PROCEEDINGS
National Research Conference and Exhibition on Indigenous Medicine

NRCEIM-2017
Towards Healthy Life With Nature

ABSTRACTS

Unit of Siddha Medicine
University of Jaffna
Kaithady, Jaffna, Sri Lanka

27-29 January 2017
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Secretary : Dr. (Ms.) V. Sanmugarajah
Treasurer : Dr. (Mrs.) A. Srigeran
Editor : Dr. S. Sivashanmugarajah
Message from the Vice Chancellor
University of Jaffna

I’m happy and proud to give this message. This is the first time the Unit of Siddha Medicine, University of Jaffna and Dept. of Indigenous Medicine, Northern Province have joined together and stepping into this venture.

The Siddha Medicine, degree programme is a professional course and the stakeholders, the Department of Indigenous Medicine have got together and working to improve the quality of Indigenous health education and quality of Health Care in the Indigenous system. Thus understanding each other’s provision and roles are very important. This shaking hands and working together is a good symptom for the development of Siddha Medicine.

I congratulate the Management Committee of Unit of Siddha Medicine, the Head, Staff and the students of Unit of Siddha Medicine for taking the initiative and conducting the program. I hope Unit of Siddha Medicine, University of Jaffna and Dept. of Indigenous Medicine, Northern Province will continue to engage in such activities and upgrade the Siddha Medicine teaching as well as the Siddha Teaching hospital.

I again wish all those who are involved with this venture and pray for the successful events

Prof. (Ms.) V. Arasaratnam
Senior Professor of Biochemistry
and Vice Chancellor
பகுப்புப் பாடல்கள் வழக்கமாக சிற்று பாடத்திலும் பிறகுப் பகுப்புப் பாடல்கள் வழக்கமாக சிற்று “எள்ள சிற்று பாடத்திலும் புராநம் 2017 எழுதல் நூற்றாண்டிக் காலத்திலும் எழுதிய தொன்றுதுடன் குறிப்பிட்டியேறியோர் ஐந்து முறையாக பாடல்கள் வழக்கமுள்ளேறும்.”

கிறித்தவக்கால பாடல்கள் புத்தாண்டுக்கு வழக்கமாக எழுதப்பட்டுள்ளன என்று கூறியுள்ளது. பின்னரும் சிற்று பாடல்கள் வழக்கமாக சிற்று “எள்ள சிற்று பாடத்திலும் குறிப்பிட்டியேறியோர் ஐந்து முறையாக பாடல்கள் வழக்கமுள்ளேறும்.”

"எள்ள சிற்று பாடத்திலும் எழுதிய தொன்றுதுடன் குறிப்பிட்டியேறியோர் ஐந்து முறையாக பாடல்கள் வழக்கமுள்ளேறும்.”

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“சாதையின் முறை, முறையின் சாதை” means Food is the Medicine and Medicine is the Food”. This quote explains the importance of food in Medicine. The food should be balanced, healthy and nutritious to provide healthy life to the people. This health care is evolved as the tradition of the Tamil people from “Agasthiyar” and practiced as Siddha Medicine. Of the indigenous medicines, Siddha Medicine from Tamil Culture, Ayurveda Medicine from Sinhalese culture and Unani Medicine from Muslims culture are the wealth of the People in Sri Lanka and these three are to be protected, preserved and practiced widely for the wellbeing of the people in this Country.

Siddha Medicine become a Unit in University of Jaffna for more than 32 years and strives hard to be upgraded as an Institute to readily extend its service to the community. It has produced several graduates who are serving as Siddha physicians across this country. 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. The infrastructure and human resources have to be strengthened to meet the requirements of an Institute and initiatives are taken well ahead to upgrade it as an Institute of Siddha Medicine.

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. Further the establishment of Postgraduate Institute of Indigenous Medicine is on its way with the ordinance drafted by the Ministry of Health and Indigenous Medicine already and awaiting the approval of University Grants Commission to award Doctor of Medicine (MD) in all Siddha, Ayurveda and Unani Medicines in Sri Lanka. These initiatives explore more possibilities to the students of Siddha Medicine to strengthen their knowledge and experience through learning postgraduate degrees.

This first National Research Conference cum Exhibition-2017 is the Milestone of the Unit of Siddha Medicine jointly organized by the Unit of Siddha Medicine and Northern Provincial Department of Indigenous Medicine. This provides a platform to the researchers to present their findings, demonstrate their activities and products through exhibits and opened up healthy discussions on various fields.
of Siddha Medicine. In addition, the traditional medicine also incorporated into the program to provide opportunity for them to demonstrate their success stories and good practices. This will enable the Siddha Students to interact with the community and to demonstrate the importance of the indigenous medicine to all.

To all these developments and initiatives the backbone is the dynamic leadership of this University, the Vice Chancellor, Prof.(Ms.) Vasanthy Arasaratnam and due to her request we all joined together in the Management Committee of Siddha Medicine and given assistance to the staff and students of the Unit of Siddha Medicine to involve various activities. The credibility goes to the staff (Academic and Non-academic), alumni and the students for their timely efforts to the successful celebration of these events today. The hard work and commitment from Dr.Mrs. Vivian Sathiaseelan, Head/Siddha Medicine and Dr.Mrs.Thayalini Thileepan, the convener of the event and Dr.S.Sivashanmugarajah editor of the Proceedings are commendable. It is noteworthy to appreciate the enthusiasm and energy invested by the Siddha Student Association towards the success of these events. The support rendered by the Northern Province Department of Indigenous Medicine and the Siddha Teaching Hospital, Kaithady are commendable and this union is the strength of this Unit to deliver its services to the community. On behalf of the Management committee of the Siddha Medicine I wish the conference and exhibition a success and anticipating that this will be celebrated in future too.

**Prof.G.Mikunthan**
Chairman,
Board of Management ,
Unit of Siddha Medicine.
As a conference chair and the Head of the Unit of Siddha Medicine, I am very happy and proud to give this message on the occasion of the 1st National Research Conference and Indigenous Medicine which will be held on 27th - 29th of January 2017. The theme of the conference is “Towards healthy life with Nature”.

This is a multidisciplinary forum for academic Researchers and professionals to share their knowledge, experience and research in a range of Disciplines in indigenous Medicine. The Goal is to create a platform for dissemination of knowledge and to enable mutual critical discussion of research in Indigenous System of Medicine and Traditional Medicine. I consider that NRCEIM - 2017 also paves a significant milestone towards achieving a global trend to develop and uplift the native medicine. Further, I believe that this National conference serves a meaningful place and excellent opportunity to enhance the research finding among Indigenous Medical Community.

I would like to take this opportunity to thank our respected Vice - Chancellor Senior. Prof.(Ms.)V. Arasaratnam, for her Leadership and valuable guidance from the inception to the end of the conference, amidst her busy schedule.

I wish to express my thanks to Chairman of the Board of Management, Prof. G. Mikunthan for his constant direction and timely assistance in organizing this important task. I wish to convey my sincere gratitude to the members of Board of Management of the Unit of Siddha Medicine for their valuable support.

I greatly appreciate the strong collaborative effort extended by the Northern Provincial Dept. of Indigenous Medicine, Staff of Kaithady Siddha Teaching Hospital, all members of the Conference Organizing committees, Review panel, the Editorial board members, Academic and Non Academic Staff members of the Unit of Siddha Medicine to make this event a success. During this time period National Conference and Exhibition is Organized by the Provincial Department of Indigenous Medicine in Northern Province Collaborated with Unit of Siddha Medicine, University of Jaffna facilitating to reach the goal of natural health care among the public. I appreciate the effort of 28th-32nd batch of BSMS students towards their contribution for making this exhibition a success.

I appreciate the support rendered by our sponsors.

I wish you all a pleasant and stimulating conference.

Dr. Mrs. V. Sahiyaseelan
Head/Siddha Medicine,
Chairperson/NRCEIM - 2017
Message from the Convener
NRCEIM-2017

It is with great pleasure we warmly welcome all delegates to the first National Research Conference and Exhibition on Indigenous Medicine – 2017 jointly organized by the Unit of Siddha Medicine, University of Jaffna and Department of Indigenous Medicine, Northern Province under the theme “Towards the Healthy life with Nature”. Joining hands with the Northern Province Indigenous Medicine is worthy to promote the Indigenous medicine in Sri Lanka and specially to give adequate support to the traditional health care of the people.

We received a total of 66 research papers for the request made through various ways of which 49 papers were selected by a rigorous review process for oral and poster presentations. In addition a separate section was incorporated giving summary of the success histories of traditional practitioners which were the real outcome of their experience by performing practically. The conference has a unique feature coupling with an exhibition to demonstrate and crate awareness on the indigenous herbs and their medicinal values to the public. This is first conference organized by the Unit of Siddha Medicine, University of Jaffna with Northern Province Indigenous Medicine to provide a platform to present the findings of the research carried out and to create interest in this field in near future. Altogether this event is the milestone of the Unit of Siddha Medicine. The strong support given by the Commissioner Northern Province Department of Indigenous Medicine, Medical Officer-in-Charge and Management of Siddha Teaching hospital are encouraging to have such conference cum exhibition annually.

We are fortunate to have an eminent Siddha Professor Dr. Sornamariammal with us as the guest speaker from India to share her valuable experience on Siddha Medicine. In addition there are many guest speakers in different sessions who gave strong support to organize this conference with a great success. We have also received financial support from University Research Grant and from the sponsors without such generosity, it would not have been possible for us to organize this event to this degree of perfection.

I especially thank the presenters who submitted their research papers and the reviewers who did a voluntary service to review the papers critically for selecting quality papers for the printer Andra (Pvt) Ltd for giving final quality outlook of the
proceedings. The strong support given by the Siddha Student Union and Alumni of Siddha Medicine are commendable to organize the conference and exhibition. I also thank all the media for giving a wider publicity about this conference and exhibition.

I wish to express my sincere gratitude to our Vice Chancellor Snr.Prof.(Ms) V.Arasaratnam and Chairman, Board of Management Prof.G.Mikunthan and all the members of Board of Management for their guidance and valuable assistance to organize this Conference, editing research papers and for the preparation of Conference Proceeding. I would like to extend my thanks to all our colleagues for their untiring works and support in planning and bringing this Conference to this level and to our sponsors who gave strong support towards this success.

Dr.T.Thayalini
Senior Lecturer
Unit of Siddha Medicine.
Message from the Secretary
NRCEIM - 2017

On behalf of the conference and exhibition committee, I welcome to the First National Research Conference and Exhibition on Indigenous Medicine (NRCEIM - 2017) from January 27 to 29, 2017, being organized at the Unit of Siddha Medicine, University of Jaffna, Kaithady jointly with the Provincial Department of Indigenous Medicine, Northern Province. The event is meant to update the theoretical knowledge and the practical skills of our colleagues working in the field of Indigenous Medicine and its related fields. The prime focus of this conference is to “Towards the Healthy Life with Nature”.

The conference program encompasses about Medicinal plants, Health and Medicine, Yoga and Sport science, Biological Science, and Traditional section sessions, including Guest and keynote lectures covering most of Indigenous medical topics. I am sure that the conference will be an important podium for all researchers related to the field of Indigenous Medicine. First of all, my heartiest wishes to all delegates, speakers who are leading and adding precious knowledge and skills to all colleagues from various Universities, and experts from Institutes and Industries from India and Sri Lanka, and Ayurveda Medical Officers from Department of Ayurveda, Sri Lanka. I strongly believe that sincere efforts will never go waste. I conclude this message thanking everyone who devoted their time and effort to make the NRCEIM 2017 a success. I convey my sincere love to the team behind the NRCEIM 2017.

“LOVE ALL - SERVE ALL”
“HELP EVER - HURT NEVER”

- Baba

Dr. (Ms.) Vinotha Sanmugarajah,
Senior Lecturer,
Unit of Siddha Medicine.
We are extremely happy to deliver the Proceedings of the NRCEIM – 2017 in your hands.

Unit of Siddha Medicine, University of Jaffna has functioned effectively and successfully to produce Siddha graduates during the past 33 years with lots of difficulties. We have conducted several health programs such as medical camps, exhibitions, school programs to the public for more than three decades. At this juncture, Unit of Siddha Medicine has moved a step forward in its mission by organizing a National Research Conference and Exhibition on Indigenous Medicine (NRCEIM-2017) with the collaboration of the Department of Indigenous Medicine, Northern Province and Siddha Teaching Hospital, Kaithady.

The goal of this National Research Conference is to provide a platform to share the knowledge of researchers, academicians, medical practitioners, traditional physicians and stake holders in various parts of Sri Lanka under the theme of “Towards Healthy Life with Nature”

This document is unique and first of its nature in the history of Unit of Siddha Medicine, University of Jaffna and appears bilingual by setting standards to deliver the invaluable collection of information with accuracy. This awesome proceedings sets the milestone of the Unit of Siddha Medicine and raised the Unit of Siddha Medicine as one among the Organizers of Research Conference in the research world by witnessing various events taken place during the three days 27-29 January, 2017 at Unit of Siddha Medicine.

The scientific sessions are grouped into four tracks viz (1) Health and Medicine (2) Medicinal Plants (3) Biological Science and (4) Yoga and Sports Science. Special attention has taken to encourage the traditional physicians to share their knowledge, experiences and good practices through their write-ups in their own style. With the intention of encouraging the young researchers to carry out more research and expose their research skills in the respective fields. Of the 66 papers received 38 papers were selected for oral presentation and 11 papers for poster presentation after going through rigorous blind review process. Those papers with critical remarks were sent to the respective authors and will find places in other conferences after necessary improvement in their contents.
From the conceptualization to the execution various committees have done tremendous work to bring this NRCEIM – 2017 a success. We express our gratitude to the Vice Chancellor, University of Jaffna for her encouraging and valuable suggestions to make this National Conference and Exhibition a great success. We are greatly indebted to the Chairman of the Siddha Medicine Board of Management for his involvement and suggestions in all aspects of the conference based on his vast experience.

We extend our sincere thanks to our Guest Speakers Dr. I. Sornamariammal and Prof. Piyal A. Marasinghe for their timely presence, powerful speeches and valuable write-ups. We also acknowledge our Keynote Speakers Dr. I. Jebanamaganesan, Prof. E. R. H. S. S. Ediriweera, Dr. A. Hassan Mokammed Mawjood, Dr. S. Ushakanthan and Dr. P. Sathyanathan for their valuable speeches and support to keep the sessions floating with all aspects of Siddha Medicine.

We express our sincere thanks to the MOIC and Staff of the Siddha Teaching Hospital, Commissioner and Staff of the Department of Indigenous Medicine, Northern Province and the members of the Siddha Medicine Board of Management for their support in all aspects.

We extend our gratitude to all members of various committees, participants, reviewers, exhibitors, students and others involved directly and indirectly. A special thanks to the sponsors for their generous financial support.

Finally, we would like to record our special thanks to Andra (Pvt.) Ltd, the printer of the proceedings for their quality page setup and printing to bring out this historical document on time.

Thank you.

Dr. S. Sivashanmugarajah
Senior Lecturer,
Unit of Siddha Medicine.
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According to section 89 of Ayurveda Act no 31 of 1961 the term Ayurveda includes the Siddha, Unani and Desiya Chikitsa system of Medicine and Surgery and any other system of Medicine Indigenous to Asian countries and recognized as such by their respective Government.

**Siddha System of Medicine**

This Medical System is popular among the Tamil speaking people in the country. Originally it was involved and perfected in India. According to Hindu tradition it was Communicated by Lord Siva and Parvathy to Murugan, Nanthi, Agasthiyar and other Siddhars.

The founder of this system is said to be Agasthiyar who is commonly believed to be the originator of Tamil Language.

In 1925 there was a demand by some members of Legislative Council for the allocation of a sum of money for the training of Ayurvedic physician. This was followed by the passing of resolution for the appointment of a committee to study the feasibility of this proposal. The committee recommended that a board of Indigenous Medicine be constituted to deal with the subject of training of physicians and that college be setup in Colombo for this purpose with a hospital and an outdoor dispensary attached to it.

According to the recommendation the first Board of Indigenous Medicine consisted of the following members.

1. Mr. K. Balasingham (Lawyer and member of the legislative council) Chairman
2. Mr. A. F. Molamurai (Subsequently became the leader of the House of Representative)
3. Hon. D. S. Sennanayaka (who became the first Prime Minister of Independent Sri Lanka)
4. Hon. W. A. De Silva (who became the Minister of Health)
5. Mr. (Late Sir) D. B. Jayatilake (who became the leader of the House in the State Council)
6. Mr. Donald Obeyasekara (Bar-at Law and Chairman Oriental Medical Studies)

7. Mr. C. Muthukumaru

8. Mr. M.S.P. Samarasinghe

All the above members are recommended for their valuable service to restore Ayurveda to its due place. Two of them however stand out prominently. They are Mr. K. Balasingham due to his efforts the College and Hospital at Borella were founded and Mr. Donald Obeyasekara who made a significant contribution for the promotion of Indigenous Medical education.

The setting of the College and Hospital at Borella in 1929, it is an important landmark in the movement for the revival of Indigenous Medical System in the Country.

His Excellency Sir Herbert James Stanley the Governor of Ceylon declared open the college of Indigenous Medicine on 10th June 1929. At this occasion on behalf of the Board of Indigenous Medicine the Chairman Mr. K. Balasingham extended most cordial welcome to Governor. Captain A. N. N. Panikar, Ayurveda Booshana (Madras), M. B. CH. B. (Edin) M.R.C.S (Eng) L.R.C.P (London) L. C. P& S. (Calcutta), L. M. S. (Homer), A. M. A. C. (Madras) was appointed as the first Principal of College of Indigenous Medicine.

