ Unit of Siddha Medicine

University of Jaffna

Message from the Convener



As the Convener of the Conference Committee, I am delighted and honoured to bring this message to the 3rd International Research Conference on Siddha Medicine (IRCSM) 2022. It is a virtual conference and the theme of this conference is “Enhance Immunity for Healthy life through Siddha Medicine”.

The Siddha Medicine is an Indigenous Medicine and it is empowered by *Siddhars* who have possessed super natural powers. This conference has given a good opportunity for those who have a thirst in knowing the present practical and clinical developments in Siddha Medicine and also share their ideas. The conference aims to bridge the researchers working in academia and other professionals through scientific research presentations and keynote addresses in current different tracks. It reflects the growing importance of Siddha system as a field of research and clinical practice.

I wish to express my sincere gratitude to our respected Vice-chancellor Prof. S. Srisatkunarajah, Chairperson, Standing Committee of Indigenous Medicine Snr. Prof. (Ms.) V. Arasaratnam, and Chairperson Board of Management Snr. Prof. G. Mikunthan and all the members of the Board of Management for their immense guidance and assistance to organize this conference.

Finally, I would like to express my thanks to all the members of the conference committee for extending their valuable time and support in organizing this conference, and all the authors, reviewers, and other contributors for their sparkling effects and their belief in the excellence of IRCSM 2022.

“Love All – Serve All
Help Ever – Hurt Never”

Dr. (Ms.) Vinotha Sanmugarajah
Senior Lecturer, Unit of Siddha Medicine,
University of Jaffna

Message from the Secretary



I am very happy and proud to give this message as the Secretary of the 3rd International Research Conference on Siddha Medicine (IRCSM) 2022. The theme of this conference is “Enhance Immunity for Healthy life through Siddha Medicine”. This conference theme is more appropriate to the current COVID 19 pandemic situation. This conference is conducted under the sphere of Jaffna University International Research Conference - 2022 (JUICE 2022) where the theme of JUICE-2022 is “Shaping the Future in the New Normal” with the guidance of respected Vice Chancellor Prof. S. Srisatkunarajah.

This is the platform for the Academic Researchers and Professionals to share their knowledge, experience, research findings and enable critical discussion in a range of different discipline. Further, I believe that this conference serves a meaningful place and excellent opportunity to enhance the research finding among the scientific Community.

I wish to express my sincere gratitude to respected Vice Chancellor Prof. S.Srisatkunarajah, Chairperson Standing committee of Indigenous Medicine, University Grants Commission Snr. Prof. (Ms.) V. Arasaratnam, Chairman Board of Management Snr. Prof. G. Mikunthan, all the Board of Management members and all Advisory committee members for their valuable guidance and support to conduct this Conference successfully amidst their busy schedule.

I wish to express my thanks to the Plenary and Keynote Speakers, Chairpersons of the Sessions, Presenters, Reviewers, Sponsors, Members of the Organizing Committee and Academic & Academic Supporting Staff of the Unit for their support and assistance to make this occasion a success.

I sincerely thank all the participants to the IRCSM 2022 and wish the Conference be a great success and contribute immensely towards the development of research in Siddha Medicine nationally and internationally. I thank each and every one who contributed to the success of the conference.

Dr. (Ms.) Sivarangini Sivagnanam,
Senior Lecturer, Unit of Siddha Medicine

Message from the Joint Editors



It is with huge ecstasy that we bring out the proceedings of the 3rd International research Conference on Siddha Medicine (3rd IRCSM 2022) with its special theme on “*Enhance Immunity for Healthy Life Through Siddha Medicine*”. We assure that this 3rd IRCSM



should build for global promotion of safe and effective Indigenous Medical treatments. Virtual dealings are poles apart. But poles apart doesn't essentially mean “bad.” Many more occasions are reorganizing virtual platform due to global pandemic COVID-19 circumstances. A virtual show has abundantly of benefits.

This year, 146 papers were submitted from the specific countries around the globe, from academia, medical officers and students. Each paper was submitted to review by 2/3 reviewers. The final selection of abstracts categorized into proceedings and post conference e- magazine. The technical sessions are grouped into three tracks and Five keynotes such as Health & Indigenous medicine, Natural resource and indigenous medicine and Siddha literature & yoga therapy. The acceptance rate is 12% for the technical papers, 6% for case study presentation, 30% for popularization article, and 52% of paper were let off based on the diverse criteria. The conference lasts for 4 days and provides abundant activities including Pre-conference workshop, Proceedings publication and presentation of papers for Conference and presentation for case studies and popularization articles.

We would like to precise us in most gratefulness to the authors whose technical offerings are presented in the proceedings. Finally, We wish to sincere gratitude to respected Prof. S.Srisatkunarajah Vice Chancellor, Snr. Prof. (Ms.) V. Arasaratnam, Chairperson Standing committee of Indigenous Medicine, University Grants Commission and staffs of the Siddha Medicine for supporting to the success of this conference.

Dr. (Mrs), Sailajah Sivarajah & Dr. Thavarasah Vijayakumar
Senior lecturer & Lecturer,
Unit of Siddha Medicine, University of Jaffna.

Contents

1. Message	1
2. List of Reviewers	12
3. Office Bearers	19
4. List of Abstracts	20
5. Plenary Address	22
6. Keynote Address	24
7. Abstracts	
• Health & Indigenous Medicine	31
• Natural Resources & Indigenous Medicine	46
• Siddha Literature & Yoga	52
8. Committees	57

List of Reviewers

Snr. Prof. (Ms.) V. Arasaratnam	Senior Professor, Department of Bio-Chemistry, Faculty of Medicine, University of Jaffna.
Snr. Prof. G. Mikunthan	Department of Agricultural biology, Faculty of Agriculture, University of Jaffna
Prof. A. Sanmugadas	Retired Professor, University of Jaffna.
Prof. S.V. Parameswaran	Retired Professor, University of Jaffna.
Emeritus Prof. R. Sivakanesan	Emeritus Professor, University of Peradeniya.
Prof. K. Velauthamurty	Department of Chemistry, Faculty of Science, University of Jaffna.
Prof. N. Kabilan	Department of Botany, Faculty of Science, University of Jaffna
Prof. S. Balakumar	Department of Biochemistry, Faculty of Science, University of Jaffna.
Prof. K. C. Thavaranjith	Department of Botany, Faculty of Science, University of Jaffna.
Prof. (Mrs.) R. Gnaneswaran	Department of zoology, University of Jaffna.
Prof. P. Sevvel	Department of Botany, Faculty of Science, University of Jaffna.
Prof. (Mrs.) M. Kalamathy	Department of Microbiology, Faculty of Medicine, University of Jaffna.
Prof. K. Sivapalan	Department of Chemistry, Faculty of Science, University of Jaffna.
Prof. R. D. H. Kulathunga	Ayurveda section, Institute of Indigenous Medicine, University of Colombo.
Prof. M. S. M. Shiffa	Unani Section, Institute of Indigenous Medicine, University of Colombo.

Prof. N. Kabilan	Department of Siddha Medicine Dr. M. G. R. Medical University, India.
Prof. D. K. Sounthararajan	Government Siddha Medical College Palayangottai, India
Prof. A. Manoharan	Government Siddha Medical College Palayangottai, India
Prof. (Mrs.) P. Barathajothi	Department of Siddha Medicine, Faculty of Science, Tamil University, Thanjavur , India.
Dr. (Mrs.) A. M. Muthalib	Unani section, Institute of Indigenous Medicine, University of Colombo.
Dr. K. R. Weerasekara	Ayurveda section, Institute of Indigenous Medicine, University of Colombo.
Dr. S. M. Samarakoon	Ayurveda section, Institute of Indigenous Medicine, University of Colombo.
Dr. S. D. Hapuarachchi	Ayurveda section, Institute of Indigenous Medicine, University of Colombo.
Dr. Anoma Jayasiri	Ayurveda section, Institute of Indigenous Medicine, University of Colombo.
Dr. N. D. Kodithuwakku	Ayurveda section, Institute of Indigenous Medicine, University of Colombo.

Dr. M. H. M. Nazeem	Unani Section, Institute of Indigenous Medicine, University of Colombo
Dr. W. A. L. Chandrasiri Waliwita	Department of <i>Cikitsa</i> , Gampaha Wickramarachchi, University of Indigenous Medicine,
Dr. (Mrs.) K. G. C. Dissanayaka	Department of <i>Cikitsa</i> , Gampaha Wickramarachchi, University of Indigenous Medicine,
Dr. (Mrs.) W. J. Wickramarachchi	Department of <i>Cikitsa</i> , Gampaha Wickramarachchi, University of Indigenous Medicine,
Dr. Tissa Hewavithana	Gampaha Wickramarachchi University of Indigenous Medicine
Dr. (Mrs.) M. C. Srikanthan	Retired Senior Lecturer Unit of Siddha Medicine, University of Jaffna.
Dr. (Mrs.) S. Pancharajah	Retired Senior. Lecturer Unit of Siddha Medicine, University of Jaffna.
Dr. (Mrs.) P. Vijitha	Unit of Siddha Medicine Trincomalee Campus, Eastern University
Dr. (Ms.) K. Vidya dharshini	Unit of Siddha Medicine Trincomalee Campus, Eastern University
Dr. S. Ushakanthan	Unit of Siddha Medicine, Trincomalee Campus, Eastern University
Dr. (Mrs.) U. Balamanokari	Unit of Siddha Medicine Trincomalee Campus, Eastern University
Dr. V. Anavarathan	Unit of Siddha Medicine Trincomalee Campus, Eastern University

Dr. (Mrs.) J. Nimalan	Department of Bio-Science, University of Vavuniya.
Dr. N. D. Nithi Kanagaratnam	Victoria University, Australia
Dr. R. Gowribalan	Retired VOG, Hatha yoga Trainer , UK
Dr. T. Eswaramohan	Department of Zoology, Faculty of Science , University of Jaffna
Mr. S. Sritharan	Faculty of Agriculture, University of Jaffna
Dr. (Mrs.) L. Pradheeban	Department of Agronomy, Faculty of Agriculture, University of Jaffna
Mr. S. Ramanarajah	Department of Hindu Civilization, Faculty of Hindu Studies, University of Jaffna.
Mr. N. Vaman	Department of Hindu civilization, Faculty of Arts & culture Eastern University
Mr. N. Subaraj	Department of languages, Faculty of Arts & Culture, South Eastern University.
Mrs A. Tharsan	Department of Dance, RAFA, University of Jaffna.
Dr. S. Suriyakumar	Department of Music, RAFA, University of Jaffna.
Dr. (Mrs.) S. Yohi	Department of Chemistry, Faculty of Science University of Jaffna
Dr. (Mrs.) B. Ahilan	Sports science unit, Faculty of Allied Health Science University of Jaffna.

Dr. S. Sabaananth	Sports science unit, Faculty of Allied Health Science University of Jaffna.
.Dr. K. Ketheeswaran	Sports science unit, Faculty of Allied Health Science University of Jaffna.
Dr. (Mrs.) J. Tharmila	Department of Botany, Faculty of Science, University of Jaffna
Mrs. N. Ravimannan	Department of Botany, Faculty of Science, University of Jaffna
Dr. R. Srikanan	Department of Chemistry, Faculty of Science, University of Jaffna
Dr. (Ms.) N. Krishnapillai	Department of Botany, Faculty of Science, University of Jaffna.
Dr. K. Pakeerathan	Department of Agricultural Biology, Faculty of Agriculture, University of Jaffna.
Dr. M. Balakailasanatha Sarma	Department of Sanskrit, Faculty of Hindu Studies, University of Jaffna.
Dr. S. Mukunthan	Department of Hindu Civilization, Faculty of Hindu Studies, University of Jaffna
Dr. I. Jebanamakaneshan	Siddha Teaching Hospital, Kaithady.
Dr. (Mrs.) R. Subamathy	Siddha Teaching Hospital, Kaithady.
Dr. V. Jegatheeswaran	Siddha Teaching Hospital, Kaithady.
Dr. V. Thirumal	Siddha Teaching Hospital, Kaithady.
Dr. (Ms.) M. Suganja	Siddha Teaching Hospital, Kaithady.
Dr. (Mrs.) K. Anparasai	Siddha Teaching Hospital, Kaithady.
Dr. (Mrs.) R. Poopatheeswary	Siddha Teaching Hospital, Kaithady.

Dr. T. Thileepan	Siddha Teaching Hospital, Kaithady.
Dr. (Mrs.) R. Srithar	Department of Indigenous Medicine , Eastern Province.
Dr. (Mrs.) S. Varnakulenthiran	Siddha Teaching Hospital, Konesapuri Eastern province
DR. S. Uthayanan	Department of Indigenous Medicine, Eastern Province
Dr. (Mrs.) B. Jeyaluxmy	Base Hospital, Puthukudiyiruppu, Eastern Province.
Dr. N. Niranjan	District Siddha Ayurveda Hospital, Kopaalapuram, Eastern Province
Dr. S. R. Rajeev Poltan	District Siddha Ayurveda Hospital, Kopaalapuram, Eastern Province
Dr. T. Sathyaseelan	Provincial Department of Indigenous Medicine, Northern Province.
Dr. S. Ganesan	Free Siddha Ayurveda Dispensary, Municipal council
Dr. (Mrs.) K. Manoranjithamalar	District Siddha Hospital, Jaffna Northern Province.
Dr. S. Thanaranjan	Siddha Base Hospital, Vavuniya, Northern Province
Dr. R. Ajanthan	Rural Siddha Hospital, Pandatharippu, Northern Province
Dr. (Mrs.) V. Anathajothy	Department of Indigenous Medicine, Northern Province.
Dr. S. Kanakasuntharam	Drug Manufacturing Unit, Achuveli, Northern Province.
Dr. (Mrs.) S. Suthamathi	Drug Manufacturing Unit, Achuveli, Northern Province.
Dr. (Mrs.) S. Sivagowri	Free Siddha Ayurvedic Dispensary, Vali south-east presesiyasabha, Neerveli, Northern Province

Dr. (Mrs.) S. Dishianthy	District Siddha Hospital, Kilinochchi, Northern Province.
Dr. (Mrs.) J. Edna Maria	Department of Indigenous Medicine Northern Province.
Dr. N. J. Q. Tharshanodayan	District Siddha Hospital, Mannar, Northern Province.
Dr. P. Thavakeethan	Siddha District Hospital , Mullaithivu Northern Province.
Dr. (Mrs.) K. Elilini	Central Siddha Dispensary, Velanai, Northern Province
Dr. K. Sivadharan	Ayurveda Hospital, Kirimatiyana, North Western Province.
Dr. A. Manoraj	Department of Ayurveda, Central Province.
Dr. S. G. Kisholorgan	Bandaranayakka Memorial Ayurveda Research Institute, Nawinna, Maharagama.
Dr. (Mrs.) R. Thatparan	Bandaranayakka Memorial Ayurveda Research Institute, Nawinna, Maharagama.
Dr. (Mrs.) M. Subajini	Palmyrah Research Institute, Kaithady.

Office Bearers

Chairperson:

Dr. (Mrs.) T. Thayalini

Head/ Siddha Medicine

Convener:

Dr. (Ms.) V. Sanmugarajah

Secretary:

Dr. (Ms.) S. Sivagnanam

Treasurer:

Dr. (Mrs.) K. Sounthararajan

Joint Editors:

Dr. (Mrs.) S. Sivarajah

Dr. T. Vijayakumar

Preconference Workshop Coordinator:

Dr. S. Sivashanmugarajah

Dr. (Mrs.) N. Nithiyakumar

LIST OF ABSTRACTS

Health & Indigenous Medicine

ID No	Title	Page No
H & IM 01	Anti– Inflammatory Effect of Hydro Alcoholic Extract of <i>Ciraka Curanam</i>	32
H & IM 02	A Pilot Study on Acupuncture Clinic at Special Treatment Unit Siddha Base Hospital Vavuniya.	34
H & IM 03	Indigenous Medical Management for Home Quarantine Covid -19 Cases in Tricomalee District.	36
H & IM 04	A Survey Study on Ayurveda Medical Students’ Perspective on e - Anatomy	37
H & IM 05	Recommendation for Conservation and Sustainable Use of Indigenous Medicine of Sri Lanka.	38
H & IM 07	An Effective Natural Ayurvedic Product for Radiant Healthy Skin : <i>Varnaka Ghrita</i>	39
H & IM 08	A Pilot Study on <i>Udumbra Hsheera</i> Based <i>Ksharasutra</i> with Partial Fistulectomy in <i>Bhagandra</i> (Fistula - in ano)	41
H & IM 09	Anti-Tumor Activity of <i>Irathaka kaariya kulikai</i> in Dalton’s Lymphoma Ascites Tumor Model	43
H & IM 10	Distribution of Type 2 Diabetes Mellitus Patients Based on <i>Doshas</i> and <i>Pirakiruti</i>	44

Natural Resources & Indigenous Medicine

ID NO	Title	Page No
NR &IM 01	Ethno Botanical Study of some Misidentified Medicinal plant species in Sri Lanka.	47
NR &IM 02	Comparative Physicochemical Evaluation of Leaves of Selected Medicinal plants Used in Traditional Medicine	48
NR &IM 03	Assessment of Functional Group in Herbo–Mineral Siddha Formulation <i>Abraga parpam</i> through Fourier Transform infrared Spectroscopy	50
NR &IM 04	Anti– Fungal Activity of Selected Medicinal Plants Against <i>Collectotrichum gloeosporioides</i> Causing Onion Leaf Twister Disease (OLTLD)	51

Siddha Literatures &Yoga therapy

ID No	Title	Page No
SL & Y 01	Combined Effect of Yogic Practices and Running on Cardiovascular Endurance Among University Level <i>Bharatanatyam</i> Dance	53
SL & Y 02	சடங்கும் ஆரோக்கியமும், தமிழர் வாழ்கைவட்டச் சடங்குகள் அடிப்படையிலான இனவரைவியல் (Ritual and Health : Ethnographic study on Life Cycle Rituals of Tamils)	54
SL & Y 03	Effect of Yoga Practice, Breathing Exercise and Sun Salutation on Body Mass Index for Sports Science Higher Diploma University of Jaffna Students	56

PLENARY ADDRESS

Immune Your Health Through Medicinal Plants



It is evident from human history that medicinal plants have been the treatment regimen to cure a variety of diseases, including diseases caused by insects, fungi, bacteria, and viruses. The effects shown by the plants are due to the chemicals present in them and they work in the same manner as the conventional drugs.

The term immunity defines the body's natural defense system against a vast array of diseases and disorders. The immune system is designed to protect the host from invading pathogens and to eliminate disease (Sharma *et al.*, 1983). In Indian medicinal literature, a large number of plants are included to promote the physical mental, and defense mechanisms into the body. Medicinal plants are used as an immunomodulatory effect to provide the alternative potential to conventional chemotherapy for a variety of diseases, especially in relation to host defense mechanisms.

The use of plant products like polysaccharides, lectins, peptides, flavonoids, and tannins has been the immune response or immune system in various *in-vitro* models (British Pharmacopoeia, 1999). There is much-growing interest to use these medicinal plants as modulators of the complex immune system. A number of researches explored that many of the chemicals in the form of alkaloids, flavonoids, terpenoids, polysaccharides, lactones, and glycoside products are responsible to cause alterations in the immunomodulatory properties (Wadood *et al.*, 2013).

To develop plant-derived natural products as potent and safer leads to act as immunomodulators is gaining much interest. The generation of herbal medicine as a multiple-component agent is expected to modulate the complex immune process in such a way so as to prevent the infection rather than treatment and cure of the disease. An herbal immunomodulator is a substance that stimulates or suppresses the components of the immune system including both innate and adaptive immune responses. The modulation of the immune system by various medicinal plant products has become a subject for scientific investigations currently worldwide.

This aims towards providing the basic and fundamental information on the vast herbal and natural medicinal treasure available to us derived from plants. This focuses on an overview of a number of medicinal plants and their immunomodulatory activity.

Dr. P. Bharathajothi,
Associate Professor & Head, Department of Siddha Medicine,
Tamil University, Thanjavur ,India

KEYNOTE ADDRESSES

Bio active Compounds and Nutrients in Locally Grown Crop Based Foods



Bioactive compounds forms an important class in the upcoming complementary and alternative medical therapy for many diseases. This presentation is the outcome of a few studies carried out on bioactive compounds and nutrients in locally grown foods.