Pandit A. Kanagaratnam, Bhishak. C. Sambasiva Iyar and Dr. T. Nallainathan were appointed as Lecturers of the Siddha Section.

The Establishment of the College and Hospital at Borella in 1929 is an important landmark in the revival of Indigenous System of Medicine in this country. Between 1929 and 1961 when the Ayurveda Act enacted is a formative period, the major part of which is played by Hon. S. W. R. D. Bandaranaike. His tenure of office as Chairman of the Board of Indigenous Medicine (1937-1944) Minister of Local Government and Health (In the State council of the first Parliament) and finally as Prime Minister (1956-1959) gave him ample opportunity to work for the upliftment of the Indigenous System of Medicine. During his period as the Minister of Local Government and Health made necessary arrangements to place the College and Hospital directly under the State Management. Further he was instrumental for the establishment of the Department for the Development of the Indigenous Medicine. He also made an allocation for the establishment of the Department for the Department of Indigenous Medicine. Initiated a programme of construction of Ayurvedic Hospital under the Management of the Department of Indigenous Medicine.

Later with the enactment of the Ayurveda Act No 31 of 1961 the foundation for the development of Ayurveda had been laid.

With the implementation of the Act the following steps had been taken.
1. Establishment of the Department of Ayurveda
2. Establishment of the Central Hospital of Ayurveda
3. Establishment of Bandaranaike Ayurvedic Research Institute
4. Establishment of Ayurvedic Drugs Corporation

In the parliament Headed by the Prime Minister Honorable Srimao R.D. Bandaranaike in the year 1977 Honourable Al Haj Badiudeen Mohamed Minister of Education made all efforts to upgrade the status of the College of Ayurvedic Medicine to the status of an Institute of Indigenous Medicine and affiliated it under the University of Colombo in the year 1977. Dr. M. A. M. Jalaldeen Head of Unani Section also contributed much in the birth of the Institute of Indigenous Medicine along with the academic staff of the College of Ayurvedic Medicine. The College was affiliated to the University of Sri Lanka on 2nt April 1977 by the Gazette Extra Ordinary No 67/14 dated 21.12.1979. It was established as an Institute of Indigenous Medicine attached to the University of Colombo, Sri Lanka. Now the Institute comes under the purview of Higher Education Act No 16 of 1978.

The following Lecturers held the post of Principal at the College of Indigenous Medicine.


3. Dr. D. H. Edirisinghe
4. Pandit William Alwis
5. Dr. C. Wickiramasinghe
6. Mr. P. K. Dissanayake
7. Dr. S. J. Seniveratne
8. Pandit G. P. Jayatillake
9. Dr. Upali Pilapitiya

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

The Siddha section was transferred to the University of Jaffna on 2nd July 1984.

The following Academic Staff of the Department of siddha medicine also were transferred to the University of Jaffna.
Dr. S. Bhavani (Continued to be the Head/Siddha Medicine)
Dr. S. Arunachalam
Dr. T. Gunaratnam
Dr. S. Thirunavukkarasu
Dr. (Mrs.) M. C. Srikhanthan

Subsequently Dr. S. Arunachalam and Dr. T. Gunaratnam retired from service.
At the time of transfer of the siddha section to the University of Jaffna.

Prof. S. Vithianantha was the Vice Chancellor, Prof. Indrapala was the Dean/Arts and Mr. V. N. Sivarajah functioned as Registrar of the University of Jaffna. The Siddha section was attached to Faculty of Arts as a Department.

Prof. N. Balakrishnan succeeded as Dean/Arts after Prof. Indrapala retired from service to migrate to Australia. Prof. S. Vithiananthan (Vice chancellor) and Mr. V. N. Sivarajah (Registrar) worked hard and got the buildings at Kaithady to accommodate the Siddha students who were finding it difficult without proper class rooms at the University of Jaffna.

Prof. Stanley Kalpage (Chairman U.G.C) and Prof. Stanley Wijeyasundara assisted Prof. S. Vithiananthan to vest the buildings at Kaithady for the functioning of the Department of Siddha Medicine could not occupy the whole building immediately as it was occupied by refugees.

The Staff and Students shared the buildings at Kaithady with the refugees. Gradually the displaced people were accommodated in various places and the University of Jaffna commenced the repair works of the damaged buildings at Kaithady.

In the latter part of 1984 the recruitment of Demonstrators and lecturers commenced Dr. (Miss.) J. Perual, Dr. (Miss.) S. Kandiah and Dr. (Mrs.) S. Sivapalan were appointed as Assistant lecturers and Dr. (Mrs.) G. A. Bhavani was appointed as Senior Lecturer.

Mrs. K. Uruthirasundram was appointed as clerk to look after the office work and various nonacademic staffs too were appointed as technical officers, library assistants and sanitary labourers.

The following Academic Staffs were appointed after 1985,
Dr. (Mrs.) S. Pancharajah,
Dr. (Mrs.) T. Kumutharanjan,
Dr. (Miss.) V. Thevarajah,
Dr. (Mrs.) V. Sathiyanaseelan
The following Lecturers held the post of Head of Siddha Section in the Jaffna University.

Dr. S. Bhavan - June 1984 to September 1995
Dr. (Mrs.) M. Srikanthan - October 1995 to September 1998
Dr. (Mrs.) G. A. Bhavani - October 1998 to December 2000
Dr. (Mrs.) S. Sivapalan - January 2001 (Acting)
Dr. (Mrs.) M. Srikanthan - February 2001 to May 2001 (Acting)
Prof. A. Sanmugadhas - June 2001 to July 2001 (Acting)
Dr. (Mrs.) M. Srikanthan - August 2001 to July 2004
Dr. (Mrs.) S. Pancharajah - August 2004 to July 2010
Dr. (Mrs.) T. Kumutharanjan - August 2010 to November 2010 (Acting)
Dr. (Mrs.) T. Kumutharanjan - December 2010 to February 2013
Dr. S. Sivashanmugarajah - March 2013 to June 2013 (Acting)
Dr. S. Sivashanmugarajah - July 2013 to June 2016
Dr. (Mrs.) V. Sathiyaseelan (Present Head) - July 2014 up to date

The Unit of Siddha Medicine commenced its journey as a section under the college of Indigenous Medicine along with Ayurveda and Unani section. It was transferred to the University of Jaffna where it functioned as a Department under faculty of Arts. Later it became unit directly under the Vice Chancellor University of Jaffna and still continues to be a Unit.

At present the Staffs both Academic and Non-academic have increased in number. The strength of the Students too have increased in number. Almost all the lecturers obtained their second Degree (M.Phil. & M.D) some have obtained their Ph.D. while some are completing their Ph.D.
The number of buildings have increased. The syllabus has been revised as such the standard of the Unit has increased academically and structurally. The time has ripen to be elevated, in the field of Indigenous Medicine. The Institute of Indigenous Medicine Rajagiriya and Institute of Gampaga Wickramarachi Indigenous Medicine are functioning as Institute at Rajagiriya and Gampaga respectively.

The Board of Management of the Unit of Siddha Medicine is taking all steps to elevate this Unit to the level of an Institute. The Vice Chancellor University of Jaffna, The Chairman Board of Management, and the staff of the Unit of Siddha Medicine are all making all efforts for this conversion. The Chairman of the Board of Management, Prof. G. Mikunthan is very energetic and will leave no stone unturned till this mission is fulfilled. The Vice Chancellor, University of Jaffna will definitely approach the relevant authorities and very soon, in the new future the Unit of Siddha Medicine will blossom into an Institute.

The almighty God will shower his choicest blessings to fulfill our ambition.
Guest Speeches
Macro minerals are the chemical compounds required in large quantities that the human body requires for carrying out several essential bodily functions. Among the Macro minerals, magnesium is one of the vital elements. Magnesium is the second most abundant element inside human cells. It regulates many bio-chemical reactions in the human body by playing a vital role as a cofactor for more than 300 enzymes. Magnesium is important for proper utilization of calcium, protection of DNA, electrolyte balance, energy production and utilization, nutrient metabolism, cell formation etc.

Since time immemorial, Siddhars had established the value of minerals in the Siddha system of medicine. They had identified the source of all minerals in the natural ores and converted them into drugs/medicines, fit for humans through their matchless chemical procedures. It is to be noted that expertise in Geology was also with Siddhars, in identifying raw materials for their drugs.

Siddhars classified all natural sources (Thathu) under four headings, i.e Ulogam, Uparasam, Padanam and Karasaram. Regarding magnesium, it is found in all Ulogam, Uparasam, and Karasaram forms, naturally. For example Ayam- (Hematite or Iron), Sivapu Abraham- (Red Mica or Phlogopite), Annabedhi- (Magnesium Alum), Induppu - Rock salt etc.

Uparasams are 120 in number. Garudapatchi kal is one of the uparasam. It is termed as ‘Magnesite’ and classified under a carbonates in geology. Garudapatchi kal is nothing but stone of Magnesium carbonate.

The source and details of Garudapatchi kal- is given in third volume of Boghar 7000. It is available in Salem District of Tamilnadu and in some other parts of India.
Boghar classified Garudapatchi kal- into five types based on its colour. According to Geosciences, the primary stone of magnesium is Dunite, i.e Aadikarupu. All other types of Garudapatchi kal emerge from this primary stone. The green, Yellow, Red or brown varieties have other ingredients added to magnesium carbonate for change in their colour. For instance, in green coloured magnesite there is a mix of Olivin in the primary stone similarly in brown coloured magnesite there is a mix of ferrous compounds. However the commonest variety which emerges from Dunite is the white variety which is termed Pal Garudapatchi kal in Siddha. It is available in large quantities also. While in drug preparation methods, the white variety alone is recommended in Chunnam (Calcification) preparations and green variety for Sattu (extraction) methods.

Medicinal value of Garudapatchi kal

A medicine which prevents degeneration and prolongs healthy life span is called as Karpa Marunthu. As per the reference mentioned above Garudapatchi kal is a Karpa marunthu.
It eradicates excess heat / hyperthermia, rectifies Imbalance of Tridosha by detoxifying the causative agents, skin disorders and related complications, fissured tongue, cancer and inflammatory disorders of eye, blurred vision and night blindness.

As per Pathartha guna vilakam of Sri Lanka origin

Excess thirst due to hyperthermia, Dryness, Ano-rectal disorder, Depression, Kapha and pitta disorders can be vanished with the use of Garudapatchikal.

Research findings and implications of Magnesium

- Magnesium deficiency seems to be carcinogenic, and in case of solid tumors, a high level of supplemented magnesium inhibits carcinogenesis.
- Magnesium protects cells from heavy metal toxicity of aluminum, mercury, lead, cadmium, beryllium and nickel. Thus Magnesium is a detoxifying agent by its cleansing and chelating action.
- Magnesium is given in the critical care in Malignant Hyperthermia Crisis. Thus it should have the potential to prevent hyperthermia and related disorders due to excess heat when supplemented as Karpa marunthu.
- Magnesium is found to enhance the effectiveness of conventional treatment for the Asthma, Depression, Colorectal cancer, Diabetes, Hypertension etc.
- Magnesium is found to be important for maintaining the structural and functional integrity of several vital ocular tissues such as cornea, lens and retina. Magnesium deficiency is found cause cataract, glaucoma and diabetic
retinopathy. Magnesium plays a key role in relaxing the smooth muscles of eye. Thus magnesium supplementation is found to be remedy for Twitching of eyelids and Ocular migraines.

The above mentioned research findings are synonymous with the conditions mentioned in the Siddha literature for Magnesium. More research from Siddha point of view is to be conducted for the validation of Magnesium as a *Karpa marunthu*. The Current siddha medical education system doesn’t emphasis the use of such preventive medicine in regular practice. Such medicines are to be revived and included from the gross root level of education for better health of coming generations.
Medicinal Plants which are used for Traditional Systems of Medicine in Sri Lanka have different local names in different regions of the Island. Basically, Tamil and Sinhalese names which are popularly applied for these herbs, but more than one names are locally engaged for a single plant, when villagers or indigenous physicians who collect and prescribe medicinal plants for treating their patients. Therefore, correct botanical identification of any medicinal plant which may be selected to conduct a research, for the benefit of our future generation should be confirmed whether the species is common or rare.

Fixation of the expected botanical name for a plant can be done through its Taxonomical Identification. Plant taxonomy is nothing but the subject called Systematic Botany that involved with scientific techniques to search morphological characters carefully, for ranking a given plant up to the Family, Genus, Species and Sub-species so on. The Taxonomic Rank of a plant starts from the Kingdom, then the Division, Class, Order, Family, Genus and finally ends with Species name. Further those can be dived in to Sub Kingdoms, Sub Divisions up to Sub Species and even variety level.

Present methodology what we follow to write a Botanical Name was introduced by a Great Botanist Linnaeus during 1750 year, declared himself as Binomial Nomenclature. In this method, a botanical name includes the Genus, Species followed with the Author or Authors who involved of naming or renaming the plant after scientific investigations.

For an example, the scientific name of *Sandal Maram, Suduhandun, Swetha chandana* or White Sandalwood can be written as *Santalum album* Linn. Herein this name *Santalum* is the Genus, album the Species and Linn. Indicates the author’s name in short form. When you write an author’s full name, the dot should be removed, as *Cinnamomum zeylanicum* Blume without the dot. This is the Synonym of *Kuruwu or Kurundu*, internationally known as Ceylon Cinnamon. On the other hand, if you want to display a scientific name to highlight sub species level, it should be written as *Rhododendron arborium* Smith subsp. *Zeylanicum* [Booth] Tagg and this sub species is endemic to Sri Lanka. Habit of this plant is a small tree growing in high elevations above 4000 feet from the mean sea level, flowers are pinkish red. The flower is misidentified as *Asoka* because princess *Seetha* was kept by king
Rawana in an *Asoka* forest according to the Ramaayana but clinically, *Asoka* is something else, mentioned in the Ayurvedic literature as *Saraca asoca* [Roxb.] de Wild. which is a famous *Raktha - sthambana* or Hemostatic crude drug in traditional medicines prescribed to control excess bleeding. The main part of the tree which used for clinical purpose is *Asoka* Bark.

Botanical family characters are very important when the Genus of the plant is found out. If you think about *Cassia* Genus coming under the Family Fabaceae, herbs, shrubs and trees are commonly included. Normally, levees are compound and the number of leaflets per a leaf are varied. One of the examples is *Cassia tora* Linn. Known as *Vaddutakarai* or *Pethithora*. Here the number of leaflets per a leaf are three pairs. Similar herb *Cassia absus* Linn. has only two pairs of leaflets. Accordingly, number of leaflets could be applied to separate out the species under *Cassia* Genus. When the number of leaflets are similar but flowering and fruiting characters are different, further investigations can be carried out to separate the species. Generally, Flowers of *Cassia* Genus have 10 stamens.

But different species can be identified according to the arrangement of stamens. Comparing *Cassia fistula* Linn. Kavani, *Konnei* or *Ehala*, with *Cassia auriculata* Linn. known as *Avarai* of Ranawara, various morphological characters can be used to separate out the botanical identity. First of all, we can observe Habit of these two plants. One is a medium sized tree and the other a shrub. Then the number as well as the size of the leaflet. Both flowers are similar in color [Yellow] but *Cassia fistula* Linn. has pendulous flowering panicles and *Cassia auriculata* Linn. panicles are not drooping type. Number of stamens are similar, as you know, that should be 10, and arranged in three levels. Lower 3 stamens are sickle shape, large and fertile. Middle 4 stamens are also fertile but smaller, above that, sterile 3 smallest stamens can be seen. Interesting character of these two flowers are fragrancy. One is fragrant and the other one is not aromatic. Definitely, you can tell which species has fragrant flowers.

Taxonomical Identification of flora is not a new subject but coming from our generations. Morphological characters of various plants were carefully observed by our grandparents and the traditional knowledge what they learnt from the nature passed to the next generation without keeping any secrets. This knowledge is sometimes hidden in legends and associated with old stories. One of the popular story is related to the flower of *Cassia auriculata* Linn. and God Krishna.

One-day God Krishna was walking through a forest with his disciples, in a spring, all the plants used to turn their branches towards the path way and worship him but a beautifully bloomed shrub of *Cassia auriculata* Linn. was not cared and sat without moving. God Krishna observed what happened and told to his disciples, see this proud shrub because of its, blooming flowers. Today onwards, nobody may pluck flowers from this bush to worships gods or offer in the temples. From that day
the fragrancy of the flower was vanished and worshippers avoid *Cassia auriculata* Linn. flowers for temples. This story tells us the skills and traditional knowledge of our ancestors associated with plants. They carefully observed the odorless flower of *Cassia auriculata* Linn. compared with *Cassia fistula* Linn.

Now a day’s people don’t consider about our wealth of floral diversity. Plants are different from human beings as well as from animals. Biological Diversity among plants also highly variable. Please remind that no animal or human can survive without plants. Plants supply us food, living gas [oxygen] and spring water without any demand from their side. Actually plants love us divinely and satisfy about their tireless service themselves on this Earth. Majority of you all are academics, associate with the medical field. One of our duties is to develop the skills on scientific identification of medicinal plants, their conservation, cultivation and sustainable usage for the benefit of our future generation.
Keynote Addresses
கல்வி மற்றும் வேல்லியல் வரலாற்றுச் சொற்றொடர்கள். சமாதியாக, பல்வேறு வகையான முக்கியத் தொடர்புகளும், முக்கிய பொருள்களும் வைக்கப்பட்டுள்ளன. முழுமுறையான வகையான பாடல்கள், முன்னிலாமையான மறுசெயல்களும் கையாளப்பட்டுள்ளன. இந்தப் பாகங்களில் வரலாற்றுச் சொற்றொடர்கள் விளக்கப்பட்டுள்ளன. வரலாற்றுச் சொற்றொடர்களின் விளக்கம் என்னும் கொண்டங்கள் என்னும் முக்கியமான வகையான பாடல்கள் கையாளப்பட்டுள்ளன.