In Sri Lanka, rice is the staple food and there are over 300 different traditional rice varieties. In rice varieties *Attakkari*, Bg2907, and Bg407, the total antioxidant capacity (TAC), 2, 2-diphenyl-1-picrylhydrazyl radical (DPPH) scavenging (EC_{50}), and reducing power (EC_{50}) were 0.561 ± 0.113 to 0.695 ± 0.077 mmol/100 g fresh weight (FW), 26.07 ± 3.08 to 53.66 ± 7.61 mg/mL FW, and 33.49 ± 4.10 to 40.81 ± 3.65 mg/mL respectively. The total phenolic content (TPC), total flavonoid content (TFC), monomeric anthocyanin, and condensed tannin contents were in the range of 0.676 ± 0.078 to 0.900 ± 0.057 mg tannic acid equivalent (TAE)/g, 5.36 ± 0.75 to 6.38 ± 0.82 mg TAE/g FW, 0.0202 ± 0.005 to 0.0292 ± 0.009 mg/g FW, and 0.078 ± 0.015 to 0.104 ± 0.017 mg TAE/g FW, respectively. Significant differences were observed in DPPH, reducing power, and TPC among rice varieties ($p < 0.05$). *Attakkari* had the highest total antioxidant capacity (TAC), scavenging activity, reducing power, TPC, TFC, monomeric anthocyanin content, and condensed tannin content followed by Bg2907 and Bg406. Total phenolic compounds, TFC, and condensed tannin are the major antioxidants in all three varieties of rice while the monomeric anthocyanin is only a minor antioxidant.

The health benefits of Green leafy vegetables (GLVs) have been related to their phytochemical components. The TAC of fresh GLVs ranged from 4.12 ± 0.16 μ mol/g Wet Weight (WW) for *Moringa oleifera* to 38.59 ± 1.05 μ mol/g WW for *Murraya koenigii*. TPC of leafy vegetables when fresh ranged from 21.82 ± 15 mg Tannic Acid Equivalent (TAE)/ 100 g WW for *Mollugo oppositifolia* to 560.1 ± 51 mg TAE/ 100 g WW for *Delonix elata*. Most of the GLVs showed an increase in TPC and TAC content during storage but the increase was observed more at room temperature than at 4°C .

The increase in TPC and TAC may be due to breakdown to free phenolics during storage. A positive correlation existed between TPC and TAC in fresh GLVs as well as GLVs stored at room temperature and 4°C. Vitamin C content of fresh GLVs ranged from 5.25 mg/100 g for *Centella asiatica* to 433.13 mg/100 g wet weight for *Drgea volubilis*.

Proximate composition, starch content, total sugar content, and trypsin inhibitor activity content of tubers from 16 cultivars of sweet potato (*Ipomoea batatas* L.) differed ($P < 0.05$) with regard to all of these parameters. The mean *in vitro* digestibility of sweet potato protein was 75.8%, which indicates that sweet potato protein is well utilized. Trypsin inhibitor activity was not related to the *in vitro* protein digestibility or apparent metabolizable energy values, suggesting that the presence of trypsin inhibitor does not influence the nutritive value of sweet potato tubers, at least in the cultivars evaluated in this study.

Key words: Bioactive compounds, Nutrients, Traditional rice, Green leafy vegetables

Emeritus Prof. R. Sivakanesan
University of Peradeniya,
Sri Lanka.

Scientific Evidence: Yoga Therapy



Three definitions:

Science - what is learned through reproducible experiments and observation.

Yoga - to unite, the union of the individual self with nature.

Therapy - treatment intended to relieve or heal a disorder.

At present many think that yoga is some form of exercise and/or something to aid in relaxation. Yoga is really to promote unity/harmony with everything around you.

Many studies have been done on how yoga can help to treat or reduce the effects of illnesses. Diaphragmatic breathing techniques, pranayama, stimulate the parasympathetic nervous system, this is a very effective way of reducing stress and anxiety. Holding of the breath, kumbhaka, increases your erythropoietin hormones, which boosts haemoglobin levels in the blood.

Magnetic Resonance Scan, MRI, show us changes in the brain. It has been shown that yoga makes changes in the brain which keeps us healthy. Yoga will help to keep your whole system in balance, maintaining a healthy equilibrium

Like anything yoga has to be practiced daily to have maximum benefits. Nobody will deny that yoga is a solution for the social, mental, and physical problems in the world. Please learn yoga from a qualified teacher and make the world a happier and healthier place.

Dr. R. Gowribalan,

Retired VOG,

Classical Hatha Yoga Teacher.

U.K.

உலகிற்குக் கொடை சித்தா ஆயுர்வேதம்



உலகப் பொதுமறையாம் திருக்குறளில் முப்பாட்டன் வள்ளுவப் பெருந்தகை “நோய்நாடி நோய்முதல் நாடி அதுதணிக்கும் வாய்நாடி வாய்ப்பச் செயல்” நோய்க்கென்று ஒரு மருத்துவ அதிகாரமே படைத்துச் சென்றுள்ளார். அதுபோல

“மருந்தென வேண்டாவாம் யாக்கைக்கு அருந்தியது அற்றது போற்றி உணின்” என்று உணவே மருந்து என வகுத்துச் சென்றுள்ளார். எம் வள்ளுவனைப்போல் தமிழ் நலம், தமிழர் நலம் உலக மாந்தர்களின் நலன் என பல்லுயிர்க்கும்

வாழ்வியல் நெறி வகுத்துச்சென்றார். அவன் வழித்தோன்றலாகிய சித்தர் பெருமக்கள் எண்ணற்ற மருத்துவ முறைகளை நம் மக்களுக்கு வழங்கிச் சென்றுள்ளனர்.

உலகில் மனிதர்களுக்கு ஏற்படுகின்ற துன்பத்தை நோய் என்று குறிப்பர். நோய் உடல் நோய், உளநோய் என இருவகைப்படும். இவைகளை வராமல் தடுக்கவும், வந்தபின் நீக்கவும் மேற்கொள்ளப்படும் செயலே ‘மருத்துவம்’ ஆகும். இதற்கு உதவும் வழிமுறை ‘மருந்து’ ஆகும். மருந்து என்பது பல்வேறு வகையான நோய்களைத் தடுப்பனவும், தீர்ப்பனவும் பல்வேறு நலப்பொருள்களின் தொகுதி ஆகும்.

இந்திய மருத்துவத்தில் சித்த, ஆயுர்வேத, யுனானி மருத்துவம் என மூவகையுண்டு. இந்திய மருத்துவத்திற்குள்ளும் முதன்மையாகத் தோன்றியது ‘சித்த மருத்துவம்’ எனப்படும் தமிழ் மருத்துவமே ஆகும்.

இம்மருத்துவ முறையை வகுத்தவர்கள் பதினெண் சித்தர்கள். இவர்களில் முதன்மையானவர் ‘அகத்தியர்’. எனவே சித்த மருத்துவ முறையை அகத்திய மருத்துவ முறை என்றும் கூறுவதுண்டு. சித்தர்கள் தாம் ஆராய்ந்து கண்டறிந்த உண்மைகளை மனித சமுதாயம் பயன்படும்படிச் செய்தனர்.

“செத்தவர் தம்மை எழுப்பித் தருகின்ற சித்தர் பிறந்த தமிழ்நாடு” என்று மகாகவி பாரதியார் பாடியுள்ளார். வாதம், பித்தம், சிலேத்துமம் ஆகியவற்றால் ஏற்படும் பிணிகளை அகற்ற மூலிகைகள் இன்னபிற பொருள்களை கையாண்டு பல்வேறு மருந்துகள் செய்யும் முறைகளை உலகிற்கு தந்து சென்றுள்ளனர்.

சித்தர்கள் என்றால் அறிவு படைத்தவர்கள், அறிஞர்கள், மேதைகள், பேரறிவு படைத்தவர்கள், நுண்ணறிவு படைத்தவர்கள், விஞ்ஞானிகள், மெய்ஞானிகள் எனப் பொருள் கொள்ளலாம்.

சித்த மருத்துவத்தில் பொதுமருத்துவமின்றி குழந்தைகளுக்கு, கர்ப்பிணிகளுக்கு, குதிரை, யானைகளுக்கு என்று வைத்திய முறைகள் கூறப்பட்டுள்ளன.

இந்தியாவில் மனித சமுதாயம் சிறப்புடனும், நலமுடனும் வாழ இயற்கையோடு இணைந்தே வாழ வேண்டும் என்பதில் உறுதி கொண்டிருந்தனர். அந்த வகையில் நோய் தீர்க்க என்றே தோன்றியதே ஆயர்வேதம். அதே நேரத்தில் தாவரங்களுக்கான மருத்துவ முறைகள் (விருட்சாயுர்வேதம்) பற்றி பல நூல்கள் குறிப்பிடுகின்றன. மக்களுக்கு பயன்தரக்கூடியதும், உணவு வழங்கக்கூடியதுமான தாவரங்கள் தழைத்து வளர்வதற்கும், அவற்றிற்கு ஏற்படக்கூடிய நோய்களை நீக்கும் மருத்துவ முறைகளையும் பல்வேறு நூல்களில் பதிவு செய்துள்ளனர்.

விருட்சாயுர்வேதம் போன்ற ஒரு சில நூல்கள் பற்றி பார்ப்போம். கி.பி. 5 ஆம் நூற்றாண்டில் வராகமிகிரரால் வடமொழியில் இயற்றப்பட்ட ஒரு ஆராய்ச்சி நூல் பிருஹத் சம்ஹிதை ஆகும். இதில் ஜோதிடம் மட்டுமல்லாமல் மேகங்கள், தாவரங்களுக்கான அறிவியல் கூறுகள், காற்று மற்றும் பூ பூத்தலின் வழியாகப் பயிர் விளைச்சலை அறியக்கூடிய குறிப்புகள் மற்றும் வறண்ட பகுதி நீருள்ள பகுதியை அறிதல் பற்றி கூறியுள்ளார்.

காஸ்யப முனிவரால் எழுதப்பட்ட நூல் க்ருதிசுக்தி என்னும் நூல். இதில் நெல்பயிரிடுவதற்கான விவரங்கள், காய்கறிகள் பயிரிடுதல், உணவில் சேர்த்துக் கொள்ளக்கூடிய மற்றும் சேர்த்துக் கொள்ளக்கூடாத பொருள்களின் பட்டியல் போன்றவற்றையும் கூறியுள்ளார்.

இந்தியாவிலும் குறிப்பாக தமிழகத்திலும் இலங்கையில் பயன்படுத்தி வந்த நம் முன்னோர் மருத்துவம் பற்றிய அறிதலை எதிர்காலத் தலைமுறைக்கு எடுத்துச் சொல்ல வழிவகுக்கும் முன்றாவது உலக சித்த மருத்துவ மாநாடு சிறப்பாக நடைபெற வாழ்த்துகிறோம்.

கோ. ஜெயலெட்சுமி

தலைமையாசிரியர்,

ஊராட்சி ஒன்றிய நடுநிலைப்பள்ளி,

தஞ்சாவூர், இந்தியா.

How to exercise the Indigenous system of Medicine to achieve sustainable good health of people in Northern Province, Sri Lanka



Sri Lanka is an island located near India, in the Indian Ocean. Palk Strait separate Sri Lanka from the Indian Subcontinents. Sri Lanka is a multi-ethnic Democratic Socialist Republic. The Sinhalese are the majority of the population and Tamils, Muslims are other notable minority groups in the country. In Sri Lanka provinces are the first level of administrative division, and there are 9 provinces in the country. Sri Lankan

government provides universal healthcare system free of charge to all Sri Lankan citizens. The Indigenous system of medicine provides a notable contribution to the country's healthcare even though the western medicine plays a major role in the healthcare system. Indigenous medicine in Sri Lanka is legally termed as "Ayurveda". Ayurveda in Sri Lanka includes 4 main types of medicines based on ethnicity, tradition, and culture. Ayurvedic medicine - Mostly prevalent in South and west areas where Sinhalese are living.

Siddha Medicine - Mostly prevalent in North and east areas where Tamils are living.

Unani Medicine - Mostly prevalent in areas where Muslims are living.

Deshija vaithiya – this is the native medicine of Sri Lanka .

Indigenous Medicine in the Northern Province is functioning under the Provincial ministry of Health, indigenous medicine, probation and childcare services. The Department of Indigenous Medicine provides the following services to maintain and improve the healthcare of the people, Preventive services, Curative services, and Production unit. Supervisory Community Medical Officer (SCMO) organizes, and regulates the duties performed by the community medical officers to preventive purpose. The department has seventy-seven (77) approved community medical officers' carders but presently forty seven (47) community medical officers are in service. Community Medical Officers (CMO) worked in the Northern Provincial areas are appointed according to the Divisional Secretariat divisions. The Community Medical Officers perform their duties with direct communication of public residing in their respective division.

This allows the Community Medical Officers to collect useful data, to educate the public on the importance of maintaining a healthy lifestyle, communicable and non-communicable disease, and its prevention and control. The Community Medical Officers also play a major role in reintroducing the people about the importance traditional lifestyle, food habits and spiritual activities to developing a healthier society. Present time a total of thirty-four (34) treatment centers including two base Siddha hospitals, three district Siddha hospitals, and fourteen rural Siddha hospitals and fifteen Siddha central dispensaries are functioning under the curative service unit, department of indigenous medicine, Northern Province.

Among these, the central dispensaries function only with out-patients department (OPD), whereas the other unit function with out-patients department(OPD), indoor treatment and special clinics. Here patients treated by using of Siddha drugs which are manufactured in achchuvely drug manufacturing unit, ayurvedic and Unany drugs mostly purchased from Sri lanka Ayurvedic drug cooperation, Nawinna. Drugs producing unit situated at achchuvely, manufactures the Siddha drugs which are needed by the Siddha hospitals and treatment centers in the Northern Province. All the Siddha drugs which are required by the hospitals are manufactured in this manufacturing unit. The raw materials required for the drug preparation is produced (growing) in five herbal gardens established by the department of Indigenous medicine. Majority of growing herbs are used as a raw material for drug manufacturing unit and the remaining herbs ate sold in outlets for the use of public.

Dr. T. Sathiyaseelan
Deputy Commissioner of Indigenous Medicine,
Department of Indigenous Medicine,
Northern Province

ABSTRACTS

HEALTH AND INDIGENOUS MEDICINE

Anti– Inflammatory Effect of Hydro Alcoholic Extract of *Ciraka Curanam*

*¹Sujeethasai, K., ¹Manoharan, A., ²Santhanakumar, M.
¹*Government Siddha Medical College & Hospital, Tamil Nadu*
²*Dept. of Pharmacology, Tamil Nadu*
**saai.kethees@gmail.com*

Abstact

An inflammation plays an essential role in the development and progression of atherosclerosis and also the significant partakers in the pathophysiology of hypertension and cardiovascular disease. Anti-inflammatory treatment has beneficial effects on vascular function and make an impact on cardiovascular homeostasis. This study was conducted to evaluate the anti-inflammatory activity of hydro alcoholic extract of *Ciraka cūraṇam* (CC) in carrageenan induced wistar albino rats. It was an Observational *in-vivo* animal study carried at the Animal bred house, Dept. of Pharmacology, Arulmigu Kalasalingam College of Pharmacy, Krishnankoil, Srivilliputtur, Tamil Nadu, India. After the approval was taken from IEAC, inducing paw edema for acute and cotton pellet granuloma method for chronic inflammation. The rats were divided into four groups allowing six rats in each group. For acute effects, 0.1ml (1.0%) carrageenan in normal saline (0.9% w/v NaCl) was injected to the sub plantar region of right hind paw and the paw volume was measured. The trial drug CC was administered to the rats one hour before carrageenan inoculation and observed the inhibition of edema in 1h, 2h, 3h and 4h by Plethysmograph. For chronic effects, the reference drug indomethacin (10mg/kg) was used as a positive control and the other negative control group received saline solution. Sterilized Cotton pellets 50 mg were implanted under light ether anesthesia in the axilla and groin region of each rat by making a small incision. The standard and trial drugs were administrated orally to four groups once daily for 7 consecutive days from the day of cotton pellet implantation. The 8th day, the animals were sacrificed and cotton pellets were detached, dried out in an oven at 600°C for 24 hours then weighed. The granuloma formation was intended as a measure of increment in the dry weight of the pellet. The percentage of inhibition of granuloma was intended using the standard formula.

In acute state, the percentage of oedema inhibition was 83.12 % and 86.75 % for 200mg and 400mg of *CC* respectively. In the same condition Indomethacin 10mg /kg has a percentage of inhibition of 97.20%. In chronic, the percentage of inhibition of *CC* 200 mg and *CC* 400 mg were 45.66% and 49.21% respectively which indicated the dose dependent activity of *CC* 400mg exhibited percentage of inhibition more than *CC* 200 mg and slightly less than the reference drug Indomethacin (10mg/kg) which produced 58.40% of inhibition. The results of present study revealed that the trial drug *CC* possesses strong anti-inflammatory effects in acute and chronic inflammatory conditions in a dose dependent manner.

Keyword: Acute inflammation, Chronic inflammation, Anti-inflammatory activity, *Ciraka Cūraṇam*, Wistar albino rats, Paw edema

A Pilot Study on Acupuncture Clinic at Special Treatment Unit in Siddha Base Hospital Vavuniya

Saraswathy. P
Central Ayurvedic Dispensary, Vavuniya
psaraswa1976@gmail.com

Abstact

Acupuncture is one of the traditional medicines. Acupuncture point correlated with *varmam* points in siddha medicine. Acupuncture is modified version of “*Varmam therapy*”. The special treatment unit is functioning at base siddha hospital Vavuniya. In introduced acupuncture clinic in 2016. This is the pioneer of activity and pilot study clinic of acupuncture. Main objectivities of acupuncture clinic have been linked with the problem Statement. Significance analyzes in the curative service of the patients. The study analyzes the effects based on curative patients’ records have been supported strongly by author who investigated the findings in relation to acupuncture clinic on special treatment unit. The literature highly supports. The designed methodology intends a survey of acupuncture clinic. Research period was 2years (2017-2018) observation research tool applied. Patient details and observation are recorded with the assistance of clinic patients and staffs. A Systematic random Sample of 2967 patients was selected from acupuncture clinic. Data were collected from the patient’s records and analysis with SPSS26.Descriptive Statistics as gender, males -1080 female – 1887, age group and no of patient ratio 0-09:15, 10-19:30,20-29:438, 30-39:95, 40-49:1132, 50-59:95, 60-69:1140, 70-79:19, 80-89:03 Initial stage (1-7attempts) curative % of patients (CPP) 55%, Middle stage (7-14) (CPP) 30% above both are short term treatment. Final stage (more than 14) CPP is 15%. treated symptoms respectively in order relieving pain in Knee joint, Neck, Shoulder, lower limb, Wrist, Muscle, Multiple joint pain, Pain in upper limb, elbow joint pain, Ankle, weakness of upper limb and Swelling of leg. Treated Common ailments were diabetic neuritis, sciatica, hemiplegia, carpal tunnel syndrome, Arthritics, foot sprain and neuritis. Overall strategies, challenges are notified. Managerial benefits are implementing wide area,

sustaining patients, full fill patient need and expectation and transform ancient text practical version. Correlation analysis, scatter plot resulted relationship. Acupuncture is effective for various illness. Especially *vaatha noikal* and older. This clinic is adoptable one in government, indigenous sector.

Key Word: Siddha Medicine, Acupuncture Clinic, *Varmam*, *Vaatha noikal*.

Indigenous Medical Management for Home Quarantine COVID -19 Cases in Trincomalee District

^{*1}Niranjan, M., ²Pholtan Rajeev, S. R.