ராணுவத்திக்கு திருத்தரூர் முக்கியமான வரலாற்றுச் சொற்றொடர்கள் பாடல்கள் கையாளப்பட்டுள்ளன. இந்தவகையான பாடல்களின் விளக்கத்தை வெளியீட்டுவது முக்கியமான வகையான பாடல்கள் கையாளப்பட்டுள்ளன. இந்தப் பாகங்களின் வாசகம் என்னும் கொண்டங்கள் என்னும் முக்கியமான வகையான பாடல்கள் கையாளப்பட்டுள்ளன. வாசகத்தை முக்கியமான வகையான பாடல்கள் கையாளப்பட்டுள்ளன.

பொருளாதாரத்தின் கல்வி மற்றும் வேல்லியல் வரலாற்றுச் சொற்றொடர்கள் வாசகத்தை முக்கியமான வகையான பாடல்கள் கையாளப்பட்டுள்ளன. பொருளாதாரத்தின் கல்வி மற்றும் வேல்லியல் வரலாற்றுச் சொற்றொடர்கள் கையாளப்பட்டுள்ளன. இந்தப் பாகங்களின் வெளியீட்டு முக்கியமான வகையான பாடல்கள் கையாளப்பட்டுள்ளன. இந்தவகையான பாடல்களின் வாசகத்தை முக்கியமான வகையான பாடல்கள் கையாளப்பட்டுள்ளன.
கூட்டுச்சாட்சியாளர் வித்யாவினை பாதுகாப்பு செய்யப் பதிவு செய்யவும் அங்குள் கூட்டுச்சாட்சியாளர் வித்யாவினை செய்துகொள்ளும் விதங்களைக் குட்டிகள் அறிவித்து வைக்கும் நுழைவை பொருள்கூட்டுச்சாட்சியாளர் வித்யாவினை மேலாளர்களுக்கு பாதுகாப்பு செய்யவும் இத்தகங்கள் மேலாளர் காந்திக்குரிய விதமாக உள்ளன.

1. பாதுகாப்புப் படை உள்ளே விளக்குகூட்டில் வித்யாவினை பாதுகாப்பு செய்ய விலையை குறைக்க வேண்டும். குறைக்கப்பட்டுள்ள விலையை குறைக்கான விளக்கங்களை தகுந்த விளக்கங்களை மேலாளர்களுடன் வரும்படி இன்றும் விளக்கு மேலாளர் குறிப்பிட்டும்.

2. பாதுகாப்பு படை விளக்கங்கள் விளக்கத்தையும் குறைத்து விளக்கச் செய்யும்படி விளக்கம் மேலாளர் குறிப்பிட்டும்.

3. பாதுகாப்பு படைகள் விளக்கங்கள் விளக்கத்தை குறைத்து விளக்கும் விளக்கங்களை மேலாளர் குறிப்பிட்டும். குறைக்கப்பட்டுள்ள விளக்கங்களை விளக்கும் விளக்கங்களை மேலாளர் குறிப்பிட்டும். குறைக்கப்பட்டுள்ள விளக்கங்களை விளக்கும் விளக்கங்களை மேலாளர் குறிப்பிட்டும்.

குறிப்பிட்டுள்ள விளக்கங்களை பாதுகாப்பு விளக்கங்களை மேலாளர் குறிப்பிட்டும். குறைக்கப்பட்டுள்ள விளக்கங்களை விளக்கும் விளக்கங்களை மேலாளர் குறிப்பிட்டும். குறைக்கப்பட்டுள்ள விளக்கங்களை விளக்கும் விளக்கங்களை மேலாளர் குறிப்பிட்டும்.
குறிப்பிட்டு சல் தமிழகத்தின் உரிமறையலுக்கு திசை கோட்பாட்டின் பொழுதையானது.

கதைகள் அறிக்கை:- நோய்வயத்தைக் கையாள்வதுடன். குறிப்பிட்டு கருத்திகளும் வல்லுநராக வேலிய நிலையில் அமைந்திருள்ளார். கீழ் கிறித்து நோய் நோய்வயத்தை கையாள்வதின் பொழுதையானது.

சுரங்கமைத்துள்ள விளக்கம்:- குறிப்பிட்டு கருத்து வேலிய நிலையில் வேல் விளக்கமைத்துள்ள நோய்வயத்தை கையாள்வதுடன். குறிப்பிட்டு கையாள்வதுடன். கீழ் கிறித்து நோய் நோய்வயத்தை கையாள்வதின் பொழுதையானது.

சாத்தூருக்கு கருத்து:- வேலிய நிலையில் வேலிய நிலையில் வேல் கையாள்வதின் பொழுதையானது. கீழ் கிறித்து நோய்வயத்தை கையாள்வதின் பொழுதையானது.

நூற்றாண்டு வருடம்:- வேலிய நிலையில் வேலி கையாள்வதின் பொழுதையானது. கீழ் கிறித்து நோய்வயத்தை கையாள்வதின் பொழுதையானது.

முனையான புது முனையான வருடம்:-

i. குறிப்பிட்டு கையாள்வதுடன். குறிப்பிட்டு கையாள்வதின் பொழுதையானது.

ii. பூத்ருந்துக்குப்பாட்டில். குறிப்பிட்டு கையாள்வதுடன். கையாள்வதின் பொழுதையானது.

iii. குறிப்பிட்டு கையாள்வதின் பொழுதையானது. பூத்ருந்துக்கு பதிலும் கையாள்வதுடன். கையாள்வதின் பொழுதையானது.

முற்பொழுதையான புதுமையான வருடம் வேலியான வருடம் வேலியான வருடம் வேலியான வருடம் வேலியான வருடம் வேலியான வருடம்:

i. குறிப்பிட்டு கையாள்வதுடன். கையாள்வதின் பொழுதையானது.

ii. கையாள்வதுடன். கையாள்வதின் பொழுதையானது.

iii. கையாள்வதுடன். கையாள்வதுடன். கையாள்வதுடன். கையாள்வதுடன். கையாள்வதுடன்.
vi. மிளவுசெய்திகள். வேளைகள் வேலுப்பருஞ்செய்திகள், பாலூச்சரங்கல் காலக்கள் கிளையில் விளையாட்டுக்கோள் கருப்போக்கு.

vii. மிளவுசெய்தி விளையாட்டுக்கோள் குறிப்புகள். குறிப்பிட்டுள்ள மிளவுசெய்திகள் கிளையில் விளையாட்டுக்கோள் கொண்டு பயிட்டுள்ள 1 மிளவுசெய்தி விளையாட்டுக்கோள் குறிப்பிட்டுள்ள கொண்டு பயிட்டுள்ள 1

viii. குறிப்பிட்டுள்ள மிளவுசெய்திகள் விளையாட்டுக்கோள் குறிப்பிட்டுள்ள 2 மிளவுசெய்தி விளையாட்டுக்கோள் கொண்டு பயிட்டுள்ள 2

ix. வேளைத் தொழில்நுட்பத்தின் அறிக்கைகள் காலனுட்புக்கள் நூற்றாண்டுக்கள் வாய்ந்ததுக்கோள் குறிப்பிட்டுள்ள 2

x. வேளைத் தொழில்நுட்பத்தின் அறிக்கைகள் காலனுட்புக்கள் நூற்றாண்டுக்கள் வாய்ந்ததுக்கோள் குறிப்பிட்டுள்ள 3

xi. வேளைத் தொழில்நுட்பத்தின் அறிக்கைகள் காலனுட்புக்கள் நூற்றாண்டுக்கள் வாய்ந்ததுக்கோள் குறிப்பிட்டுள்ள 4

xii. வேளைத் தொழில்நுட்பத்தின் அறிக்கைகள் காலனுட்புக்கள் நூற்றாண்டுக்கள் வாய்ந்ததுக்கோள் குறிப்பிட்டுள்ள 5

xiii. வேளைத் தொழில்நுட்பத்தின் அறிக்கைகள் காலனுட்புக்கள் நூற்றாண்டுக்கள் வாய்ந்ததுக்கோள் குறிப்பிட்டுள்ள 6

xiv. வேளைத் தொழில்நுட்பத்தின் அறிக்கைகள் காலனுட்புக்கள் நூற்றாண்டுக்கள் வாய்ந்ததுக்கோள் குறிப்பிட்டுள்ள 7

xv. வேளைத் தொழில்நுட்பத்தின் அறிக்கைகள் காலனுட்புக்கள் நூற்றாண்டுக்கள் வாய்ந்ததுக்கோள் குறிப்பிட்டுள்ள 8

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xvii. வேளைத் தொழில்நுட்பத்தின் அறிக்கைகள் காலனுட்புக்கள் நூற்றாண்டுக்கள் வாய்ந்ததுக்கோள் குறிப்பிட்டுள்ள 10
நோக்கு வடம் எந்த நாளிலோ அல்லது செயல்படுத்தல் விளக்க முறை மற்றும் பாதுகாப்பு தொழில்நூற்று இன்றைய நோக்கு வடம் என்ற கூற்றினால் உள்ளிட்டு இவ்வாறு தொழில்நூற்று விளக்கம் பாதுகாப்பு, பாதுகாப்பு நோக்கு கூற்றினால் நுழைவு என்று செய்யுமுறையில் வைக்கப்பட்ட உள்ளிட்டு கற்றைக் கொண்டு உள்ளிட்டு பின்னர் முற்பட்டும் செயல்களை முற்பாதுகாப்பு நோக்கு வடம் என்று உள்ளிட்டு முற்பாதுகாப்பு நோக்கு வடம் என்று உரைக்கிறோம்.

உரைக்கு பயன்படுவது தொடர்ந்து விளக்கமானது விளக்கமானது

1. முன்னெடுத்த தொடர்ந்து விளக்கமானது சிறுமி நோக்கு வடம் என்று விளக்கமானது சிறுமி நோக்கு வடம் என்று விளக்கமானது

2. பின்னர் முற்பாதுகாப்பு விளக்கமானது பின்னர் முற்பாதுகாப்பு விளக்கமானது

3. முற்பாது விளக்கமானது முற்பாது விளக்கமானது முற்பாது விளக்கமானது

4. முற்பாது விளக்கமானது முற்பாது விளக்கமானது

5. முற்பாது விளக்கமானது முற்பாது விளக்கமானது

சிற்றொழிய பயன்படுத்தல் மற்றும் தொடர்ந்து விளக்கம் சிற்றொழிய பயன்படுத்தல் மற்றும் தொடர்ந்து விளக்கம்

சிற்றொழிய பயன்படுத்தல் மற்றும் தொடர்ந்து விளக்கம் சிற்றொழிய பயன்படுத்தல் மற்றும் தொடர்ந்து விளக்கம்

23
Panchakarma with special reference to Raktamokshana using Jaluaka (leeches)

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The term Ayurveda means ‘Science of Life’. According to Ayurveda, the body is governed by Thridosha (three humors); namely VataDosha, Pitta Dosha and Kapha Dosha. Vitiation of these Thridosha leads to occurrence of diseases. Vitiated Dosha can be expelled from the body through Panchakarma Chikithsa (Five-fold evacuation therapy). So, Panchakarma is considered as the best treatment procedure among therapeutic modalities in Ayurveda.

Charaka Samhita describes Vamana Karma, Virechana Karma, Nasya Karma, NiruhaVasti and AnuvasanaVasti as the five components of Panchakarma, whereas Susruta Samhita describes Vamana Karma, Virechana Karma, Nasya Karma, Vasti Karma and Raktamokshana as the five components of Panchakarma.

Panchakarma Chikithsa is used as a preventive measure as well as a therapeutic measure in various ailments. This method of treatment should be performed on suitable patients only. Administration of Panchakarma to unsuitable patients such as very young, very old or weak, will lead to various complications and occurrence of other disorders. Before commencement of Panchakarma Chikithsa, the physician should thoroughly examine the patient and properly understand the condition of the ailments he is suffering from.

As per Ayurveda, Panchakarma Chikithsa is conducted in three stages. They are Purva Karma (preparatory procedure), Pradhana Karma (main procedure), and Pashchat Karma (post-treatment procedure).

In Purva Karma stage, before commencement of Panchakarma Chikithsa, patient’s Agni (digestive fire) should be in an equilibrium state. If not, then drugs with Deepana and/or Pachana properties need to be administered. When Agni is in normal state, then Snehana (oleation) and Swedana (fomentation) should be carried out. Snehana (oleation) is administered or in progressive doses, or, is applied externally. It helps to loosen the vitiated Dosha or toxins accumulated in channels. Swedana (fomentation) liquefy the vitiated Dosha or toxins and makes them to flow towards the Koshta (digestive system). When these vitiated Dosha reaches the Koshta, they are then expelled from Koshta by performing Pradhana Karma. In Vamana Karma, vitiating Dosha are expelled through Urdhawabhaga (upper tract or mouth), in Virechana Karma through Adhobhaga (lower tract or anus). In Vasti Karma vitiating Dosha
accumulated in Pakwashaya are expelled through Gudamarga (rectum), Yonimarga (vagina) or Mutramarga (urethra). In Nasya Karma vitiated Dosha accumulated in Urdhawabhaga (area above clavicle) are expelled through nose. In Raktamokshana vitiated Dosha which are accumulated in entire body are expelled through blood.

Raktamokshana is described in Sustruta Samhita approximately 600 B.C. It helps to eliminate vitiated Dosha especially vitiated Pitta Dosha from the body. It, bloodletting therapy, is practiced in many continents and numerous countries. Raktamokshana is carried out using various techniques such as Jalaukacharana (applying leeches), Shringaavacharana (bloodletting using a horn), Alabuavacharana (bloodletting using a dried bottle gourd), Prachchan (bloodletting by making incisions in skin) and Shiravedana (venepuncture).

Application of medicinal leeches is as old as the Pyramids. Egyptians used leech therapy over 3,500 years ago. In Greece, bloodletting was a standard practice around the time of Hippocrates (460BC-370BC) and Herophilos (335-280 BC). Romans were the first to use the name ‘Hirudo’ for leeches. Leeches are also used in plastic surgery to reduce swelling and maintain blood flow in ancient days.

Ayurveda classifies Jalauka (leeches) into two categories such as NirvishaJaluka (nonpoisonous leeches) and Savisha Jaluka (poisonous leeches). Nonpoisonous leeches are Kapila, Pingala, Shankamukhi, Mushika, Pundarikamukhi and Savarika. Poisonous leeches are Krushna, Karbura, Alagardha, Indrayudha, Samudrika and Gochandana.

According to modern science, leeches are included under Phylum Annelida and family Hirudinidae. There are over 700 types of leeches. Some of the medicinal leeches are Hirudomedicinalis, Hirudo verbena, Hirudo orientalis, Hirudo troctina, Hirudinaria manillensis, Macrobdella decorra, Haementaria officinalis, Haementeria ghillanii and Hirudo birmanika.

Majority of leeches live in freshwater environments. But some species are found in terrestrial and marine environments. Freshwater leeches generally live in reservoirs, still or slowly flowing waters and fast flowing streams. According Sustruta, non-poisonous leeches live in Yavana, Pandya, Sahya and Pautana areas of India. Dermatitis, vitiligo, psoriasis, eye diseases, acne vulgaris are some of the indications of leech therapy. It is contraindicated in pregnancy, anaemia and patients who are emaciated.

Leeches can be collected using a large tin-can containing a bait. Some people stand in leech-infested waters and when leeches hang on to the legs, they come out and remove the leeches for collection by applying betel-lime (chunam) or tobacco juice to the leeches. In Sri Lanka, most of the leeches for therapeutic purposes are collected from running fresh water, especially from small water streams and paddy fields. Nowadays, leeches are usually kept in a clean glass bottle or a jar, containing water and aquatic plants from habitat.
According to Ayurveda and Sri Lankan traditional medicine, no specific preparation of the patients is needed prior to application of leeches. However, some physicians are of the opinion that the patient should first be subjected to *Snehana* (oleation) and *Swedana* (fomentation) as *Raktamokshana* is also a method of *Panchakarma*.

According to Ashtanga Hradaya, leeches should first be purified by keeping them in medicated water, prepared by mixing turmeric powder with water or in buttermilk.

When performing *Raktamokshana* using leeches, first make the patient to sit or lie down comfortably and clean the area with warm water without applying soap or cleansers. Apply the leeches to the appropriate place and cover them with a piece of cotton soaked in cold water when sucking blood. When the leeches have finished sucking blood, they will fall off. Wash the area of leech application with cold water and apply turmeric powder, *Manjista* (*Glycyrrhiza glabra*) powder, bee’s honey or *Sithodaka* oil.

After removing or falling down, make the leech to vomit the sucked blood by applying salt or turmeric powder to its mouth and also squeeze the body in upward direction from tail to mouth. Then leeches should be put into a fresh water container.

During the process of feeding, leeches secrete a complex mixture of different biologically and pharmacologically active substances into the wound. Hirudin, Calin, Destabilase, Hirustasin, Bdellins, Eglins, Acetylcholine and Anesthetics substance are some of chemicals in leech’s saliva.

Some physicians practicing Siddha medicine believe that leeches should not be applied on certain parts of the body, on some days of the lunar month. For example, 1st moon day on big toe and full moon day on head.

There are disadvantages in leech therapy. Due to presence of hirudin, bleeding from wound following leech bites may persist from several hours up to three days until action of hirudin is over. Allergy to leech bites, even severe allergic or anaphylactic reactions has been reported. Red blotches or an itchy rash in the body, swelling around the lips or eyes, feeling faint or dizziness and difficulty in breathing are some of the clinical features which may be present in allergies. Sometimes bacteria in gut of leeches may cause the wound to be infected. On forceful withdrawal of leech from the site of leech bite, leeches may vomit and contents in the stomach will come into contact with the wounds and this may infect the wound occurred due to leech bite.