¹*Base Ayurvedic Hospital, Kappalthurai, Trincomalee,*

²*District Ayurvedic Hospital, Gopalapuram, Trincomalee*

**mniranjan@gmail.com*

Abstract

Department of Ayurveda, Sri Lanka introduced special ayurvedic medical facilities to home quarantine COVID-19 cases in island wide in pandemic crisis 2021. This research is very useful to get evidence based ayurvedic medical system in pandemic situations with action of health crisis in present. This research helped to explore the indigenous medical system in novel pandemic crisis. Samples collected were COVID positive and negative (quarantine with positive patient) cases and enrolled with hotline acceptance with concern of indigenous medical system managements. Data collected from direct interview over the telephone. Data analysis with simple descriptive statistics methods. Demographical data were; 14% below 14 years (10), 57% of 15 years to 49 years (40) and 29% of above 50 years (20). Gender: 40 were male and 30 were female. COVID positive cases were 54 (77%) and negative cases were 16 (23%). Status of symptoms were; mild was 64% (45), moderate was 7% (5), no symptom was 29% (20). Co-morbidities: Diabetes Mellitus - 11% (8), Hypertension - 21% (15), Bronchial Asthma - 7% (5). Special care cases were: pregnant mothers were 5 and infants were 10 cases and above 65 aged cases were 15. Feedback after 10 days: satisfied were 44 (63%), neutral were 16 (23%) and unsatisfied were 10 (14%). progress of Symptoms was; fever- reduced for 20 cases, not reduced for 08 cases. Dry cough reduced for 15 cases, not reduced for 14 cases. Sensory loss (smell & taste) reduced were 22 & not reduced for 08 cases. Headache reduced for 08 cases and not reduced for 02 cases. Body pain were reduced for 10 cases and not reduced for 16 cases. Fever, dry cough, headache and smell & taste were reduced within 10 days of indigenous medical managements.

Keywords: COVID 19, Home Quarantine, Indigenous medical managements

A Survey Study on Ayurveda Medical Students' Perspective on e – anatomy

Sandaruwani, W.

*Gampaha Wickramarachchi University of Indigenous Medicine, Sri Lanka
sandaruwanithakshmila13@gmail.com*

Abstract

Anatomy is one of the most important subjects of medical education. Traditional anatomy teaching consists of didactic lectures, dissections, tutorials, and tested specimens as per the requirement of the course. Although due to current COVID – 19 pandemic situation it was forced to move for online teaching. However, carrying out institutional activities particularly Anatomy like practical subjects in an innovative online platform is consider as a challenging task. In this background, GWUIM also encountered with the similar online system. Hence, this study aims to assess the perception of first year BMAS students about the e-Anatomy education during the lockdown period. This is a study survey. A total number of 105 among 118 first year Ayurvedic medical students at GWUIM. Criteria based on this survey are, satisfaction with e-Anatomy education, learning anatomy without practical activities, allotted time for learning anatomy, have the recommended books, satisfaction with using e-books, internal storage of the primary devices, internet facilities, English proficiency and prior experience with e-learning. According to the analysis of data, it was observed that, the majority of the students (98%) said that e-Anatomy education was not successful. There were 99% students did not agree with time allotted for Anatomy and also the conducting online lectures without practical. Moreover, 78.8% of students had not recommended books for their further readings. 91.4% of students do not agree with using e-books for their references. 59% of students did not have enough storage capacity on their primary devices to store their e-books. Around half number of students have uninterrupted internet facilities for their online learning. 79% of students have enough English proficiency to grasping the contents of Anatomy. According to the students' view, 23% of students have prior experience with e-learning before joining the university. It was concluded that according to Ayurveda medical student's perspective, e-Anatomy is not success.

Key words: e-Anatomy, Ayurveda, COVID-19, Survey, Student's perspective

Recommendation for Conservation and Sustainable Use of Indigenous Medicine of Sri Lanka

*¹ Samarakoon, S.M.S., ² Abey Rathnayake., ³ Herapathdeniya, S. K. M. K
^{1,3} *Institute of Indigenous Medicine, University of Colombo;*
² *Department of Sociology, University of Peradeniya*
**samarakoonsms@iim.cmb.ac.lk*

Abstract

Deshiya Chikitsa of Sri Lankan indigenous medicine (IM) is a purely native kind of medicine that has been practicing since pre-historic Sri Lanka. The general objective of this study was to make recommendations for conservation and sustainable use of indigenous medicine of Sri Lanka. Qualitative data collection methods were used for collecting primary data. Data were analyzed by Correlation Analysis under Chi-Square test using SPSS statistical software. The attitudes of indigenous physicians, not being documented of IM, commercialization of the society, endangering medicinal plants, and not being developed as a profession affected conservation of IM. Availability of essential medicinal plants, providing infrastructure for drug manufacturing, providing legal cover for indigenous treatments, standardization of indigenous medical treatments, and giving social recognition to indigenous physicians have an impact on the sustainable use of IM. In statistical analysis, alternative hypotheses of the above factors were accepted in a highly significant manner. The recommendation made in this study may provide a road map to researchers for planning their strategies in conservation, sustainable use, and empowering indigenous physicians.

Keywords: Conservation, Sustainable Use, Indigenous Medicine, Deshiya Chikitsa

An Effective Natural Ayurveda Product for Radiant Healthy Skin: *Varnaka Ghrita*

^{*1}Amarawardana, V.I.U., ²Wimalasiri, Y.S.G.

¹ National Ayurveda Teaching Hospital, Boralla.

²Institute of Indigenous Medicine, University of Colombo.

*irangavithanage@gmail.com

Abstract

Now a days people are blindly consuming toxic and harmful chemical containing external applications, leading to many serious cosmetologically issues. *Varnaka ghrita* is an Ayurveda external application used for relieving skin disorders like *vyanga* (facial melanosis), *nileeka* (hyperpigmentation of the body) and wrinkles. *Varnaka ghrita* is mainly ghee - based preparation which contains several other medicinal ingredients. It is also known as *mukhakanthikara lepa* (skin glowing face pack). According to the authentic Ayurveda texts it is emphasized, throughout the massage process, this particular application would give moon like luster to the skin. The main objectives of this study was to prepare *Varnaka ghrita* as an external application and to evaluate its therapeutic approaches for skin conditions by analyzing its Ayurveda pharmacological actions. *Varnaka ghrita* contains *Glycyrrhiza glabra*, *Pterocarpus santalinus*, *Coriandrum sativum*, *Sinapis alba*, *Nelumbo nucifera*, *Coscinium fenestratum*, *Curcuma longa*, *Symplocos racemose*, *Mesua ferrea* as herbal ingredients and rose water and normal water as liquid ingredients. There was bee's wax and cow's ghee as animal elements. The research was design to formulate *Varnaka ghrita* efficiently by finding suitable raw materials and processing them according to the authenticated method. *Varnaka ghrita* was prepared according to the *Ghrita paribhasha* in Ayurveda. Market available cow's ghee was used as an ingredient but *ghrita murchana* process (purifying the ghee) was performed for better results. Final product was a yellow-colored semisolid preparation and after the analysis of its Ayurveda pharmacological actions the most of the ingredients comprised blood purifying, skin complexion improving, anti-aging, toxins eliminating, burning sensations relieving, and hypopigmentation reducing and induced sweating as its therapeutic actions. Similarly, throughout the analysis of *doshic* effects

and above pharmacological actions of ingredients it facilitated that the drug had a potential to cure skin conditions like *Vyanga*, *Neelika* and wrinkles (prevents aging) of the skin. *Varnaka ghrita* is therapeutically important in curing skin diseases. Therefore, *Varnaka ghrita* helps to maintain skin in healthy and glowing manner to attain radiant Skin.

Keywords: *Varnaka ghrita*; face pack; glowing skin; natural product

A Pilot Study on *Udumbara Ksheera* Based *Kshara Sutra* with Partial Fistulectomy in *Bhagandra* (fistula - in ano)

*¹Chathura, D. A., ¹Prabhashi, S.

¹*Gampaha Wickramarachchi University of Indigenous Medicine*

**dilhanaluthgama56@gmail.com*

Abstract

In Ayurveda, *Bhagandara* (Fistula-in-ano) is considered under the heading of *Ashtamahagada* (eight major diseases) due to its notorious nature. *Ksharasutra* is a medicated thread, indicated in ano-rectal diseases, particularly for management of *Bhagandara* (Fistula-in-ano). Now a days in some researchers different *Ksharasutra* are being tried like *Guggulu* based, *Snuhi Ksheera*, *Shallaki Ksheera* based etc. In this study *Udumbara Ksheera* based *Ksharasutra* was tried in the management of *Bhagandara*. It was prepared with *Udumbara Ksheera* (*Ficus racemose*), Apamarga Kshara (Ash of *Achyranthus aspera* Linn) and Turmeric powder (*Curcuma longa* Linn) as per the guideline of Ayurveda Pharmacopeia. Here Guggul is replaced with *Udumbara Ksheera*. In this pilot study 10 patients of *Bhagandara* were selected from Shalya Clinic and treated with Partial Fistulectomy followed by *Udumbara Ksheera* based *Ksharasutra* application in remaining part of the tract under local anesthesia. From next day, sitz bath with *Panchawalkala Kwatha*, dressing with *Rogan-e-kash* and per rectal instillation of 10 ml *Sarvavishadi* Oil was done daily. *Ksharasutra* was changed with a new one by rail-road technique on weekly interval and the length of thread as well as the condition of wound was noted to assess the unit cutting time (UCT) and healing till the complete healing of fistulous tract was achieved. After 5 days of the procedure, healthy granulated wound was seen. Average UCT of fistulous tract was 7.51 days/cm. Complete cutting and healing of fistulous tract was occurred within one and half month in 5 patients. In 2 patients time required for complete healing was 2 months while in 3 patients it was 4 months. Management of a long fistulous track by *Ksharasutra* is very tedious job. In this study fistulous tract was partially excised and that's why there is early healing of fistulous tract was occurred as compare to *Ksharasutra* application without doing partial Fistulectomy *Udumbara Ksheera* based *Ksharasutra* have shown less burning pain and compare to *Snuhi* based *Ksharasutra* due to anti-inflammatory and less irritant property of *Udumbara Ksheera*. The positive finding in this study is the time required for complete healing was less as compared to *Snuhi* based *Ksharasutra*.

The cutting and healing of fistulous tract and healing of post partial fistulectomy wound was taken placed simultaneously. This pilot study demonstrated the utility of Partial Fistulectomy and *Udumbara Ksheera* based *Ksharasutra* in management of *Bhagandara* in which have a lesser amount of pain and less time is required to heal fistulous tract completely.

Keywords: *Udumbara Ksheera*, *Bhagandara*, Partial Fistulectomy.