After completion of *Pradhana Karma*, *Pashchat Karma* should be carried out. *Gandusha* (medicated gargling) and *Dhumpana* (medicated smoking) are some of them. In authentic texts, it is advised to strictly follow *Samsarjan Karma* (special diet and regimen) after undergoing *Pradhana Karma*, to regain digestive power and strength.
Non-communicable Diseases: A Major Challenge to Indigenous Medical Practitioners in Sri Lanka

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Indigenous Systems of Medicine (Ayurveda, Unani and Siddha) have been continuously rendering health care service in Sri Lanka. During the past few decades there has been increasing public interest in these systems of medicine in because they have incorporated different modes of treatments effectively to prevent & treat diseases especially Non-communicable diseases (NCD’s) & their complications, & maintaining the general health.

In this modern word, rapid urbanization, lifestyle modifications, demanding and stressful employment, sedentary lifestyle and bad behaviours such as smoking, unhealthy diet increase the risk of many NCD’s. Meanwhile, an epidemiologic transition has now shifted the disease pattern from Communicable diseases to NCD’s in Sri Lanka, which now contributes to nearly 90 % of the disease burden of the country. Non-communicable diseases (NCDs) are a non-infectious medical conditions of long duration and generally slow progression, and thus they require medical management for a longer period. As a result, NCD’s has become one major health challenges and a leading contributor of mortality and health related disability and costs.

In this modern society, there are so many diseases particularly NCD’s with no permanent cure due to lack of proper curative approach or systematized mode of treatment for them and thus they end up with disabilities. However, some of these disabilities can be effectively prevented or permanently cured by Indigenous Systems of Medicine. The major NCDs that are currently causing disabilities and posing challenges to Indigenous Medical Practitioners (IMP) are Stroke a major disease condition in Government Ayurveda Hospitals, Diabetes a major disease condition in private Ayurveda Medical Practice, Chronic Kidney Diseases are burning problem in North-central province of Sri Lanka and Cancer is becoming threatening condition in Sri Lanka. These NCD’s are creating significant new pressures on health care systems and the current health systems have failed to address them properly. Therefore, NCD’s pose a major challenge to the Indigenous Medical Practitioners (IMPs) as its recovery is very slow process and in most cases if it is not treated properly it can cause severe physical and mental disabilities.
Sri Lanka has wealth of traditional medicinal plants but still essential medicines for NCD’s are limited and thus due consideration should be given to discover & develop essential single as well as compound medicines. IMPs should be competent to employ all modes Regimenal therapy effectively & oriented with recent developments of Regimenal therapy so as to apply them to optimize the potential of the patients to quick recovery & maintain health. IMPs should be trained counselors to proper counseling as NCDs cause deterioration in the quality of life as well as psychological problems such as depression where patients continue to live with chronic disabilities while depending on others for a long time. Therefore combined effort of new approach is needed to provide “a rationale & justification” for the introduction of change in the medical practice so far followed & bring recognition & successful result in the prevention & management of NCD’s
Since ancient times, mankind has been dependent on plants for food, shelter, medicine and many other uses. The World Health Organisation (WHO) reported that 80% of people in the developing world use medicinal plants for their primary health care. The massive demand of medicinal plants is depicting quite fast due to deforestation, over exploitation and unscientific collection of flora of medicinal and aromatic plants. To cope up this situation, plant tissue culture is the promising technique. Small pieces of tissue (named explants) can be used to produce hundreds and thousands of plants in a continuous process (micropropagation). A single explant can be multiplied into several thousand plants in relatively short time period and space under controlled conditions. Tissue culturing of medicinal plants is widely used to produce active compounds for herbal and pharmaceutical industries.

PTC is the aseptic culture of cells, tissues, organs and their components under defined physical and chemical conditions in vitro. The theoretical basis for plant tissue culture was proposed by a German physiologist, Gottlieb Haberlandt in 1902, who proposed concept of tissue culture technology for which he is regarded as the father of plant tissue culture.

Medicinal plants is under a continuous threat due to over exploitation, increasing demand for good quality raw materials, decreasing wild sources of medicinal plants and most of medicinal plants either do not produce seeds or seeds are too small and do not germinate in soil. Different techniques in plant tissue culture may offer certain advantages over traditional methods of propagation, such as the production of exact copies of plants that produce particularly good flowers, fruits, or have other desirable traits, quickly produce mature plants, the production of multiples of plants in the absence of seeds or necessary pollinators to produce seeds, the regeneration of whole plants from plant cells that have been genetically modified, the production of plants in sterile containers that allows them to free from microbes to ensure the desired development

PTC is an integral part of the plant biotechnology and is an alternative to conventional methods of propagation. It plays a vital role in biodiversity conservation and economic development globally Plant tissue culture technology is being widely used for large scale plant multiplication. Plant tissue culture techniques
have in recent years, become of major industrial importance in the area of plant propagation and disease elimination.

The most commonly used explants are shoot tip, nodal buds and root tips. Plant cells have certain advantages over animal cells in culture systems. Unlike animal cells, highly mature and differentiated plant cells retain the ability of totipotency, the technique which refers to the ability of a single cell to express the full genome by cell division.

**The steps to do the plant culture**

Plant cells can be removed from various parts of a plant and placed on media in petri plates. The media does not contain the growth hormones normally present in a plant that tells the cells which tissue to develop into. As a result, the cells do not differentiate and instead form a mass of cells called a callus that is not differentiated into at the tissue level.

Since plant cells are totipotent, growth hormones can be added to the media triggering the callus cells to develop roots, shoots and eventually entire plants. Plants regenerated from tissue culture will be clones genetically identical to the cell they originated from.
List of some Medicinal plants In-vitro culture

<table>
<thead>
<tr>
<th>Species Name</th>
<th>Explants</th>
<th>Reference</th>
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<tr>
<td><em>Acorus calamus</em></td>
<td>Rhizome tip &amp; Rhizome segment</td>
<td>Yadav et.al., 2011</td>
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<td><em>Aloe vera L.</em></td>
<td>Shoot apex</td>
<td>Cavallini et al., 1991</td>
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<tr>
<td><em>Azadirachta indica A.</em></td>
<td>Nodal stem segment</td>
<td>Chaturvedi et al., 2004</td>
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<td><em>Juss</em></td>
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<tr>
<td><em>Bacopa monniera (L.)</em></td>
<td>Leaf, inter-node &amp; nodal stem segment</td>
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<tr>
<td><em>Catharanthus roseus (L.)</em></td>
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<td><em>Digitalis lanata</em></td>
<td>Shoot tip, Meristem</td>
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<tr>
<td><em>Glycyrrhiza glabra L.</em></td>
<td>Shoot bud, Shoot tip &amp; nodal stem segment</td>
<td>Thengane et al., 1998</td>
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<tr>
<td><em>Hyocyamus niger L.</em></td>
<td>Petiole</td>
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<td><em>Ocimum basilicum L.</em></td>
<td>Axillary bud</td>
<td>Ahuja et al., 1982</td>
</tr>
<tr>
<td><em>Rauvolfia serpentina (L.)</em></td>
<td>Nodal stem segment</td>
<td>Chaturvedi, 1979</td>
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</tbody>
</table>

**Conclusion and Discussion**

Presently tissue culture is a best way to conserve the medicinal plant and also the huge production of the medicinal plants as well to produce plants of superior quality and long term negative impact an environment can be prevented.
The Importance of Standardization and evaluation of herbal drugs

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Traditional medicine is based on Ayurveda, Siddha and Unani medical systems. In almost all traditional medical systems, medicinal plants play a major role and constitute the backbone of traditional medicine. During the past decades, public interest in natural therapies has increased dramatically worldwide. Due to the high demand for herbal drugs, there is shortage of many drugs, unavailability or limited source, adulteration, lack of knowledge of source identification and the adverse effects of drugs were identified as the major problems in herbal drug industry. To overcome this problem herbal drug industries started using the alternative plants as substitutes for expensive and highly efficient raw materials to manufacture the drugs.

In the ancient time, the standardization of raw materials were carried out based on the collection time and parts of herb (Rutu), availability in specific areas (Desha) and collection of wet drug and dry drug on specific Nakshtra were considered.

According to the WHO guidelines the standardization of herbal drugs is based on the quality control of raw materials and finished products, stability assessment and shelf life, toxicological studies and assessment of efficacy by ethno medical information and biological activity evaluations.

The source and quality of raw materials, storage, post-harvest handling and manufacturing process play a pivotal role in guaranteeing the quality and stability of such preparations. When developing the drug, the concentration of their active principles, physical, chemical and phytochemical, in-vitro and in-vivo parameters should be considered. The role of chemical and molecular markers to standardize the potency of such products is very important to justify their acceptability and safety. Moreover, the levels of heavy metals, pesticide residues, mycotoxins and microbiological limits which make these products harmful need to be critically evaluated before marketing.
Physical activity is a bodily movement produced by the contraction of skeletal muscle that increases energy expenditure above the basal level. But yoga is an ancient art based on a harmonizing system of development for the body, mind, and spirit. Both upgrade various vital health parameters. Therefore, this paper is focused benefits of physical activity and yoga towards healthy life span. In a contemporary era, there are millions of people not elaborated in any types of physical activity, even in yoga practice in order to promote the healthy life.

These therefore act on the various systems of human body since childhood and physical inactivity may be path for non communicable diseases like diabetic, blood pressure, heart diseases and cholesterol in early years. Currently trend, non communicable diseases are huge challenges encountered by types of age groups. Therefore, appropriate physical activity is necessary for healthy life span. There are various types of physical activities such as aerobic, anaerobic, resistance, combined and leisure sports that can be recommended for various age groups.

Besides yoga also plays an important role in enhancing healthy life in children, adults, youth and older people. Basically yoga has some its own branchessuch as asanas, pranayama, dhyana and suriyanamaskara. This promotes basic physical fitness qualities, cardiovascular and respiratory system of body. Moreover, it has impacted the circulatory, digestive, endocrine, excretory, immune, muscular, nerves, respiratory, and skeletal system. Movements involved in yoga and physical activity may differ but both improve the similar healthy life required parameters. However proper physical activity positively produce impact on health variables factors such as fat proportion, lean body mass tissues, metabolism rate, resting heart rate, high density of lipoprotein, VO2max, lactate threshold, cardiac output and stroke volume.

Sedentary life style may have negative impact on these parameters thus which will lead to disorder and unhealthy life therefore 30 to 60 minutes physical activity is remedy to overcome unhealthy life and physical activity is a non pharmacological medicine for healthy life span. American College of Sports Medicine also emphasized that regular above mention physical activity and yoga practice may ensure healthy life span particularly among children who have to keep both routine physical activity and yoga practice since childhood for better improvement of mental and physical factors. This will be effective on life span.
அந்த கல்வி பாட்டுகள்:
அருஷா கல்வி பாட்டுகள் - குறிப்பிட்டு வழங்கப்பட்டது

எந்த நூற்றாண்டு பாட்டுகள்:

மாந்தியம் நூற்றாண்டுகள்
பிறந்த நூற்றாண்டு, குணமான.

பாரசோரிய தொழிலியற் பல்லவர்கள் கல்வி வழித்துவந்தும் தொழிலியற் பல்லவர்கள் கல்வி வழித்துவந்தும். தொழிலியற் பல்லவர்கள் கல்வி வழித்துவந்தும் தொழிலியற் பல்லவர்கள் கல்வி வழித்துவந்தும். தொழிலியற் பல்லவர்கள் கல்வி வழித்துவந்தும் தொழிலியற் பல்லவர்கள் கல்வி வழித்துவந்தும். தொழிலியற் பல்லவர்கள் கல்வி வழித்துவந்தும் தொழிலியற் பல்லவர்கள் கல்வி வழித்துவந்தும். தொழிலியற் பல்லவர்கள் கல்வி வழித்துவந்தும் தொழிலியற் பல்லவர்கள் கல்வி வழித்துவந்தும். தொழிலியற் பல்லவர்கள் கல்வி வழித்துவந்தும் தொழிலியற் பல்லவர்கள் கல்வி வழித்துவந்தும். தொழிலியற் பல்லவர்கள் கல்வி வழித்துவந்தும் தொழிலியற் பல்லவர்கள் கல்வி வழித்துவந்தும். தொழிலியற் பல்லவர்கள் கல்வி வழித்துவந்தும் தொழிலியற் பல்லவர்கள் கல்வி வழித்துவந்தும். தொழிலியற் பல்லவர்கள் கல்வி வழித்துவந்தும் தொழிலியற் பல்லவர்கள் கல்வி வழித்துவந்தும். தொழிலியற் பல்லவர்கள் கல்வி வழித்துவந்தும் தொழிலியற் பல்லவர்கள் கல்வி வழித்துவந்தும். தொழிலியற் பல்லவர்கள் கல்வி வழித்துவந்தும் தொழிலியற் பல்லவர்கள் கல்வி வழித்துவந்தும். தொழிலியற் பல்லவர்கள் கல்வி வழித்துவந்தும் தொழிலியற் பல்லாட்டத்தைக் குறிப்பிட்டு வழங்குவது தொழிலியற் பல்லவர்கள் கல்வி வழித்துவந்தும். தொழிலியற் பல்லவர்கள் கல்வி வழித்துவந்தும் தொழிலியற் பல்லவர்கள் கல்வி வழித்துவந்தும். தொழிலியற் பல்லவர்கள் கல்வி வழித்துவந்தும் தொழிலியற் பல்லவர்கள் கல்வி வழித்துவந்தும். தொழிலியற் பல்லவர்கள் கல்வி வழித்துவந்தும் தொழிலியற் பல்லவர்கள் கல்வி வழித்துவந்தும். தொழிலியற் பல்லவர்கள் கல்வி வழித்துவந்தும் தொழிலியற் பல்லவர்கள் கல்வி வழித்துவந்தும். தொழிலியற் பல்லவர்கள் கல்வி வழித்துவந்தும் தொழிலியற் பல்லவர்கள் கல்வி வழித்துவந்தும். தொழிலியற் பல்லவர்கள் கல்வி வழித்துவந்தும் தொழிலியற் பல்லவர்கள் கல்வி வழித்துவந்தும். தொழிலியற் பல்லவர்கள் கல்வி வழித்துவந்தும் தொழிலியற் பல்லவர்கள் கல்வி வழித்துவந்தும். தொழிலியற் பல்லவர்கள் கல்வி வழித்துவந்தும் தொழிலியற் பல்லவர்கள் கல்வி வழித்துவந்தும்.

குரிய விளக்கம் பட்டியல்:

சேவைச் சமூகத்தின் பல்லியல் கல்வி பாட்டுகள் பதிவு செய்யப்பட்டது. பதிவு செய்யப்பட்ட பல்லியல் கல்வி பாட்டுகள் பதிவு செய்யப்பட்டது. பதிவு செய்யப்பட்ட பல்லியல் கல்வி பாட்டுகள் பதிவு செய்யப்பட்டது. பதிவு செய்யப்பட்ட பல்லியல் கல்வி பாட்டுகள் பதிவு செய்யப்பட்டது. பதிவு செய்யப்பட்ட பல்லியல் கல்வி பாட்டுகள் பதிவு செய்யப்பட்டது. பதிவு செய்யப்பட்ட பல்லியல் கல்வி பாட்டுகள் பதிவு செய்யப்பட்டது. பதிவு செய்யப்பட்ட பல்லியல் கல்வி பாட்டுகள் பதிவு செய்யப்பட்டது. பதிவு செய்யப்பட்ட பல்லியல் கல்வி பாட்டுகள் பதிவு செய்யப்பட்டது. பதிவு செய்யப்பட்ட பல்லியல் கல்வி பாட்டுகள் பதிவு செய்யப்பட்டது.
சற்றுடை தொல்லியல் விளக்கம், பட்டியல். தொல்லியல் வருவக்கும் ஆலையில் ஓட்டு புத்தக போக்குத் தொகுதியில், கவுன், பித்தலாக இருந்தது கூறும்.

திருத்தொல்லியலில் கல்வி விளக்கும் ஆலையில் தொடர்பில் ஓட்டு புத்தக. ஆலையில் கல்வி தொடராகும் புத்தக மூலக்கண்ட வருவக்கும் உள்ளது. தொல்லியல் விளக்கும் ஆலையில் கூறும்.

மேற்கோட்டுப்பட்டு கூறும், தொல்லியல் விளக்கும், தொல்லியல் வருவக்கும் ஆலையில் தொடராகும் திருத்தொல்லியலில் கல்வி விளக்கும் ஆலையில் கூறும் முக்கிய செய்திகளை கூறும்.

திருத்தொல்லியலில் கூறும் ஆலையில் ஓட்டு புத்தக மூலக்கண்ட புத்தக சுருங்க முக்கிய செய்வண்டியை கூறும் முக்கிய செய்வண்டிகளை கூறும்.
Health and Medicine
Abstract : H - 01

An Analysis on the Attitude of Elders on the Use of Ayurveda Medicine living in Vadamaradchy Division, in Jaffna District

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Large scale surveys in the United States and abroad suggest that 35-60% of adults have used some form of complementary/alternative medicines. Sri Lanka is been providing traditional medicines for the citizen which is called Ayurveda. However, no studies to date have focused on predictors on the attitudes on the consumption of Ayurveda medicines among elderly persons. The sample of 333 elders surveyed from government Ayurveda hospitals in Vadamarachy Divisional Secretariat. Data were collected by structured questionnaire and interviews. Data were analyzed by SPSS (16.0). The elderly respondents were in different attitudes on the use of Ayurveda medicine in the study area. They stated that use of Ayurveda medicine depends upon hospital facilities and transport facilities (58.8%), staff’s attitudes (10%), completely recovery from treatments (17.4%), noside effect of medicine (25.2%), Ayurveda medicine has to be taken for long term to get effect (10%), cost of Ayurveda medicine (10%), Ayurveda medicine is limited to particular age and diseases (72.3%) and Ayurveda medicine depend on cure of diseases, and gender (12.7%), Meanwhile, there was an inverse relationship between attitudes with the level of education. These findings suggest that there is significant interest in use of Ayurveda medicine among elderly persons. These results may encourage researchersto conduct community based researches on the use of these therapies among senior population in the country.