Anti-Tumor Activity of *Irathaka kaariya kulikai* in Dalton's Lymphoma Ascites Tumor Model

*¹ Rakulini, R., ² Sundararajan, S., ³ Balamurugan, A., ⁴ Santhanakumar, M.

¹ Unit of Siddha Medicine, University of Jaffna.

^{2, 3} Government Siddha Medical College, Palayamkottai

⁴ Dept of Pharmacology, Arulmigu Kalasalingam College of Pharmacy, Krishnakoil, Sriviliputtur

*r.rakulini@gmail.com

Abstract

Siddha System of Medicine is one of the oldest Medical Systems in India and Sri Lanka. It is popularly known for the treatment and management of Chronic Non-Communicable Diseases. *Irathak Kaariya Kulikai* (IKK) is a Siddha Formulation. It contains Hydrargyrum, Plumbum, Magnetic oxide of iron, Ferroso Ferric oxide, *Cassia auriculata*, *Cocus nucifera* and *Indigofera tinctoria*. The present study was designed to evaluate the anti-tumor activity of IKK against Dalton's Lymphoma Ascites (DLA) tumor model. Dalton's Lymphoma (DLA) cell was obtained by Amala cancer research center, Trissur, Kerala, India. The cells maintained in vivo in Swiss albino mice by intraperitoneal transplantation. While transforming the tumor cells to the grouped animal the DLA cells were aspirated from peritoneal cavity of the mice using saline. The cell counts were done and further dilution were made so that total cell should be 1×10^6 , this dilution was given intraperitoneally and allow the tumor to grow in mice before seven days of starting the experiment. The IKK at the dose of 200 mg/kg in DLA tumor bearing mice significantly inhibited the tumor volume, packed cell volume, tumor (viable) cell count, and brought back the haematological parameters to more or less normal levels. IKK has the property to decrease the nutritional fluid volume and arresting the tumor growth increases the lifespan of DLA bearing mice. Treatment with IKK brought back the haemoglobin (Hb) content, RBC and WBC count more or less to normal levels significantly. This clearly indicates that IKK possess protective action on the hematopoietic system. It was reported that the presence of tumor in the human body or in the experimental animals is known to affect the function of the liver. The significant reversal of the function of the liver towards the normal by IKK treatments. In the present study, the biochemical examination of DLA inoculated animals showed marked changes indicating the toxic effect of the tumor. The normalization of these effects observed in the serum treated with IKK supported the potent antitumor and hepatoprotective effect of the IKK.

Keywords: Irathak Kaariya Kulikai, Anti-tumor activity, Dalton's lymphoma, Siddha Medicine

Distribution of Type 2 Diabetes Mellitus Patients Based on *Doshas* and *Pirakiruti*

*¹Kumutharanjan, T., ²Ramiah, S., ³Arasaratnam, V.

¹*Unit of Siddha Medicine, University of Jaffna,*

²*Faculty of Medicine, University of Peradeniya,*

³*Department of Biochemistry, Faculty of Medicine, University of Jaffna.*

**tkumutharanjan@yahoo.com*

Abstract

The human body is made up of *dehaparamanu* (cell). In each and every cell, three *Doshas* namely *Vatham*, *Pitham* and *Kapham* coexist and function harmoniously. Based on *Doshas*, the lifespan is divided into three periods in Siddha System. They are *Kapha* (up to 33 years of age), *Pitha* (34-<66 years of age) and *Vatha* (>66-99 years of age) periods. Treatment based on Siddha Philosophy is aimed at keeping *Vatham*, *Pitham* and *Kapham* in equilibrium by correcting the imbalance by administering a drug, which is predominately of the opposite nature. As such it is a necessary to assess the *Pirakiruti* (Psychosomatic condition) of the subjects for effective treatment. In a study conducted recently with 193 type 2 diabetes mellitus patients, the occurrence of diabetes mellitus based on *Doshas* and *Pirakiruti* was assessed. Among the diabetic patients 161 and 32 respectively belonged to the *Pitha* and *Vatha* periods. None of the patients belonged to the *Kapha* period. There were more male diabetics (90) than females (71) in the *Pitha* as well as *Vatha* (25 males and 7 females) periods. The percentages of the males in *Pitha* and *Vatha* periods among the entire patients were 46.63 and 12.95 respectively while among the females were 36.78 and 3.63 respectively. The assessment of *Pirakiruti* of the subjects depends on the specific features based on *Doshas*. According to the different combinations of the features there were 68 *VathaPirakiruti* patients of whom 59% showed *VathaDosha* features, 23.5% *PithaDosha* features and 17.5 % of *KaphaDosha* features. Likewise, among 74 patients with *Pitha Pirakiruti* 64.7% showed features of *PithaDhosha*, 29.4% *VathaDosha* features and 5.9% *KaphaDosha* features. Moreover, among 51 patients

with *KaphaPirakiruti*, 55% showed features of *Kapha Dosha*, 25% *Vatha Dosha* features, and 20% of *Pitha Dosha* features. According to *Pirakiruti*, *Pitha Pirakiruti* (52 males and 22 females) subjects were higher than other *Pirakiruties* with lowest number in *KaphaPirakiruti* (29 males and 22 females). Among the 68 *Vatha Pirakiruti* patients there were equal number of males and females. The results of the present study could not be compared as studies of similar nature have not been reported.

Key words: Type 2 diabetes mellitus, *Pirakiruti*, *Dosha*

NATURAL RESOURCES & INDIGENOUS MEDICINE

Ethno Botanical Study of Some Misidentified Medicinal Plant Species in Sri Lanka.

*¹Gunasinghe, K. S. L. U. K., .¹Eriyagama, A. M. U
¹Gagawata, Koralaya, central province
kslakshan@gmail.com

Abstract

The use of herbal medicine for treating humans' disease has been done since ancient times in Sri Lanka. Indigenous medicine and Ayurveda medicine also origins based on medicinal plants. Therefore, accurate identification of medicinal plants is playing a major role in traditional medicine. However, there are several herbal medicinal plant species with the same botanical names and different plant species called as same scientific names in Sri Lanka. Misidentification of plant species, inadvertent use of totally unrelated species, or by closely related inferior quality species can hinder their medicinal use, the adverse effects of which may even treat to the patients. The objective of this study is to separately identify and discuss different usages of herbal plant species with the same Sinhala names in traditional medicine. Here, investigated Ten plant species that are commonly used by traditional physicians of Sri Lanka. All the information was collected by a conversation with Ayurveda doctors and traditional physicians. Previous research details and findings were collected from online botanical and Ayurveda journals and also social media. The study was to identify the Ten most used herbal plant species in Sri Lankan traditional medicine. Such as *Tinospora cordifolia* (Rasakida), *Hoya ovalifolia* (Gonika), *Rauvolfia serpentina* (Ekaveriya) , *Crinum zeylanicum* (Goda manel), *Baliospermum montanum* (Daththa) , *Cynodon dactylon* (Ethana), *Hellenia speciose* (Thebu), *Dregea volubilis* (Kiri aguna) , *Allamanda cathartica* (wal ruk aththana), and *Indigofera tinctoria* (Nil awariya). However, observations confirmed that there were four species of Goda manel, three species of Thebu ,Daththa, Ethana and Nil awariya, two species of Kiri aguna and Wal rukaththana. The study shows different plants identified as under one name and different plant species contain one scientific name. Further experiments and laboratory analysis for identifying the chemical compositions of every species are needed to predict the exact medicinal value of these plants.

Keywords: Medicinal plant, Misidentification, Ayurveda, Traditional medicine

Comparative Physicochemical Evaluation of Leaves of Selected Medicinal plants Used in Traditional Medicine

¹Harini, P. A, *¹Gowri, R.

¹Dept of Botany, Faculty of Science, University of Jaffna

*gowri450@yahoo.com

Abstract

The present study comprises physicochemical evaluation of leaves of four medicinal plants such as *Murraya koenigii*, *Gymnema sylvestre*, *Tinospora cordifolia* and *Enicostemma axillare*. Collected fresh leaves of above plants were washed and dried, then blended to form a fine powder and stored. Proximate nutrient contents of leaves were estimated according to the protocols recommended by the Association of Analytical Chemists (AOAC). Total caloric content was calculated by bomb calorimeter method. The pH in 1% w/v (1g; 100 ml) of water-soluble portions was determined using standard simple glass electrode pH meter. Estimation of essential chemical elements such as sodium, potassium, calcium and barium were calculated by flame photometric method. All experiments were performed in three replications. According to the results obtained, the highest and lowest ash content was found in in *Gymnema* sp. ($18.65 \pm 0.35\%$) and *Murraya* sp. ($8.38 \pm 0.22\%$), respectively. The moisture content was ranged between 3.47% (*Murraya* sp.) and 34.63% (*Tinospora* sp). The fat content varied from 1.49% (*Enicostemma* sp.) to 3.26% (*Tinospora* sp). Caloric content varied from 289.1 kcal/100g to 407.8 kcal/100g. Caloric content was significantly high in *Murraya* sp. (407.8 kcal/100g) and a lowest amount was found in *Tinospora* sp. (289.1 kcal/100g). All the plants showed similar and reliable pH values in the range of 5.6 ± 0.11 and 5.84 ± 0.036 . *Murraya* sp. and *Enicostemma* sp. exhibited the barium content of 1.5% which was found to be the highest among all. Sodium ($0.828 \pm 0.012\%$) and Calcium content ($0.331 \pm 0.017\%$) are significantly high in *Enicostemma* sp. whereas *Murraya* sp. and *Tinospora* sp. showed the highest and approximately same potassium content ($0.724 \pm 0.021\%$). This study revealed that these four medicinal plants contain appropriate pH values favorable proximate nutrient composition and essential chemical elements.

According to the results *Enicostemma* sp. and *Murraya* sp. can be used as multi-functional medicinal herbs in traditional system of medicine and to prepare ready to use functional products and nutraceutical using its leaves.

Keywords: Calorie, Elements, Medicinal plants, Physicochemical, Leaves, pH

Assessment of Functional Group in Herbo-mineral Siddha Formulation *Abraga Parpam* through Fourier Transform Infrared Spectroscopy

¹Priyan, B., ¹Prasad, V.M. ¹Duraichi, A.