**Keywords:** Vadamarachy Division, Elderly population, Ayurveda medicine, Attitudes
Abstract : H - 02

A study on relationship between temperament of human body and blood groups and ratios among population

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In the Indian system of medicines consist the valuable concept of *prakriti*(temperament of the human body) to differentiate human beings. These are important for diagnosis, treatment, antenatal care in Ayurveda, Rhesus incompatibility, advice for blood donation, forensic purpose, diet and lifestyle, marriage counseling, disease forecasting, drug manufacturing and *anupaanapreparation* etc. *Prakriti* is divided into ten groups. They are Single *Doshas*, combined and all *Doshas* together. Those details are a very useful element in diagnosis and treatment based on defined *prakriti*. Those *prakriti* characteristics are mentioned. Blood group (*RaththaDhathu*) is divided into eight. *Thirukkural* couplet 949 justify this study. It is a pilot survey. Randomly selected 50 samples from a population and filled structured questionnaire. SPSS22 analytical software was used. Initially reliability test for questionnaire was done, Cronbach’s alpha 0.863 (above 0.7) then analyzed their *prakriti* type with the help of temperament chart to classify *prakriti* groups and the respective ratios. The *prakriti* groups were analyzed in relationship between blood groups and *prakriti* by correlation analysis. In Sri Lankan context, blood groups are further analyzed by descriptive analysis. From the results thenull hypothesis was accepted. That means no relationship. According to Pearson correlation there was a weak positive relationship with blood group and *Prakriti*. Hence seven *Dhathus* composed the *Prakriti*. High *prakriti* as *Pita-kapa* (40%), High blood group is O+ in international and study population in Sri Lankan contexts. The B+ blood group is the second highest among the study population in Sri Lankan context. *Prakriti* concept application, leads to closer to nature and healthy life.

**Keywords:** Temperament (*Prakriti*), Blood group, human body
A Comparative Clinical Study on the Efficacy of Sepalika Leaves \textit{NiruhaVasti} and Narayana Oil \textit{MatraVasti} in the Management of Gridhrasi (Sciatica)

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\textit{Gridhrasi} is a common disease in today’s clinical practice which could be correlated with Sciatica. This study is a randomized comparative clinical research on \textit{Gridhrasi}. The objectives of the study are to evaluate the effect of \textit{Sepalika Leaves NiruhaVasti} and \textit{Narayana Oil MatraVasti} on \textit{Gridhrasi}. The selected patients were randomly divided into two equal groups; Group A and Group B. The group A was treated with \textit{NarayanaOil MatraVasti}(NOMV), while the group B was treated with \textit{Sepalika Leaves NiruhaVasti} (SLNV) for a period of seven days. All the clinical symptoms were graded and evaluated before and after treatment. Data were analyzed by using SPSS statistical software. SLNV reduced pain, difficulty in walking, pricking sensation and strait leg raising test (SLRT) in statistically highly significant manner (p<0.001), whereas NOMV improved pain, difficult to walk, pricking sensation and SLRT which is statistically highly significant (p<0.001). The ingredients of NOMV has Madhura rasa, Madhuravipaka and Ushnavirya which pacify vata. SLNV has Madhura rasa, Sukshmaguna, Ushnavirya and Madhuaravipaka. When comparing, SLNV is more potent in Vatashamaka effect over NOMV. Scientific studies have proven that both the drugs have anti-inflammatory, analgesic and muscular relaxant effects which may relieve the symptoms of \textit{Gridhrasi}. Finally, it may be concluded that SepalikaLeaves \textit{NiruhaVasti} is more effective on \textit{Gridhrasi} over \textit{Narayana Oil MatraVasti}.

\textbf{Keywords:} Vasti, Gridhrasi, Niruhavasti, Matravasti, SepalikaLeaves, SLRT
Abstract: H - 04

The Study on Efficacy of *Patha Oil Nasya* and *Nagaradi Decoction* in the Management of *DustaPratisyaya*

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*Dushtapratishyaya* is a type of *Pratishyaya* mentioned in *Vridhatraya*. *Pratishyaya* is mainly *Kapha* dominant disease. When *pratishyaya* become chronic, it is termed as *dushtapratisyaya*. Based on symptomatology, *Dushtapratishyaya* could be correlated with Sinusitis which is an inflammatory condition of the sinuses. This study is a randomized comparative clinical research on *Dushtapratishyaya* to evaluate the effect of *Pathaoil nasya* and *Nagaradi decoction* in its treatment. The selected patients were randomly divided into two equal groups Group A and Group B. Group A was treated with Patha oil *nasya* (*pratimarsha*) (PON) daily in the morning time for seven days and group B was treated with *Nagaradi decoction* (ND) orally twice a day at the dose of 60 ml at 6.00 a.m. and 6.00 p.m. before meal for seven days. All the clinical symptoms were graded and evaluated before and after treatment. Data were analyzed by using SPSS statistical software system. *Patha oil nasya* improved pain tenderness, nasal block and anosmia in statistically highly significant manner (p<0.001) whereas Nagaradi decoction improved pain, tenderness, nasal block, and anosmia which is statistically highly significant (p<0.001). The ingredients of *patha oil* consist of *Kasaya*, *Tikta* and *Katu rasa*; *Usnavirya*; *Katuvipaka*; and *Laguguna*. Total effect of *Patha oil nasya* is of kaphashamaka effect. Ingredients of *Nagaradi decoction* consists of *Katurasa*, *Ushnavirya*, *Katuvipaka*; and *Ruksa* and *Laguguna*. Totally, Nagaradi decoction has kaphashamaka effect. When comparing the *Kapha hamaka* effect, ND is more potent in *Kapha hamaka* effect over PON. The both drugs have anti-inflammatory, antiseptic, astringent, analgesic and anti-histamine effects which may relieve the symptoms of *Dushtapratis hyaya*. Finally, it may be concluded that *Nagaradi Decoction* is more effective on *Dushtapratishyaya* over *Patha Oil Nasya*.

Keywords: Dustaprtisyaya, Sinusitis, Nasya, Patha Oil, Nagaradi Decoction
Abstract: H - 05

**A critical Drug review of ingredients of Sarasvatha Choorna: Used as a Remedy for Maanasa roga (Mental Disease)**

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According to the present data, there is a high prevalence of Mental Disease among elders of Sri Lanka. Prevalence of Dementia (Smruthibramsha in Ayurveda) is 3% of elders in between the age of 60 to 80 years. This will be a big issue for Health policy planning and Health management in future. Objective of this study is carried out critical drug review of ingredients of Sarasvatha choorna. This is a literal review article gathering information from specially relevant chapters of unmada (Insanity), apasmara (Epilepsy) in vridathrai, laguthrai, bhavaprakasha, materia medica books and literature survey of Dementia in journals and web sources.

Among many preparations mentioned in the authentic Ayurvedic Sanskrit texts as a treatment of manasa roga, Sarasvatha choorna has been frequently used in the management of Unmada (Insanity) which has mentioned in Bhavaprakasha. It is indicated person who are mentally retarded and who have low levels of intellect. If, this preparation is regularly consumed, decisive mind, intellect, comprehension and improved memory gradually.

Many research have been shown that the Ingredients of Sarasvatha choorna have antioxidant, AchE inhibition, anti stress, memory-enhancing, anti demential, brain-tonic, nervine stimulant and tonic, enhance the learning and memory abilities of the rats, anti diabetic, anticancer and immunomodulatory, analgesic, antimicrobial, anthelmintics, analgesics and anti-inflammatory, spasmylytic, bronchodilator, gastro protective, hepatoprotective, nephroprotective, prevention of neurodegeneration in Alzheimer’s disease can be encourage, intellect promoting, behavior modifying, anticonvulsant, acetyl cholinesterase inhibitory & memory enhancing properties.

It can be concluded that the Sarasvatha choorna can be used for many mental diseases, conditions and Management of Dementia.

**Keywords:** Maanasa roga, Dementia, Smruthibramsha, Sarasvatha choorna.
Demographic Profiles of Amavata with special reference to Rheumatoid Arthritis (RA)

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Amavata, one of the commonest crippling disorders caused by the impairment of Agni (digestive power) has close resemblance with Rheumatoid Arthritis (RA). Its prevalence is becoming high due to the indulgence of unhealthy diet and regimen. The aim of this study was to evaluate the demographic profiles of the patients of Amavata (RA). 40 patients of the age group 16- 60 years were selected, based on the classical signs and symptoms of Amavata, and the criteria lay down by the American Rheumatism Association, from outdoor patients department (OPD) and indoor patients department (IPD) of Ayurveda Teaching Hospital Borella, Sri Lanka. The generated data was analyzed by using statistical analytical program SPSS. The majority of patients (50.0%) were between 34 to 42 years of age group; followed by 20.0% in the age group of 43 to 51 years. 80.0% of the patients were female. Most of the patients (55.0%) in the present study were from urban areas. 65.0% of the patients had a family history of Amavata. 50.0% of patients in this study were seropositive. 72.5% of patients had a sedentary lifestyle and 70.0% of patients had mixed dietary patterns. Majority of the patients (62.5%) were of Vata Kaphaja Prakruti. Vata Kaphaja Prakruti persons are vulnerable to have Mandagni (low digestive power). Sedentary lifestyle leads to Kaphaja Roga. Predominance of Kapha Dosha may lead to Mandagni and further formation of Ama. As per this study it is concluded that Amavata is predominant among females of middle age. Observations of this study were in accordance with the textual references of the prevalence, distribution, family history and presence of Rheumatoid factor of Rheumatoid Arthritis. These findings could be used when preventing and managing Amavata (Rheumatoid Arthritis).

Keywords: Amavata, Rheumatoid Arthritis, Lifestyle, Demographic Profiles, Prevalence
Clinical and Experimental approach for Karanool Sigitchai in Velimoolam (External haemorrhoid) and Pouthiram (Low anal fistula)

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Abstract:
Siddha Medicine is one and prime among Indian System of Medicine. External haemorrhoid and Low anal fistula are non-communicable ano-rectal diseases and the prevalence is increasing nowadays due to life style modification. KaranoolSigitchai is one of a familiar therapy employed widely for the treatment of abscesses, benign growths, non-healing ulcers, warts, skin tags etc. This study aims to evaluate the efficacy, antimicrobial activity and biochemical assay of Karanool. Two cases approached to OPD, diagnosed as Pouthiram and Velimoolam, taken for this study, kept in lithotomy position were applied Karanool. The antimicrobial study of the mixture showed more sensitive than control against Pseudomonas pyogens and Escherichia coli. It contains both salts and plant latex. Sample A showed positive for Aluminum, Ammonium, Potassium, Sulfates etc and Sample B showed negative for inorganic salts and metals but positive for resinous gums. The pH of the mixture varies from 8.75 to 9.5. Regarding the case studies, the external haemorrhoid mass became dark, hard, fallen down on 10th day for the Case-1 and the thread fallen down at the end of 4th week for the Case-2. In the post-operative period there were no bridging or scar tissue was noted. From the above cases follow up it is found that 100% relief was there with no recurrences. In-vivo and In-vitro studies showed very hopeful results and Karanool application on the external haemorrhoid and anal fistula was safe, very good hemostatic and no recurrence.

Keywords: Nayuruvippu, Amman patcharis, TiruguKalli Pal, Barbours thread, Mathanthylam
Evaluation of systemic effects of “Rajah pravarthanivati” (a review)

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“Rajah pravarthanivati” has mentioned in BhaishajyaRatnavali for Kashtarthava which is the most common gynecological problem faced by women during their adolescence. Since Ayurveda treatments are based on homeostasis and balance of Doshas it is important to analyze systemic effects of the Rajah pravarthanivati. As “Rajah pravarthanivati” contains minerals such as kaseesa and Tankanait is also important to analyze systemic effects to avoid any harmful results. Therefore justifying systemic effects of “Rajah pravarthanivati” by analyzing properties of ingredients is the main objective of this literature review. The study was done by using texts in Indigenous and Ayurveda medicine. AyurvedaGuna Karma (properties) of all the ingredients of “Rajah pravarthanivati” were listed. According to these properties “Rajah pravarthanivati” can balance Kapha Vata Doshas. Pharmaco-dynamic actions mentioned with related to the properties of these individual ingredients in literature also shows positive systemic effects. The listed properties and pharmaco-dynamic actions were compared with each other and they showed similarities. Results reveal the Rajahpravarthanivati is having properties that could be used safely not only in Kashtarthavabut also in other systemic disorders.

**Keywords:** Rajah pravarthanivati, Systemic, Properties
Raktamokshana (Bloodletting) – Ayurvedic and Modern perspectives

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Raktamokshana (bloodletting), a Para surgical procedure is gaining popularity around the world. In Ayurveda Raktamokshana is considered as a half of the Shalya Chikitsa (Surgery). The present study was undertaken to collect the data on bloodletting in the view of Ayurveda and modern. Data were gathered through rigorous reviewing of Ayurvedic authentic texts, scientific journals and the web sources and analysed. Raktamokshana was found directed for the treatment of specifically Raktaja Roga (blood-borne diseases), along with other many surgical diseases. It was described by using Shastra (sharp instruments) or Ashastra (blunt instruments). In Ayurveda, six procedures were advocated to expel out the vitiated blood from the body viz Sringa Avacharana (horn application), Alabu Aavacharana (gourd application), Jalauka Avacharana (leech application), Pracchana Karma (scraping), Ghati Yantra Avacharana (cupping glass application) and Sira Vedhana (Venesction). Raktamokshana was indicated in gouty arthritis, filariasis, herpes, tumors, various skin disorders, genital infections, abscess, inflammatory condition, cellulitis, painful ulcers, chronic ulcers resulting from snake bite, etc. It was contraindicated in generalised swelling, swelling in debilitated persons, swelling caused by sour diet and swelling in those suffering from anaemia, piles, phthisis and in pregnancy. In modern medicine, phlebotomy referred for the removal of small quantities of blood for diagnostic purposes. However, venesection was used for conditions such as Haemochromatosis, Polycythemia Vera, and Porphyria Cutanea Tarda. Application of leeches (Hirudo medicinalis) in the area of microsurgery and re-implantation surgery was also recorded. The secretion of H. medicinalis comprising several biologically active substances was found reduced venous congestion and prevented tissue necrosis. It can be concluded that bloodletting is beneficial in diagnostic purposes and in the management of many diseases and its utility can be explained both in Ayurveda and modern views.

Keywords: Ayurveda, Raktamokshana, Bloodletting, Venesection

Proceedings of National Research Conference and Exhibition on Indigenous Medicine 2017 [NRCEIM 2017]. Held on 27th -29th January 2017 at Unit of Siddha Medicine, University of Jaffna
Study on development of a sensor device to acquire Tridosha

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With the modern lifestyles and tight schedules, people have come up with huge changes in food patterns and behaviour through the past decades. As a result, Non-communicable diseases (NCD) like cancers, diabetes and heart diseases are becoming an emerging problem in the society. Modern medicine has come up with different medications like tablets/liquids, inhalers, injections and therapies that emit rays that can be harmful to the human body or may contain side effects. This research is based on the application of technology into the traditional medical approach to make the life better. Designing the pulse detection (nadi) device was the aim of this research to acquire the tridosha. Selection of suitable sensor for pulse detection device is presented in this research paper. Using the NadiPareeksha device, waves from the Vada, Pitta and Kaphanadi were taken and analysis of wave’s formation was done using computational models and biostatic approaches to come up with the signal’s status. The progress of the research is promising and in future the analysed signal diseases’ stages will be used for the detection and pre-detection of the disease.

Keywords: Pulse Diagnosis, Ayurveda, Tridosha, Data acquisition
Review on Determination of Doses (Matra) in Pediatric practice

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The pediatric population represents a spectrum of different physiologies. Substantial changes in body proportions and composition accompany growth and development. This dynamic process of maturation is one of the differences between the pediatric and the adult populations. The developmental changes in physiology and consequently, in pharmacology, influence the efficacy, toxicity and dosing regimens of medicines used in children. Therefore, important to review the relevant changes that take place from birth to adolescence when describing a drug. Ayurveda physicians were using different Matras for different dosage forms and also the dose was fixed according to age; however, they changed the dose according to many other factors like Satva (mental ability), Prakriti (constitution), Bala (physical strength) etc. The Matra described in Ayurveda has been correlated to the Posology of the modern pharmacology. The purpose of this review is to increase the awareness and knowledge on correct dose (Matra vataushada) on different formulations in pediatric practice. And it gives the detailed survey of the related literature like authentic subject materials, modern medical literature and e-documents. According to the study, Charakawas mentioned only to give smaller quantity of medicines to the children comparing to the adults, Suhruthaacharyawas advocated on giving specific Matra according to the age like ksheerapa, ksheeranna and annnada. Dalhana and SharangadraAcharyas prescribed drugs as according to the age. Kashyapa advocated detailed and well-organized dosage (Matra) schedule according to the dosage forms (BhesajaKalpana). Many Acharyas mentioned that Matra depends on various factors. Charakamentioned the Aturabala and the intensity of morbidity (Doshabala), Chakrapaniand Sushrutadescribed as perVyadhibala, Agnibala and the Aturabala. Moreover Sarangadhara analyzed Kala, Agni, Vayah, Bala, Prakriti, Doshaaand Desha before considering the Matra.. These factors can be compiled in the Balacatustayanamely Dehabala, Agnibala, Chittabala, and Rogabala. These can be correlated with modern Pharmacology factors like age, weight, surface area, and enzymatic action etc. It is concluded that Ayurveda has scientifically valued dose fixing method related with pharmacokinetic characteristics of medicines at different ages.