¹Government Siddha Medical College, Palayamkottai, Tirunelveli, Tamil Nadu, India.

*vidhyaprasad@univ.jfn.ac.lk

Abstract

Siddha Medicine is one of the ancient Tamil medicines. Siddha medicines are used to treat various diseases. The *Abraga parpam* is a Herbo-mineral drug of Siddha formulation used for the treatment of deep wounds, deep skin ulcer, diabetes mellitus and other symptoms related to it like thirst and dryness of mouth, cough and *kapha* diseases. The objective of the present study is to characterize and assess the functional groups in Herbo-mineral drug "*Abraga parpam*". The ingredients were collected & purified and the drug was prepared as per Siddha literature "*Anuboga vaidhya navaneetham*". Here, the drug was subjected into characterization through FT – IR analysis. FT – IR characterization applied in the mid infrared region 4000 cm⁻¹ to 400 cm⁻¹ revealed the presence of functional groups like O-H stretch, N=C=S stretch, C=O stretch, C=N stretch, N-O stretch, O-H bend, S-O stretch, C-O stretch, C=C bend, C-Br stretch, C-I stretch respectively. This peak indicates the presence of some organic functional groups such as alcohols, Carboxylic acid, Isothianate, Acid halides, Imine/oxime, nitro compounds, sulphonates, alkenes, alkyl halides & aryl halides, which ensure the efficacy and therapeutic effect of the drug. The instrumental analysis FTIR shows the presence of functional groups through their stretch and bends which are responsible for its functional activity. These characterized functional groups are assessed through research papers from journals which provides the information that they have wound healing, hypoglycaemic, anti-microbial, anti-parasitic, anti-diarrhoeal and anti-tubular activity. These activities resemble the indications mentioned in Siddha text book for *Abraga parpam*. This study forms the base for the pharmaceutical analysis of *Abraga parpam* which can be followed by safety and efficacy studies later.

Keywords: FT – IR, *Abraga parpam*, Herbo-mineral Siddha formulation, Functional groups.

Anti - Fungal Activity of Selected Medicinal Plants Against *Colletotrichum gloeosporioides* Causing Onion Leaf Twister disease (OLTLD)

¹Geethangini, T., *¹Pakeerathan, K., ¹Mikunthan, G.

¹Department of Agricultural Biology, Faculty of Agriculture, University of Jaffna
University of Jaffna, Sri Lanka
*pakeerathank@univ.jfn.ac.lk

Abstract

Onion Leaf Twister disease (OLTLD) is a catastrophic fungal disease of small onion caused by *Colletotrichum gloeosporioides* in the dry zone of Sri Lanka. OLTLD is characterized by twisted leaves with chlorosis, abnormal necks and elongated bulbs. Farmers rely on fungicides to manage this seed born disease. Current Sri Lanka's Agricultural policy bans the use of synthetic agrochemicals and promote the growers to organic cultivation of onion. Therefore, an investigation was carried out to find out a sustainable solution to manage OLTLD using botanicals. Medicinal plants showing antifungal properties such as rhizome of *Acorus calamus*, leaves of *Aegle marmelos*, *Ocimum basilicum*, *Ocimum sanctum*, *Ocimum tenuiflorum* and *Ricinus communis* (wild) were selected and aqueous extracts of 10%, 20% and 30% were tested under laboratory condition using poison food technique. The experimental setup was arranged in a CRD design. The data obtained were subjected to ANOVA using SAS 9.1 and DMRT test was administrated to identify the best treatment at $P < 0.05$. The inhibition percentage was significantly lower in 10% and 20% concentration of all the botanicals treated trails than the 30% concentration. Highest inhibition percentage of 78.04 ± 0.12 % was exhibited by *A. calamus* after 9th day of inoculation in 20% concentration extracts. Whereas prominent results were derived from 30% of *A. calamus* rhizome extracts by giving significantly best mycelial inhibition of 82.4 ± 0.06 % at 11th day of inoculation followed by leaves extract of *A. marmelos* (81.4 ± 0.12 %) and *R. communis* (79.1 ± 0.43 %). In conclusion, rhizome extracts of *A. calamus* could be an alternate remedy to manage OLTLD. Field studies are in progress for further confirmation of the *in-vitro* findings.

Keywords: *Acorus calamus*, biorationals, Leaf Twister disease, Onion, Medicinal plants

SIDDHA LITERATURES & YOGA THERAPY

Combined Effect of Yogic Practices and Running on Cardiovascular Endurance Among University Level *Bharathanatyam* Dance

Sabaananth, S.

Sports Science Unit, Faculty of Allied Health Sciences, University of Jaffna.
sabaananth@univ.jfn.ac.lk

Abstract

The dancers need to performed graceful presentations in the theatre setting. Therefore, additional fitness is essential for aesthetic performers. Hence, this study aimed to determine the Combined effect of yogic practices and running on cardiovascular endurance among University level dance students. To achieve the purpose of the study, ninety (N=90) female students from the Dept of Dance, Ramanathan Academy of Fine Arts were selected as subjects. The mean age was 20-25 years. The selected subjects were medically and physically fit enough to undergo the training programme. The subjects were selected by purposive sampling method each group contains thirty (n=30) subjects. Group I, (Asana Running (AR), n=30, Practice Combined running and yoga asana practices, for 60 min/Session/ 3days/ Week/ 12 weeks), Group II, (*Bharathanatyam* (BH), n=30, underwent regular curricular *Bharathanatyam* dance practicals), Group III, (n=30, Acted as control, did not practice). The selected subjects were measured of their cardiovascular endurance by the Queens College Step Test before and after the training period. The differences between the initial and final scores of cardiovascular endurance were subjected to statistical treatment using 't' test, the magnitude of improvement, Analysis of variance (ANOVA), and Scheffe's post hoc test was used to find the pre and post-test data difference and confidence interval. The results of the study reveal that the 't' value of groups I, II, and III were 17.05, 10.23, and 6.18 respectively. However, from the results, it was concluded that the combined running and yogic practices group (Group I) was significantly better ($f=7.63^*$) than *Bharathanatyam* alone group and the control group on cardiovascular endurance. From the study, it is recommended that *Bharathanatyam* dance students need to do additional fitness training with yoga asana practice to improve their cardiovascular fitness to succeed in theatre recital without injury.

Keywords: Yoga, Running, Cardiovascular endurance, *Bharathanatyam*

**சடங்கும் ஆரோக்கியமும், தமிழர் வாழ்கைவட்டச் சடங்குகள்
அடிப்படையிலான இனவரைவியல்**

ஸ்ரீகாந்தன், ச.

சமூகவியல் திணைக்களம், கலைப்பீடம், யாழ். பல்கலைக்கழகம்
srikanthan80@gmail.com

ஆய்வுச் சுருக்கம்

இவ்வாய்வானது தமிழர் வாழ்வியல் சடங்குகளின் வழியாகக் கட்டமைக்கப்படும் ஆரோக்கிய பராமரிப்புத் தொடர்பாக இனவரைவியல் நோக்கில் பகுப்பாய்வு செய்கின்றது. ஒவ்வொருவரும் பிறந்தது முதல் இறப்பு வரையான காலப்பகுதியில் பல்வேறுபட்ட சடங்குகளுக்கு உட்படுத்தப்பட்டு மற்றும் உட்பட்டு வருகின்றனர். உலகில் உள்ள அனைத்துச் சமூகங்களிலும் நடைமுறையிலுள்ள சடங்கு அல்லது சடங்கு நிகழ்வுகளில் ஒன்றாக வாழ்க்கைவட்டச் சடங்குகள் காணப்படுகின்றன. சமூக ரீதியாகவோ சமய ரீதியாகவோ ஒரு தனியனுடைய அந்தஸ்தினை இன்னொரு நிலைக்கு மாற்றுகின்ற சடங்குகள் அனைத்தினையும் வாழ்க்கைவட்டச் சடங்குகள் என்பர். திருமணம் முதலாக குழந்தை பிறப்பு, பருவமடைதல் மற்றும் இறப்பு வரையாக இடம்பெறும் அனைத்துச் சடங்குகளும் வாழ்க்கைவட்டச் சடங்குகள் என்பர். தனி நபரின் வாழ்க்கையின் ஒரு கட்டத்தை இன்னொரு கட்டத்திற்கு நகர்த்துகின்ற இச்சடங்குகளை வாழ்வியல் சடங்குகள் அல்லது வாழ்க்கை நெருக்கடிச் சடங்குகள் என்பர். வாழ்க்கைவட்டச் சடங்குகள் பண்பாட்டு தனித்துவமிக்கன. தமிழர் பண்பாட்டில் எண்ணற்ற வாழ்க்கைவட்டச் சடங்குகள் தனிமனிதனின் உடற்கூற்றியல் மற்றும் சமூக அந்தஸ்து ரீதியான நிலை மாற்றத்தினை சமூக-பண்பாட்டு வயப்படுத்தும் வகையில் மேற்கொள்ளப்பட்டு வருகின்றன. இவ்வாய்வானது யாழ்ப்பாணத்து தமிழர் பண்பாட்டில் நிலவும் வாழ்க்கைவட்டச் சடங்குகளில் ஒன்றான பருவமடைதலுடன் தொடர்புடைய சடங்குகளுக்கும் ஆரோக்கியத்திற்கும் இடையிலான தொடர்பினை இனவரைவியல் நோக்கில் பகுப்பாய்வு செய்கின்றது. குறிப்பிட்ட மக்களின் வாழ்வியல் அனுபவங்களை விவரிப்புச் செய்வதில் இனவரைவியல் சிறந்த ஆய்வு அணுகுமுறையாகும். ஆய்வுக்கான தரவுகள் யாழ்ப்பாணத்தில் நல்லூர் பிதேசத்தில் மேற்கொள்ளப்பட்ட களாய்வின் வழியாகச் சேகரிக்கப்பட்டது. பருவமடைதல் என்பது பெண்பிள்ளைகளின் வாழ்வில் ஏற்படுகின்ற உடல் உயிரியல் ரீதியான மாற்றமாகும். பருவமடைதலுடன் தொடர்ந்து வருகின்ற காலப்பகுதி பெண்பிள்ளைகளின் உடல் -