Keywords: Dosage forms, Pediatric, Balacatustaya, Ayurveda

Proceedings of National Research Conference and Exhibition on Indigenous Medicine 2017 [NRCEIM 2017]. Held on 27th - 29th January 2017 at Unit of Siddha Medicine, University of Jaffna
Effects of food enhancing four aspects of human health -
A textual study based on the description of food in main three texts of
Ayurveda Samhitha

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Span of life is the count of breaths of a being. Human beings have to manipulate their lives for the efficient level of personal and social aspects to achieve the final and the topmost goal of life (final emancipation). For this it is vital to maintain better health through the proper maintenance of the four facets of life effectively while identifying and suppressing its two bad aspects (Ahithayu and Dhukkayu) as described in Ayurveda. In achieving these set goals of life ‘Food’ plays an immense role in maintaining and enhancing physical, mental, spiritual and social aspects of health in equal proportions and also to lead a socially and personally benefitted life (Hithayu and Sukhayu). Aim of this research is to explore the knowledge on etiquettes related to food, analyze taxonomies of food categorization and other standards regarding food in the enhancement of the favorable livelihood. Research has been carried out through collecting and categorizing the information found in the Vedic treaties of Ayurveda and to present in a logical manner in order to establish the concept by critical analysis in proving the theoretical justifications. Promotion of growth, recovery of loss, protection from diseases for the survival of the body, establishing bodily strength, complexion and Ojas are the main benefits of food described in Ayurveda texts. In textual references the matters that all these effects of food ensure the fulfillment of the four faceted wellbeing if the food administered in prescribed norms, etiquettes with estimated the values assumed for, as food is the main source of origins of beings are revealed. The given examples on food classification helps to bridge certain gaps of information in unclear facts related with the four faceted wellbeing. The food accordance sated for different body and mental constitutions further establishes the argument and support to confirm the hypothesis in positive way.

Keywords: Food, Health, Physical and mental constitutions
A study of provoking factors of the incident for Azhalkeelvayu

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According to Siddha system Keelvayu is a general term which includes all kind of joint disorders. Azhalkeelvayu is one of the 10 types of Keelvayu. The sign and symptoms of Azhalkeelvayu similar to osteoarthritis of the knee joint in Allopathic medicinal system. There are several literatures mentioned about the Azhalkeelvayu and it causes. This is the meta analytical study to determine the associated factors between the Azhalkeelvayu and following, Seasonal variation, diet, physical act and Hereditary. Thirty patients were selected based on inclusive and exclusive criteria and who were interviewed as per the questionnaire. Symptoms of Azhalkeelvayu increases with the intake of the followings; Food such as ash plantain followed in the descending order by 25(25:83.3%). Of ash pumpkin, 23(23:76.7%) for bread fruit and curd, and 22(22:73.3%) for pumpkin, snake gourd, potato, mutton 21(21:70%), cold water 19(19:63.3%), sweet potato, beef 18(18:60). In physical excursion in past and present leads to aggravation of the disease and the sign and symptoms of the disease that shows 12(12:40%) were housewives, followed by 8(8:26.7%) were hotel workers, about 5(5:16.7%) were farmers and 4(4:13.3%) were fisher man. In seasons such as 26(26:86.7%) had increase in symptoms during the season Kuthirkalam (October-November), followed by 24(24:80%) patients during the season Karkalam (August-September), 22(22:73%) of patients during the season Muthuvenilkalam. 12 (12:40%) patients had a positive family history of AzhalKeelvayu. Based on the result, it provides the successful proof of the traditional literature about the Azhalkeelvayu.

Keywords: Azhalkeelvayu, Osteoarthritis, Provoking factors
Role of manual manipulation on hip joint dislocation - A case study

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This study was an observational case study report to determine the explore role of manual manipulation on hip joint dislocation. The hip is a ball-and-socket joint. The socket is formed by the acetabulum, which is part of the large pelvis bone. The ball is the femoral head, which is the upper end of the femur (thigh bone). Hip dislocation, the femoral head is pushed either backward out of the socket, or forward. In anterior dislocation, thigh bone slips out of its socket in a forward direction, the hip will be bent only slightly, and the leg will rotate out and away from the middle of the body. When the hip dislocates, the ligaments, labrum, muscles, and other soft tissues holding the bones in place are often damaged, as well. The nerves around the hip may also be injured. The present study was conducted at own clinic of traditional practitioner. Patient who was selected for the study has already taken treatment using manual manipulation by traditional practitioner. Anterior hip dislocation is commonly reduced by in-line traction and external rotation, with an assistant sometimes pushing on the femoral head or pulling the femur laterally to assist reduction. The selected patient was 65 years old female patient presented with anterior hip dislocation with severe pain in the hip, marked decrease in range of movement of the hip joint and the affected extremity was shorten and externally rotated. The traditional practitioner diagnosed this condition as “Tharivu” and affected limb was reduced using his own way of manipulation. The patient was directed to lie in a supine position and the affected leg was pulled at first. Then the knee joint of same leg was flexed & rotated medially. After that the hip joint was rotated internally finally the leg was set aside at the hip and knee joint. Finally the leg was pulled forcefully. Obvious improvement was observed after reduction as severity of pain was reduced from 10 to 3, tenderness was reduced from 4 (Withdrawal to no-noxious stimulation) to 1 (Tenderness to palpation without grimace or flinch) and range of movement also improved. According to this study anterior hip dislocation can be satisfactorily managed by open reduction method. Though, we have to increase the number of patients to recommend this manual manipulation method.

Keywords: Case study report, Tharivu, Hip joint dislocation, Manual manipulation,
Abstract: HT - 01

Biodiversity in “Aayuvarai” area in South Indian Traditional Medicines

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Proceedings of National Research Conference and Exhibition on Indigenous Medicine 2017
[NRCEIM 2017]. Held on 27th - 29th January 2017 at Unit of Siddha Medicine, University of Jaffna

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50%வாய்வு மற்றும் 70%வாய்வு என்றிருந்து பாய்வில் பாய்வு தொடங்கும் வரை அச்சு விளக்கியுள்ள பாய்வுத்தர வரையறை. 70% வி.பி. பாய்வு தொடங்கும் வரை அவரைப் பாய்வுத் தரும் வலுவாக நிறைவு பெறும். பாய்வுத் தரும் வலுவாக நிறைவு பெறும் வரையறை. காரணம் பாய்வுத் தரும் வலுவாக நிறைவு பெறும் வரையறை.கணிக்கும் பாய்வுகள் அவரைப் பாய்வுத் தரும் வலுவாக நிறைவு பெறும் வரையறை. பாய்வுத் தரும் வலுவாக நிறைவு பெறும் வரையறை.

சிம்யா முதலில் விளக்கியுள்ள பாய்வு அவரைப் பாய்வுத் தரும் வலுவாக நிறைவு பெறும் வரையறை. கணிக்கும் பாய்வுகள் அவரைப் பாய்வுத் தரும் வலுவாக நிறைவு பெறும் வரையறை.

சிம்யா முதலில் விளக்கியுள்ள பாய்வு அவரைப் பாய்வுத் தரும் வலுவாக நிறைவு பெறும் வரையறை.

சிம்யா முதலில் விளக்கியுள்ள பாய்வு அவரைப் பாய்வுத் தரும் வலுவாக நிறைவு பெறும் வரையறை.

சிம்யா முதலில் விளக்கியுள்ள பாய்வு அவரைப் பாய்வுத் தரும் வலுவாக நிறைவு பெறும் வரையறை.
Abstract : HT - 02

Title: J/358 : Treatment of Asthma with Siddha Medicine

Methodology: The study was conducted at Unit of Siddha Medicine, University of Jaffna. A total of 60 patients suffering from asthma were selected for the study. The patients were divided into two groups, Group A (treatment with Siddha Medicine) and Group B (control group). The treatment group received Siddha medication for 6 months. Blood samples were collected before and after the treatment.

Results: The percentage of patients with good response in the treatment group was 54% compared to 27% in the control group. The percentage of patients with moderate response was 33% in the treatment group and 24% in the control group. The percentage of patients with poor response was 13% in the treatment group and 29% in the control group.

Conclusion: Siddha medication is effective in treating asthma.

Keywords: Asthma, Siddha Medicine, Treatment
Abstract : HT - 03


Proceedings of National Research Conference and Exhibition on Indigenous Medicine 2017 [NRCEIM 2017]. Held on 27th - 29th January 2017 at Unit of Siddha Medicine, University of Jaffna
Abstract: HT - 04

முன்னேற்பாடு பெருக்ககித்தைகளின் நுழைவாக சிங்ககமின்
பலனை குறைவாக பெரும் அழுத்த

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முன்னேற்பாடு பெருக்ககித்தைகளின் 32 ஆம் மாதங்களுக்கு 32 புதிய பலனைகள் குக்காட்சிகள். இவற்றுள் பலனைகள்
குறைவாக விளங்கின. குழுப்புகள் நடந்தன. இவற்றில் பலனைகள் நடந்த பலனைகள் பலனைகள் பலனைகள் பலனைகள். பலனைகள் நடந்த பலனைகள் பலனைகள் பலனைகள் பலனைகள். இவற்றில் பலனைகள் பலனைகள் பலனைகள் பலனைகள் பலனைகள். இவற்றில் பலனைகள் பலனைகள் பலனைகள் பலனைகள் பலனைகள். இவற்றில் பலனைகள் பலனைகள் பலனைகள் பலனைகள் பலனைкள். இவற்றில் பலனைகள் பலனைகள் பலனைகள் பலனைகள் பலனைகள். இவற்றில் பலனைகள் பலனைகள் பலனைகள் பலனைகள் பலனைகள். இவற்றில் பலனைகள் பலனைகள் பலனைகள் பலனைகள் பலனைகள். இவற்றில் பலனைகள் பலனைகள் பலனைகள் பலனைகள் பலனைகள். இவற்றில் பலனைகள் பலனைகள் பலனைகள் பலனைகள் பலனைகள். இவற்றில் பலனைகள் பலனைகள் பலனைகள் பலனைகள் பலனைகள். இவற்றில் பலனைகள் பலனைகள் பலனைகள் பலனைகள் பலனைகள். இவற்றில் பலனைகள் பலனைகள் பலனைகள் பலனைகள் பலனைகள். இவற்றில் பலனைகள் பலனைகள் பலனைகள் பலனைகள் பலனைஇகள்.
Medicinal Plants
Identification of Herbs and minerals in drugs, mentioned in the Treatment of Ear diseases (Sevi Noigal) in the Text of Pararajasekaram

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Abstract: M - 01

Many herbs, minerals, metals are used to prepare Siddha drugs. Diseases and treatments of Sevi Noigal (Ear Diseases) are mentioned in Pararajasekaram Sioroga Nidanam which is one of the Siddha Text in Jaffna District. The text Pararajasekaram, which was a work on medical sciences established in the medieval phase of Tamil literature during Singai Pararasasekaran’s rule. Many internal and external Siddha drugs such as Chooranam (Powder), Thailam (Oil), Lehiyam (Confection), Kuzhambu (Mixture), Kuligai (Tablet) are mentioned in the Treatment of Sevi noigal. Each drug contains many herbal and mineral ingredients. The aim of the study is to identify the herbs and minerals in drugs mentioned in the treatment of Sevi Noigal in the text of Pararajasekaram. Drugs were taken from the literature which was used in the treatment of Ear diseases. First varieties of drugs were classified according to the application and preparation of drugs. After that ingredients of each drug were tabulated based on herbal and mineral, common herbs and minerals from each drug were identified from the tabulated sheet. Based on the table analysis, 19 Siddha drugs were identified for the treatment of Sevi Noigal. Among the 19 drugs, 58% (11) were Thailams, 16% (3) Chooranams, 16% (3) Lehiyams, 5% (1) and 5%(1) Kulambu. Among the 11 Thylams, 64% Neem oil, 36% Gingelly oil, 27% Castor oil, 18% Coconut oil and Pongamia pinnata oil used in the Preparation of Thailams. Out of 11 Thylams 55% (No 6) were used as Ear drops, 27% (No 3) applied on the head , 9% (1) consumed orally, and one as used for external application on skin of the ear oil. In these 19 Siddha drugs 214 ingredients were found. Out of 214 ingredients 86% (No 185) were herbs and 14% (No 29) are minerals. Highest percentage (over 58%) of herbs are Thirikaduku (Zingiber officinale, Piper longum and Piper nigrum) and rhizome of Acorus calamus in herbs and Cinnabar, Copper sulfate and Mercury in minerals were used to prepare the different forms of drugs. Common form of drug used in the treatment of Sevi noigal is Thailam (over 58%) with Neem oil as the base. Majority of the ingredients used in these thailams were previously reported o have anti-microbial activity. The text Pararajasekaram, mentions about thailams in the treatment of ear disease, out of which more than 50% of the thailams use Neem oil as the base and are frequently applied as eardrops. Based on the different studies, it is proved that Acorus calamus, Copper sulphate and Neem oil contains anti-microbial activity. Eventhough the antimicrobial effects of these ingredients wer unknown during the period of King Pararasasekaram, they had been included in the drug for the treatment of Sevi Noigal at the time.

Keywords: Herbs, Minerals, Drugs, Sevi noigal, Pararajasekham
Abstract : M - 02

Study on Jangli Badam (*Terminalia catappa* L.) as a potential substitute for Badam Shireen (*Prunus amygdalus*)


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Unani Medical system is becoming as flourishing medical system, in Sri Lanka among the traditional systems of medicine. Its main emphasis is on promotion of health and prevention of disease. The system includes its own special Nuskas (Formulae) in treating several diseases. Some drugs in these Nuskas are difficult to find locally because of more expensive or exogenous to Sri Lanka. Therefore searching suitable substitutes for these drugs is timely important. The goal of this study was to prove the Jangli Badam as a potential substitute for Badam Shireen, a widely used Unani drug. This study was carried out through the literary reviews of authentic books and investigation on the physico-chemical, and phyto-chemical properties of Jangli Badam and Badam Shireen. The two drugs have fulfilled all three criteria (similarity in Mizaj, similarity in action and similarity in properties) of a real substitute according to Unani theory. Fluorescence test revealed positive results in 8 solvents out of 13 which were used generally for test phyto chemicals in plant extracts. The physico-chemical properties of Badam Shireen and Jangli Badam are total ash 3.048 (± 0.02) & 3.5 (± 0.01)%; water soluble ash 2.44 (± 0.01) & 3.43 (± 0.01)%; acid insoluble ash 0.05 (± 0.01) & 0.24 (± 0.2)%; extractable matter in water 3.19 (± 0.3) & 2.77 (± 0.01)% and extractable matter in Methanol 13.03 (± 0.08) & 6.20 (± 0.1)% respectively. With the above results it can be concluded that Jangli Badam could be a potential real substitute for Badam Shireen.

**Keywords:** Badam Shireen, Jangli Badam, Substitute
Identification, documentation and conservation of medicinal plants are the main objectives of this research. An ethno-botanical survey was conducted in Konesapuri, Manganai and Sampalthivu-North areas, which are nearer to the Trincomalee Campus. Medicinal plants were identified with the help of taxonomic characters, photographed and documented. 160 medicinal plants from 55 families were identified. The Family Fabaceae constituted the largest proportion of 13.75% of the plants. Euphorbiaceae ranked second (8.75%) and Cucurbitaceae and Malvaceae ranked third (4.375%). A lesser proportion was recorded from other families such as 3.75% from Labiatae; 3.125% from each Apocynaceae, Asclepiadaceae, Moraceae, Arecaceae, Rutaceae and Solanaceae; 2.5% of from Acanthaceae, Compositae and Rubiaceae; 1.875% from each Amaranthaceae, Convolvulaceae, Gramineae, Oleaceae and Verbenaceae families; 1.25% from each Aizoaceae, Anacardiaceae, Boraginaceae, Capparidaceae, Cleomaceae, Liliaceae, Myrtaceae, Oxalidaceae, Rhamnaceae, Salvadoraceae and Zingiberaceae families. Unidentified plants constituted 0.625%. Some of the plants found more often in forest areas were Bauhinia racemosa, Caesalpinia major, Datura metel, Evolvulus alsinoides, Excoecaria agallocha, Strychnos nux-vomica and Zizyphus oenoplia. Through this survey some poisonous plants were also identified and documented. This information would benefit us to understand the diversity of the plants with medicinal value in those areas and to take proper conservation initiatives to protect them.

**Keywords:** Ethno botanical, Konesapuri, Conservation, Siddha medicine
Efficacy of herbs used in the treatment of obesity

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Obesity is a metabolic disease. The major factor contributing to obesity is imbalance between energy intake and expenditure. It affects people across all ages, sexes, ethnicities and races and its prevalence has been increasing alarming rate. It is a major risk factor for develop many non-communicable diseases such as Type 2 Diabetes Mellitus, Cardiovascular diseases, fatty liver, osteoarthritis and some cancers. Herbs are used for many illnesses since ancient time. 80% of the world population used herbs for their primary care. Herbs are cost effective and free from toxic effect, reliability compared with chemically synthetic drugs and surgery. The aim of the review is assess the efficacy of the herbs used in the treatment of obesity. The search was done in NCBI Pub med and Google scholar using the key terms “anti-obesity”, “herbs” and ” medicinal plants.” Qualitative, English language article, human and animal studies related to obesity management were included in this review. The main outcome measured were defined as body weight, body fat including fat mass/ fat weight, fat percentage/ visceral adipose tissue weight, waist- hip circumstances, triceps thickness and appetite and the amount of food/ energy intake. Nigella sativa, Garcinia cambogia, Cissus quadrangularis, Mimordica charantia, Cinnamon zeylanicum and Curcuma longa which were available in Sri Lankawere selected for this review. In this review 25 articles were selected and had 13 animal studies and 12 clinical studies. Most of the herbs had significant reduction of outcome related to obesity. Some studies had not significant reduction of outcome related to obesity. In future more clinical studies, more randomization, dose dependant study, larger population, long duration and double blind trial needed for further confirmation of efficacy of the herbs for treat obesity.

According to this review Nigella sativa, Garcinia cambogia, Cissus quadrangularis, Mimordica charantia, Cinnamon zeylanicum and Curcuma longa had antiobesity effect.

Keywords: Obesity, herbs, Treatment
Biological Science
Abstract : B - 01

**Serum antioxidant activity of *Mathumeha chooranam* (MMC) on Diabetes Mellitus Type II**

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Antioxidants have significant role in the prevention of human illness and function as free radical scavengers, complexes of pro-oxidant metals, reducing agents and quencher of single oxygen formation. During the last twenty years, the prevalence of diabetes has increased dramatically in many parts of the world and the disease is now a worldwide public health problem. Mathumeha chooranam has been used as a drug in Siddha Medicine to treat patients with Neerillivu noi (Diabetes), which contains *Terminalia chebula, Phyllanthus embelica, Murrya keonigii* and *Gymnema sylvestre*. This chooranam is widely used in Siddha Hospitals and Dispensaries of North and Eastern Provinces of Sri Lanka. The objective of this study was to determine the serum antioxidant activity of the Siddha Medical preparation of MMC in patients with diabetes mellitus type II. Sixty three subjects of age range between 40 - 70 years with fasting plasma glucose (FBG) above 140mg/dl were included in this study. A paired t-test was used to assess the statistical significance between baseline and final measurements. Paired t-test revealed that the Ferric Reducing Antioxidant Power (FRAP) of serum in the study participants significantly increased after 12 weeks of MMC administration (P value 0.000). Renal and liver function test indicated that their functions were within normal range. The results indicated that MMC has not only increased the antioxidant level in the serum but also was not toxic to the individuals who consumed it. In addition, it was also observed that Mathumeha chooranam is useful to treat the patients with diabetes mellitus type II.

**Keywords:** Antioxidant activity, Diabetes mellitus, Mathumeha chooranam, Siddha Medicine.
In Siddha Medicine, one of the indigenous Medicine practiced in Sri Lanka, most of the herbs are used in the preparation drugs. Peenisa Rogam is one of the common diseases in Siroroga Maruththuvam (Diseases of neck and above). Jalapeenisa choornam (JP choornam) is mentioned in Siddha literature for the treatment of all types of Peenism including Jaladosham (Acute rhinitis). JP choornam contains powder of Caesalpinia bonducella seeds, Curcuma longa rhizome and Nigella sativa seeds in 2:1:1 by weight ratio. There is no validated scientific data on the efficacy of JP choornam on Peenisa Rogam. Therefore, this study aimed to standardize the JP choornam by phytochemical screening, physico-chemical determination and antioxidants as total polyphenolic content before evaluating the efficacy. The plant parts of C. bonducella seeds, C. longa rhizome and N. sativa seeds were cleaned, dried at room temperature, ground to powder, packed in sealed container separately and blended together in 2:1:1 ratio respectively to obtain JP choornam. This mixture was used to analyze physico-chemical parameters, phytochemicals and total polyphenolic contents (TPC). The results revealed that the physico-chemical parameters, moisture, total ash, acid-insoluble ash, water soluble ash, water extractable matter and ethanol extractable matter were 2%, 4.98 (± 0.001)% , 0.28 (± 0.002)% , 2.40 (± 0.003)% , 9.5 (± 0.01)% and 8.63 (± 0.007)% respectively on dry weight basis and the presence of phytochemicals, steroids, terpenoids, flavonoids, cardiac glycosides and saponins (3.6 mg/g). TPC was 2.16±0.07 mg gallic Eq/g of JP choornam. In conclusion, the physico-chemical analysis of plant drugs is important to maintain the quality as well as to detect adulteration. The values obtained for JP choornam are acceptable and it is rich in phytochemicals. High TPC content of JP choornam indicates that it can be used not only as a drug but also as a nutraceutical.

**Keywords:** Standardization, Jala Peenisa choornam, Peenisa Rogam

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**Abstract : B - 02**

**Standardization of Jala Peenisa Choornam used for Peenisa Rogam**

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**Keywords:** Standardization, Jala Peenisa choornam, Peenisa Rogam
Role of Anurans in the croplands of Jaffna area

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Anura is one of the Orders of Class Amphibia in which frogs and toads are included. Thirteen species of anurans already have been reported in Jaffna area. However there are no records of dietary information of anurans in the Jaffna Peninsula; therefore this study was conducted to investigate the diets of anurans with the specific objective of documentation of stomach contents of anurans in order to compile a profile of data on the dietary information with respect to anuran species. Samplings were done in home gardens, vegetable gardens and paddy fields located in Nallur DS division of the Jaffna district. Frogs and toads were collected once a week manually in late evening from 1800 to 2000 hrs and early morning from 0530 to 0730 hrs. Each habitat was visited 12 times from July to December 2015. After every collection, measurements were taken, stomach flushing was applied and then the animal was released back to the same site. The species were identified based on the photographs and morphological feature by using keys and guides. The data were entered in Microsoft Excel for further analysis. During the study period, a total of 104 adult frog and toad were collected and they belong to 4 families and 12 species; among these 9 (75%) were encountered during the dry period and all 12 species were encountered in the rainy days. Out of 104 collected anurans only 76 individuals were eligible for stomach content analysis. The analysis revealed a total of 26 different preys grouped in nine major categories namely insecta, annelida, arachnida, mollusca, diplopora, chilopoda, other invertebrates, vertebrates and plant parts. On average insects were proportionately dominating (67.8%) over other prey items. The insect preys composed of 8 orders namely Diptera, Hemiptera, Orthoptera, Blattoidea and Lepidoptera, Hymenoptera, Isoptera and Coleoptera. It can be concluded that anurans can be considered as a natural enemy in suppressing the insect population in the croplands of Jaffna area. However it was noted that these anurans habitats are usually affected by dangerous chemicals which are applied to control pests.

Keywords: Anurans, Croplands, Natural enemies, Insects.
Abstract: Long term toxicity study of ethyl acetate fraction of *Trichosanthes cucumerina*. Linn in rats

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*Trichosanthes cucumerina* Linn. is one of the medicinal plants that is often used in Sri Lanka as a remedy for many diseases including fever, inflammation, diabetes and gastritis. Ethyl acetate fraction of *Trichosanthes cucumerina* hot water extract (EATH) at a dose of 75 mg/kg has been shown a potent gastroprotector and its activity was higher than that of reference drugs, Sucralfate and Cimetidine. The usefulness of any drug depends not only on its therapeutic efficacy but also on its lack of toxicity or adverse side effects. Therefore, an attempt was taken to determine whether EATH (75 mg/kg) has any toxic effects using Wistar rats. Rats were randomly divided into 2 groups. Rats in group 1 (control) and group 2 (test) received 1 ml of distilled water/day and EATH (75 mg/kg/day) for 42 consecutive days. Rats were checked twice daily for overt signs of toxicity and average food and water intake was determined weekly for each group. The consistency of faeces and color of urine were noted daily. Liver functions and renal toxicity were evaluated by serum analysis. Histopathological examination of main organs of the rats was carried out for detection of any toxicity. No toxic effects were observed for EATH treated group in terms of any deaths, overt signs of toxicity, serum parameters, liver and kidney toxicity. EATH at a dose of 75 mg/kg did not produce any serious toxicity in rats.

**Keywords:** Trichosanthes cucumerina, Ethyl acetate fraction, Toxicity
Characterization of a Mercury based Siddha Drug -
Sivappa mathirai

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Siddha system of medicine is always characteristic due to the incorporation of metals and minerals in their preparations. Sinna Sivappumathirai, compound drug, Cinnabar (Sathilingam) is very useful in Siddha system of medicine. This drug has reached extensive acceptability as therapeutic agents for respiratory symptoms, such as cough, breathing difficulties, chest pain and fever. However, in spite of their efficacy, they have been widely criticized due to the presence of high level of toxic substances such as heavy metals because Cinnabar is mainly composed of Hg2+. The present study was designed to prove the level of mercury after purification and drug manufacturing process of Sathilingam. To assure the quality of Sinna Sivappumathirai, the raw material, purified material and drug sample were subjected to qualitative and quantitative analysis. The test samples for this study were obtained from three major different manufactures in Northern Province, such as Siddha Teaching Hospital, Everest-private manufactures and Drug Manufacturing Unit, ministry of Health and Indigenous medicine. The qualitative studies revealed that drug contain Mercury, Sulphur, Calcium, Potassium and Chlorine which were found in trace amount in the drug samples. The quantitative analysis was carried out with respect to the presence of Mercury (II) by gravimetry. Quantitative gravimetric determination showed that the weight percentage of Hg2+ in raw material was lie between 83% and 85% whereas the drug contains the weight percentage of Hg2+ between 9% and 11%. The level of Hg2+ was found to be very less in drug sample than the raw material. Thus, the intention of purification by lime juice and drug manufacturing process help to reduce the toxic metal amount in the resulting drug via herbo-metallic formulation.

Keywords: Sinna Sivappumathirai, Cinnabar, Mercury, Aqua regia.
**Abstract: B - 06**

**Analgesic and Anti-inflammatory activity of Embelia ribes Burm. F seeds in Wistar albino rats**

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*Embelia ribes* is a well reputed herb belonging to Myrsinaceae family and known as Vaivedangam in Siddha Medicine. The Siddha literatures mentioned the therapeutic effect of Vaivedangam seeds powder for vatha diseases, the analgesic and anti-inflammatory potency plays the major role in treating vatha diseases. Therefore, the objective of the study was to find out the effectiveness of analgesic and anti-inflammatory activity of seeds powder *Embelia ribes*. The analgesic and anti-inflammatory activity of Vaivedangam is not proved scientifically so far. Therefore this study was carried out in the pharmacological effects in wistar albino rats. In both of these studies nine Wistar albino rats were randomly divided into three groups each containing three animals and placed in separate clean cages and named as control, standard and test groups. The *Embelia ribes* seeds powder was used at a dose of 10 mg orally in aqueous form, for body weight of 250 g wistar albino rats. Diclofenac sodium and Brufen were used as standard drug for analgesic and anti-inflammatory study respectively. The analgesic study was done by hot water tail immersion method and anti-inflammatory study was done by cotton pellet granuloma method. In the analgesic studies the drugs were administered at the time of study and the recordings were taken every 30 minutes for first 1 hour and then it taken for every 1 hour for last 5 hours. In the anti-inflammatory study, the drugs were administered one hour prior to the commencemebt of the experiment and the drugs were administered for next six consecutive days after the implantation of cotton pellet and the cotton pellet was removed on 8th day. The result showed that the increase in the reaction time in analgesic activity and anti-inflammatory activity, there was inhibition ratio of granuloma weight. It was concluded that the test drug *Embelia ribes* seeds powder has shown significant analgesic and anti-inflammatory activity when compared with standard drugs.

**Keywords:** Anurans, Croplands, Natural enemies, Insects.
Priliminary Phytochemical screening and Anti bacterial activity of leaves of Moringa oleifera Lamk.

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Moringa oleifera is a tree belongs to the family Moringaceae. It is called in Tamil - Murungai, English-Drumstick, and Sinhala - Murunga. Leaf is used in the eye infection as juice and anjanam. The present study was to screen the Phytochemicals and antibacterial activity of the decoction and ethanolic extract leaves of *M. oleifera* against *Staphylococcus aureus* (ATCC 25923), *Pseudomonas aeruginosa* (ATCC 27853), *Escherichia coli* (ATCC 25922) and *Enterococcus faecalis* (ATCC 29212).

Fresh leaves were collected from Jaffna and dried under sunshade. 50 g leaves were used to prepare the decoction. Ethanol was used as control. Plates were incubated at 37°C for 24 hrs. The inhibition of growth was observed and the diameters of the zones of inhibition (ZOI) were measured. Replicates were made for the entire procedure. The methanolic extract showed antibacterial activity against all tested gram positive and negative organisms. ZOI was ranged from 12 (± 0) mm to 19 (± 0) mm.

**Keywords:** Phytochemical screening, Antibacterial activity, Leaves of Moringa oleifera
Identification of ion contents and antimicrobial activity of Panineer (Dew water)

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In Siddha system of medicine the Panineer (dew water) is commonly used as an internal medicine in the treatment of Skin diseases, Moolarogam, nasihapeedam, vathagunmam, karapan, mathumegam (Diabetes mellitus), Vathanoi and Karapan. It is also used to wash and treat the wounds. Dew water is the water droplets that appear on thin exposed objects in the morning or evening due to condensation of atmospheric water, when the temperature comes below its dew point. The aim of this study was to identify the ion content and pH of dew water and evaluate the antibacterial activity against Staphylococcus aureus ATCC 25923, Pseudomonas aeruginosa ATCC 27853 and Enterichia coli ATCC 25922 and Enterococcus faecalis ATCC 29212. The pH was qualitatively tested by using the litmus papers and using pH probe. The ion contents (anions and cations) were separately analyzed using the standard qualitative procedure. The antibacterial activity was determined by using the standard cut well diffusion method. The pH values ranged between 7.93 and 8.17. Concentration of -OH ion in the Panineer were 0.0125, 0.0275 and 0.0375 mol/L. Dew water showed antibacterial activity against the gram positive and gram negative organisms tested and Zone of Inhibition (ZOI) was found to lie between 12 (±0) and 18 (±0) mm. The pH of dew water was alkaline. Dew water could be drunk as internal medicine for Gunma rogam, which is caused by the excess acid (HCl) secretion. The dew water samples exhibit antimicrobial activity against the selected organisms, such as S. aureus ATCC 25923, P. aeruginosa ATCC 27853, E. coli ATCC 25922, and E. faecalis ATCC 29212. This study shows the Dew water could be used in the treatment of chronic wounds as khara and useful in the treatment of Gunmaroga and other skin diseases as internal medicine.

Keywords: Antimicrobial activity, Dew water, Ion contents, Panineer, pH value
Abstract : B - 09

**Phytochemical screening of fruit of *Randia dumetorum* and Preparation of fume in the treatment of *Peenisa Rogam***

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Randia dumetorum is a medicinal plant. It belongs to the family Rubiaceae. It is called in Tamil as Marukkarai and in Sinhala Kukuru-maan. In Indigenous Medicine the bark, Fruit, Seeds and root of the plant are used in the treatment of various diseases. Fruit of the Randia dumetorum is used to prepare the thiri in the treatment of Peenisa rogam. Peenisa rogam is one of the nasal and para-nasal disorders. It is caused by the variation of the climate, taking certain foods and exposure to the dust. Nasal discharge, sneezing and nasal obstruction are the clinical features of this disease. The aim of the study was to screen the phytochemicals of the fruit of the R. dumetorum and to prepare the Thiri (fume) for the treatment of Peenisa rogam. The fruits were collected from their natural habitat. These were cut into two pieces and removed seeds from the pulp. The pulp was squeeze and the juice obtained. The white cotton cloth was soaked into the juice and allowed to dry under sunshade. These procedures were repeated for three times. Finally the cloth with dried juice was kept into a sterile bottle. The juice was chemically tested qualitatively for the presence of chemical constituents such as alkaloids, saponins, tannins, steroids, flavonoids, glycosides and triterpenoids. The Preliminary phytochemical study showed that the Juice of the fruit contains saponin, terpinoids, cardiac glycoside and tannin. These possess anti-inflammatory, anti-spasmodic, anti- allergic and antimicrobial activity. Anti-inflammatory activity of fruit juice could be act on the mucosa and reduce the mucosal swelling. And also hot fume from thiri may be reduced the nasal obstruction. In Siddha aspect the fruit has bitter and astringent taste. Tannin has astringent property. It causes constriction of vessel and reduces the secretion of mucus. Thiri could be used in the treatment of Peenisa rogam. Efficacy of the thiri would be evaluated in clinical trial in future.

**Keywords:** Phytochemical screening, Fruit of Randia dumetorum, Preparation of Thiri (fume)
Evaluation of Anthelmintic properties of 
*Sesbania grandiflora (Kathuru murunga)* against larvae of 
*Toxocaracanis* and *Haemonchuscontortus*

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*Sesbania grandiflora* is a slender tree. It is a common garden plant in Sri Lanka, which grows well in mid and low country. In Sri Lanka, *S. grandiflora* is used as a home remedy, in treatment of worm infections inhumans. *Toxocaracanis* is a helminth parasite infecting dogs and other canids. It also causes toxocarasis in humans. *Haemonchuscontortus* is a nematode that infects goats and causes anaemia, marked reduction in growth and reproduction, and even death. Using this information, in vitro larvae migratory inhibition assay was carried out on *Toxocaracanis* and *Haemonchuscontortus* larvae. This study revealed 98.1% and 94.3% larvae migration inhibition with larvae of *Toxocaracanis* and *Haemonchuscontortus* respectively. Least number of migrated larvae was observed in the positive control Levamisole and all the larvae were dead after migration. In decoction of *S. grandiflora*, all the migrated *Toxocaracanis* larvae were dead and *Haemonchuscontortus* larvae were dead or in Grade1 (inactive but occasional movement can be observed) condition. Inhibition of *Toxocaracanis* larval migration and *Haemonchuscontortus* larval migration with decoction of *S. grandiflora* and Levamisole are was statistically significant (p<0.05). Since mean of LMI (larval migration inhibition) of Levamisole is greater than mean of LMI of *Sesbania grandiflora* with both larvae, Levamisole is more effective than *Sesbania grandiflora*. Based on these findings, the aqueous extract of leaves of *Sesbania grandiflora* shows a statistical significant anthelmintic activity in in-vitro model.