உள ஆரோக்கிய கவனிப்பினை வேண்டி நிற்கின்றது. பருவமடைதல் என்பது பெண்ணினுடைய கர்ப்பப்பை, மனவெழுச்சி சார்ந்த ஆரோக்கியத்துடனும் நெருங்கிய தொடர்பினைக் கொண்டுள்ளது. தமிழர் பண்பாட்டில் பெண் பருவமடைதலை பூப்படைதல், சாமத்தியப்படல், பெரியபிள்ளையாகிவிட்டாள் போன்ற வேறுபட்ட சொற்பதங்களின் வழியாக குறிப்பிடுவர். பூப்படைந்த பெண்ணின் உடல் உள ஆரோக்கியத்தினைப் பேணுகின்ற சடங்கியல் உணவுகளையும் சமூக ஆதரவுகளையும் உளவழி ஆற்றுப்படுத்தல்களையும் பாரம்பரிய சடங்கியல் நடைமுறைகளின் வழியாக தமிழர்கள் மேற்கொண்டுவருகின்றனர். பருவமடைந்த காலப்பகுயில் இடம் பெறுகின்ற சடங்குசார் நடைமுறைகளின் பகுதிகளாக பெண்களுக்கு வழங்கப்படுகின்ற உணவுகள், குடும்ப பராமரிப்புகள் மற்றும் கொண்டாட்டங்களை இவ்வாய்வு பகுப்பாய்வு செய்கின்றது. தமிழ் பண்பாட்டில் பூப்புக் காலச் சடங்குகளின் வழியாக பருவமடைந்த பெண்ணின் உடல் - உள - சமூக ஆரோக்கியங்கள் பேணிப் பாதுகாக்கும் சடங்கியல் நடைமுறைகளை இனவரைவியல் நோக்கில் இவ்வாய்வு விவரிப்புச் செய்துள்ளது. பருவமடைந்த காலத்தில் வழங்கப்படும் சடங்கியல் உணவுகள் பெண்ணின் கருவள ஆரோக்கியத்திற்கு முதன்மையான பங்களிப்பினை வழங்குகின்றது. மேலும் அதனோடிணைந்து இடம்பெறும் சடங்குகள் பூப்புக் காலத்தில் ஏற்படுகின்ற மனவெழுச்சிசார்ந்த சிக்கல்களை நீக்கி அவர்களின் உள ஆரோக்கியத்திற்கு வழிவகை செய்கின்றது. பருவமடைந்த பெண்ணிற்குச் செய்யப்படுகின்ற கொண்டாட்டம் குடும்ப மற்றும் சமூக ஒற்றுமையினை மீள்சீரமைப்பதுடன் அவற்றிற்கு புத்துணர்ச்சியினையும் வழங்குகின்றது. இந்நிலையில் தமிழர் பண்பாட்டின் ஒரு பகுதியாகக் காணப்படும் வாழ்க்கைவட்டச் சடங்குகள் தமிழர் பண்பாட்டின் தனிமனித மற்றும் சமூக ஆரோக்கியத்தின் அடிப்படைகளாக இருந்துவருகின்றமை இங்கு கவனிக்கதக்கது.

திறவுச் சொற்கள் : ஆரோக்கியம், இனவரைவியல், பூப்புக்காலச் சடங்கு

Effect of Yoga Practice, Breathing Exercise and Sun Salutation on Body Mass Index for Sports Science Higher Diploma University of Jaffna Students

Ketheeswaran, K.
university of jaffna
kethees85@gmail.com

Abstract

The Purpose of the study is to investigate the Effect of Yoga Practice, Breathing Exercise and Sun Salutation on Body mass Index among Sports Science Higher Diploma Students. The subjects were 30 Sports Science Students. Subjects' age ranged from 19 to 24. The subjects were Part time Students. Before the Yoga Practice, Breathing Exercise and Sun Salutation measured Body Mass Index after 8 weeks Yoga Practice, Breathing Exercise, and Sun Salutation were conducted *sirsasana*, *Sarvangaasana*, *Halasana*, *Setubandasana*, *Matsyasana*, *Paschimothanasana*, *Bhujangasana*, *Salabhasana*, *Dhanurasana*, *Ardhamatsyendrasana*, *Kakasana*, *Mayoorasana*, *Padahasthasana*, *Trikonasana*) Sun salutation (it is a warm up exercise that practiced before the stating Asana 12 different spinal positions) Relaxation (Physical Relaxation, Mental & Spiritual Relaxation) Mental benefits include refreshing and invigoration of the mind, creating a feeling of exhilaration, activating pranic energy Applied different breathing exercises include Anuloma viloma (Alternate Breathing), *Kapalapathi* and *Nadi shuti* Again same measurement were taken The data was Analyzed by applying Paired t-test and descriptive Statistics technique and Product Measurement Correlation was employed to observed the mean (M) Standard Deviation (SD) and other Parameters. The analysis of data was gained out by using the IBM-SPSS Version 20. The level of Significance was set at 0.05. The findings of the Research study have indicated that Yoga Practice gave Significant reduction on body mass index for Sports Science Higher Diploma, University of Jaffna Students.

Keywords: Asana, Breathing Exercise, Sun Salutation, Relaxation

Committees

Advisory Committee

Prof. S. Srisatkunarajah	Vice- Chancellor, University of Jaffna
Snr. Prof. (Ms.) V. Arasaratnam	Department of Biochemistry, University of Jaffna
Dr. S. Mohanadas,	Chancellor, University of Vavuniya.
Prof. Janitha. B. Liyanage,	Ambassador of Sri Lanka to Russia
Snr. Prof. G. Mikunthan,	Chairman, Board of Management &
Prof. N. Kabilan,	Head, Department of Siddha Medicine, MGR Medical University, India.
Dr. I. Jebanamaganeshan,	MOIC, Siddha Teaching Hospital, Kaithady.
Prof. Priyani A. Paranagama,	Director, Institute of Indigenous Medicine, Colombo.
Dr. S. P. Molligoda,	Head/ Department of Ayurveda, Institute of Indigenous Medicine, University of Colombo.
Professor M.S.M. Shiffa,	Head/ Department of Unani, Institute of Indigenous Medicine, University of Colombo.
Prof. K. Velauthamurty,	Member, Board of Management,
Prof. R. Kapilan,	Member, Board of Management,
Dr. C. Ilayavan	Traditional Physician
Prof. S. Bavani	Retired Professor, Unit of Siddha Medicine
Dr. (Mrs.) G. A. Bavani	Retired Senior Lecturer, Unit of Siddha Medicine
Dr. (Mrs.) M. C. Srikanthan	Retired Senior Lecturer, Unit of Siddha Medicine
Dr. (Mrs.) S. Sivapalan	Retired Senior Lecturer, Unit of Siddha Medicine
Dr. (Mrs.) S. Pancharajah	Retired Senior Lecturer, Unit of Siddha Medicine

Organizing Committee

Dr. (Mrs.) T.Thileepan
Dr. S.Sivashanmugarajah
Dr. (Mrs.) A.Sritharan
Dr. (Ms.) V. Sanmugarajah
Dr. (Mrs.) S. Sivarajah
Dr. T. Vijayakumar
Mrs.I. Elilmatha

Dr. (Mrs.) T.Kumutharanjan
Dr. (Mrs.) V.Sathiyaseelan
Dr. (Mrs.) K. Sounthararajan
Dr. (Mrs.) N. Nithiyakumar
Dr. (Ms.) S. Sivagnanam
Mrs.J.C.Aravintharaj

Editorial committee

Chairperson:
Convener:
Secretary:
Joint Editors:

Dr. (Ms.) T. Thayalini
Dr. (Ms.) V. Sanmugarajah
Dr. (Ms.) S. Sivagnanam
Dr. (Mrs.) S. Sivarajah
Dr. T. Vijayakumar
Dr. S. Sivashanmugarajah

Preconference Workshop Coordinator:

Publicity Committee

Dr. (Mrs.) V.Sathiyaseelan
Dr. T. Vijayakumar

Certificate Designing & Conference Package Committee

Chairperson:
Members:

Dr. (Mrs.) K. Sounthararajan
Mrs. I.Elilmatha
Ms.A.Janaki
Mr.V.Sujikaran
Ms.D.Thushanthini
Ms.K.Dinojini
Ms.A.Pelastina
Ms.J.Jeromiya
Mr.T.Sarangan

Refreshment committee :

Chairperson:
Members:

Dr. (Mrs.) V.Sathiyaseelan
Mr.S.Sanchevan
Mr.R.Rajaruban
Mr.K.Velananthan
Ms.R.Sahana
Ms.Y.Linhuja
Ms.K.K.Fathima Kasrina

Session organizing committee

Chairperson:

Dr. (Ms.) S.Sivagnanam

Members:

Ms.A.Janaki

Ms.I.Elilmatha

Mr.R.Thavarajah

Ms.S.Laxsitha

Ms.K.Gowsiga

Mr.J.Jasinthan

Mr.T.Sarangan

Mr.S.Sivagajendran

Ms.S.Karunya

Ms.S.Keerthiga

Assistance:

Mr.M.Srikumaran

Mr.E.Rameshan

Mr.A.Reginold

Hall Arrangements :

Mr.A.J.Vimalanathan

Mr.N.Hobinath

Mr.K.Piratheep

Preconference Workshop committee

Coordinator:

Dr. S. Sivashanmugarajah

Member:

Dr. (Mrs.) N. Nithiyakumar

Ms.S.Sinthuja

Finance committee

Treasurer:

Dr. (Mrs.) K. Sounthararajan

Members:

Dr. (Mrs.) T.Kumutharanjan

Dr. (Mrs.) V. Sathiyaseelan

Dr.(Ms.)T.Kumutharanjan

Dr.(Ms.)V.Sathiyaseelan

Ms.A.Janaki

Ms.B.Laksana

Ms.I.Daksana

Ms.T.Akila

Registration committee

Chairpersons:

Dr. (Mrs.) A.Sritharan

Dr. (Mrs.) V.Sathiyaseelan

Members:

Ms.T.Nanthagobi

Ms.J.Kugananthan

Mr.B.Saijuichayan

Mr.V.Thanusan

Ms.S.Thuvanikara

Ms.N.Saruja

Health & Indigenous Medicine

Natural Resources & Indigenous Medicine

Siddha Literatures & Yoga therapy