**Keywords:** *Sesbania grandiflora*, Anthelmintic properties, *Toxocaracanis*, *Haemonchuscontortus*, Kathuru murunga
Grasses possess medicinal value especially in their grains, rhizome or stolon. Commonly Kodo millet, *Paspalum scrobiculatum* has been used for curing diabetes by the traditional medical practitioners. The grains are reported to have potential in the development of drug for diabetes due to their antidiabetic activity as well as rheumatic arthritis. This wild Kodo millet was first reported in 2012 as a weed in the fields of Government Seed Farm, Paranthan, Kilinochchi. Upon receiving complaints of farmers from other paddy growing areas of Northern Province, this research was carried out to investigate the existence of this weedy herb in all the districts of Northern Province. A survey carried out across Northern Province of Sri Lanka using a structured questionnaire revealed that the wild Kodo millet was found spreading as a problematic weed in the paddy fields of all five districts of Northern Province during Maha 2013/14. This wild Kodo millet exhibited morphological features of *P. scrobiculatum* (Family: Poaceae) as per the revised taxonomic key. The presence of the weed was only understood by the farmers in the paddy field by differentiating its inflorescence after emergence. Lack of awareness in identifying the weed due to its resemblance in morphology with the paddy varieties grown in these areas resulted improper hand weeding to remove it at its early stage. The survey revealed that wild Kodo millet was found in Jaffna (20.4%), Kilinochchi (23.3%), Mannar (19.3%), Mullaitivu (22.3%), and Vavuniya (16.8%) paddy growing fields. Grains and stolon were found as the propagative materials of this weed and serve as the primary source for spreading in the paddy fields. The seed paddy obtained from the farmers of Kilinochchi district for mechanical processing at Seed Paddy Production Farm at Paranthan revealed that 60% of the farmers’ samples had different weed seeds of which 40% of the seed paddy had wild Kodo millet grains. This non-native wild Kodo Millet become the problematic weed of paddy fields in these areas and proper early identification and best weed management practices could help to lessen its spread and to reduce the yield loss. Additionally digging of the rhizome and stolen from the fields during off-season could help to reduce its competition with paddy whereas the harvested underground plant parts would support the indigenous medicine for their medicinal preparations.

**Keywords:** Paspalum, wild Kodo millet, Northern Province, weed, medicinal value
Abstract: B - 12

Diversity of Medicinal Plants in Selected home gardens in Thenmaradchi Region of Northern Province, Sri Lanka

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Home garden is an integrated system which comprises variety of plants that contribute towards food and nutritional security. The importance of diversity in home gardens is to provide pleasant environment, nutritious and balanced food includes vegetables, fruits, fodder, firewood, green leaf manure and other ecofriendly utilities. The composition needs to be evaluated to further incorporate the indigenous herbs that can be used for household medicine as well as other traditional medicinal purposes. Based on this a study was carried out to evaluate the existence of diversity of plant species in home gardens. Fifty home gardens were selected from the members of the Chavakachcheri Fruit Producers and sales cooperatives Society (CFPS) and assessed the different species of plants grown in those home gardens with the help of a structured questionnaire. In total, 111 types of plant species were found in those selected home gardens of which 20% were medicinal plants. Diversity comprised of vegetables, fruit crops, medicinal crops and ornamental plants of which vegetables and fruit crops were dominant in these home gardens. Among the medicinal plants, Ocimum tenuiflorum was found as high as 76% whereas Eclipta prostrate, Crataeva religiosa, Vitex negundo, Justicia procumbens, Zingiber officinale, Rivea ornata and Artabotrys hexapetalus were found not greater than 2%. Shrubs (39%) and herbs (48%) were found dominant among the medicinal plants counted. Trees with household medicinal value were recorded 5% of the plants species recorded. Of the medicinal plants listed, those frequently used in their daily meal were found dominant (20%) compared to those used for medicinal purpose only. The composition of plants species in the home gardens also exhibited greater importance to the ornamentals (leafy 40% and flowering 60%) and less attention was given towards household of utilization medicinal plants. Utility of the medicinal plants could be extended directly in preparation of meals and that could be feasible increasing the cultivation of such medicinal plants in the home gardens easily. Further intake of medicinal plants along the food will ensure improving the nutritive value and enhance resistance against common illnesses. Therefore creating awareness to cultivate diverse medicinal plants in the home gardens and their usage in providing household healthcare will create interest towards cultivation of common medicinal herbs in and around their home gardens. Further this will also support the households to generate income to improve their livelihood and such collective initiative will ensure and support providing the expected food and nutritional security through integrated household home gardening.

Keywords: home garden, biodiversity, medicinal plants, nutritive and food security
Yoga and Sports Science
Dance is a Rhythmic activity that stresses the body in submaximal intensity which increases VO$_2$ max through increased cardiac output. The objective of this study was to compare VO$_2$ max among aerobic, Bharathanatyam and Kandyan dancers. To achieve the objective ninety (No 90) women dancers were selected from India and Sri Lanka, and their age were 17 (± 1.3) years. They were classified into Aerobic dancers [(AD) (n=30, from India, practicing aerobic dance 60 (±15) min / day/ 3 days / week over the period of minimum 3 years)], Bharathanatyam Dancers [(BD) (No 30)], from Sri Lanka, practicing Bharatha natyam 60 (±15) min / day for 3 days / week over the period of minimum 3 years] and Kandyan Dancers [(KD) (No 30)], from Sri Lanka, practicing Kandy dance 60 (±15) min / day/ 3 days / week over the period of minimum 3 years). VO$_2$ max was assessed for all the selected subjects by Queen’s step test, the collected data were statistically treated by using one way ANOVA, 0.05 level of confidence was fixed to test the significance. When the obtained ‘F’ ratio was significant, Scheffe’s post hoc test was used to find out the paired mean difference. Within the limitations set for this study, it was concluded, that the entire three dance groups were significantly differ on VO$_2$ max. However aerobic dancers have better VO$_2$ max than the Bharatha natyam and Kandyan dancers. Hence it was recommended that People need to increase O2 utility of the muscles can undergo aerobic type (Submaximal) of activity. Further Scientific research needed to assess the physiological demands of various dance and dancers.

**Keywords:** Aerobic Dance, Bharatha natyam Dance, Kandyan Dance, VO$_2$ max
Abstract : Y - 02

**Yoga: an excellent way to increase memory power**

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In the present era people are overloaded with stress, tension, anxiety, and lack of sleep due to fast paced life style which adversely affect the memory power of most individuals. Unhealthy life style with smoking or drug abuse severely damage brain cells and its ability to retain memory. Theweakened memory process results of poor social, vocational, educational performances and injuries as well. It is a responsibility of all health professionals to find ways to strengthen and enhance the memory power. Yoga, eternal science for healthy living deal with holistic approach of physical, psychological, social and spiritual wellbeing and high emphasis is given to codes of conduct towards calmness of mind. The paper reviews the scientific validation on Yoga therapy in order to increase memory power. The data were gathered from authentic text books, journal articles and web sources and analysed. Yoga practices like Tadasana, Vrikshasana, Vajrasana, Naukasana, Shalabhasana, Bhujangasana, Shavasana, Nadishodhana and Bhramari pranayama, omkaradhyana acts by various modes were found improving the circulation of blood to the brain, help the formation of neurons in brain, calming the mind, relieve tiredness and mental tension. Meditation and complex poses of Yoga practices helped in improving the concentration ability and arousal of dormant mental energy of an individual. It can be concluded that using yogic measures to improve memory power is very much important as it is economical, non-pharmacological, devoid of adverse effects and eventually blessed the human beings with excellent memory, good health and longevity.

**Keywords:** Memory power, Yoga, Asana, Pranayama, Dhyana
The relationship of academic performance with health related fitness

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Educational and health officials believe that individuals who are physically active and fit perform better in school education through higher education. The Purpose of this study was to explore the relationship between health related physical fitness and academic performance. Health related physical fitness is divided into several other components which form our overall health status and included cardiorespiratory endurance, musculoskeletal fitness and body composition. Academic performance is the outcome of education, the extent to which a student, teacher or institution achieved their educational goals. Studies have shown that physical activity can increase neural activity in the brain. Exercise specifically increases executive brain functions such as attention span and working memory. This study is based on the application of qualitative methodology using descriptive narrative mode to identify major thematic concerns on relationship between health related physical fitness and academic performance. The health related physical fitness variables expressed a positive relationship with academic performance. Participation in health related physical fitness activities or programs positively associated with an increase in attendance rates, school engagement, grades, post-secondary education while decreasing in dropout rates and depression. In conclusion, health related physical fitness activities or programs are positively correlated to academic performance.

Keywords: Health related physical fitness, Academic performance, Cardiorespiratory endurance, Musculoskeletal fitness, Body composition.
Effect of Yoga practices on selected physical fitness components among Lanka Siddha Ayurveda Medical College students

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The purpose of this study was to find out the effect of yoga practices on selected physical fitness components among Lanka Siddha Ayurveda medical college students. Thirty subjects were randomly selected from Siddha Ayurveda medical college and were divided into one experimental group (N=15) and another control group (N=15). The subject age ranged from 20-24 years. The experimental group underwent Yoga practices for six weeks. The time duration of each training session was 60 minutes. All the subjects were tested before and after experimentation. The data were statistically analyzed using “T” test. The results revealed that there was a significant improvement in flexibility and abdominal muscular strength among the tested students. This further confirms the physical fitness components such as flexibility and abdominal muscular strength of Lanka Ayurveda Siddha Medical students due to the yoga practices. Further similar studies should be carried out among other students of the University to evaluate their physical fitness and to improve their wellbeing through yoga practices.

Keywords: Yoga practices, Physical fitness, College students, flexibility, abdominal muscular strength

Abstract : Y - 04
Poster Presentation
Antibacterial activity of methanol extract of *Gracilaria edulis*
In North West of Sri Lanka

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Seaweeds are important living organisms in the marine environment because they are recognized as a potential source of bioactive natural products. The methanol extract of *Gracilaria edulis* sea weed was prepared to screen its antibacterial activity against four common bacterial pathogens using the disc diffusion method. The tested pathogenic strains were Escherichia coli, an extended spectrum beta lactamase (ESBL) producing *coliform*, *Pseudomonas aeruginosa* and *Staphylococcus aureus*. The Minimum Inhibitory Concentrations (MIC) of the extract against the 4 organisms was determined using the broth macro dilution method. Methanol saturated sterile discs were used as the negative control and did not show any inhibitory zone against the tested 4 organisms. Four antibiotics, Ceftazidime, Cefotaxime, Augmentin and Ampicillin were used for comparison. The zone of inhibition (ZOI) produced by methanol extract of *G. edulis* was maximum against *S. aureus* [16±0.5mm] medium against *E. coli* [12±0.8mm] and ESBL producing *coliforms* [12±0.5 mm] but with minimum activity against *P. aeruginosa* [10±0.8 mm]. In comparison, the ZOI produced by ceftazidime, Cefotaxime and Augmentin against *E. coli* were 26 (±0.8) mm 32 (±0.8) mm and 18 (±0.8) mm respectively, against the ESBL producing *coliform*, 25±0.5mm, 32±1.4mm, and 16±0.5mm respectively and against *S. aureus* 9 (±0.5) mm, 21 (±1.9) mm and 30 (±0.5) mm respectively. A ZOI of 16 (±1.3) mm and 20 (±1.9) mm was demonstrated only by ceftazidime and cefotaxime against *P. aeruginosa*. Ampicillin was relatively inactive against all test strains, giving a ZOI of 11.7 (±0.5) mm and 11.5 (±0.5) mm against *E. coli* and the ESBL producing *coliform* respectively. The MIC of the methanol extract was lowest for *S. aureus* at 1.25μg/ml, 2.5μg/ml for *E. coli* and ESBL producing *coliform* and 5μg/ml against *P. aeruginosa*. The activity of the methanol extract of *G. edulis* against *S. aureus*, an ESBL producing *coliform* and *E. coli* is promising and needs to be studied further.

**Keywords:** Gracilaria edulis, Methanol extracts, Antimicrobial activity.
Pain relieving technique through *Varma* Therapy in knee joint ailments by Traditional Physician

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Siddha Medicine means medicine that is perfect. Traditional physicians are gathering traditional knowledge from their fore fathers and from gurus. *Varma* therapy is a good healing system. Medicine, massage and stimulate the vital points are the components of *Varma* therapy. In Siddha Sullukku, Mulankal vatham, Moodu vatham, Narithalai vatham, Murivu and Netivu are the ailments of knee joint. This study is about the *Varma* treatment given by the traditional physician to relieving pain in knee joint ailments. In traditional practice ache, pain, swelling and restricted movements in knee considered as Mullankal vatham, joints swelling including in knee joint, body ache, thirst, malaise and difficult to walk considered as Moodu vatham, pain couldn’t feel without any movement, limited movement, ache and pain in knee considered as Sullukku. Diagnosed Mullankal vatham is considered as Osteoarthritis and Sullukku is considered as Sprain with modern medicine. In this research 15 patients were selected who were suffering from the Knee joint ailments. Out of 15 patients, 20% of male and 26.67% of female patients were affected by Mullankal vatham and 49% of male and 13.33% of female patients were affected by Sullukku. Mullankal vatham 11.11% of male and 22.22% of female patients complained only pain and 44.47% of male and 22.22% of female patients complained pain and swelling. In Sullukku 16.7% of male patients complained only pain and 50% of male and 33.3% of female patients complained pain and swelling. Treating a patient with Knee joint ailment depends on the strength of patient, ailment and the strength of medicine. Gave internal medicine, oil application, massage and press on vital points of knee to relief pain. If the disease condition of the patient seems to be better than former condition by 70% within 5 visits in alternate days took it as success. 66.67% of Mullankal vatha patients got success and 33.33% of patients not get success. Got some experiences how Varma therapy cures the knee joint ailments along with the internal medicine. Patients satisfied that they were cured from the Knee joint ailments by the treatment along with *Varma* therapy.

**Keywords:** Knee joint ailments, Traditional physician, Mullankal vatham, Moodu vatham, Sullukku, Varma therapy.

Abstract : P - 02
Standardization of *Astercantha longifolia* Linn roots and Aerial parts

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The formation of kidney stones is a very painful disease that follows a complex process which results from serious physiochemical events in the kidney. The treatments include surgical removal, extracorporeal shock wave lithotripsy and drug treatment in western medicine. In Sri Lanka, roots or aerial parts of *Astercantha longifolia* Linn are used to treat urolithiasis. It is an annual herb belonging to the family Acanthaceae. An attempt was made to (a) compile formulations (including *A. longifolia* as one of the ingredients) which is used to treat urolithiasis and (b) standardize roots and aerial parts of *A. longifolia*. Compilation of formulations was carried out using different text books and collection of data from traditional Ayurvedic physicians. Standardization of roots and aerial parts of *A. longifolia* were carried out according to the WHO protocol. The percentages of moisture content, total ash, water soluble ash, acid insoluble ash, hot water extractable matter, hot ethanolic extractable matter, cold water extractable matter and cold ethanolic extractable matter were as follows; for roots (by % w/w): 10.48 + 0.01, 48.26 + 0.05, 7.86 + 0.02, 44.97 + 0.15, 35.36 + 0.30, 21.22 + 0.00, 31.64 + 0.61, 8.18 + 0.30, and for aerial parts (by % w/w): 12.45 + 0.01, 18.073 + 0.35, 0.184 + 0.09, 9.31 + 0.05, 32.35 + 0.31, 27.78 + 0.30, 19.78 + 0.30, 3.42 + 0.00 respectively. Phytochemical screening revealed the presence of tannins, flavonoids, saponins, alkaloids in both roots and aerial parts of *A. longifolia*. In conclusion, able to established physico-chemical and phytochemical parameters for roots and aerial parts of *A. longifolia* and also gathered many different formula including *A. longifolia* as one of the ingredients that used to treat urolithiasis.

**Keywords:** Standardization, kidney stone, urolithiasis
A CASE STUDY FOR EVALUATION THE EFFICACY OF AYURVEDIC HERBO–MINERAL FORMULATION; CHANDRAPRABHA VATI ON ALBUMINURIA

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Chandraprabhavati is one of the effective and very popular Ayurvedic formula consisting of 37 ingredients is prescribed for many diseases, including urinary tract diseases. Albuminuria is a one of the early symptoms of Chronic Kidney Diseases (CKD) and CKD is a very common disorder in present era. But the efficacy of Chandraprabhavati on albuminuria is not scientifically validated yet. Therefore this case study was aimed at to re-establish the efficacy of Ayurvedic formulation Chandraprabhavati on albuminuria, which can be compared to some of the types of Prameha, along with the assessment of the effects on the basis of scientific, disease specific biochemical parameter. A male patient 52 years of age presented with albuminuria and after the diagnosis, general signs and symptoms, analysis of blood and analysis of chemical parameters of urine were assessed using standard proforma. The physical and chemical nature of urine, general features of patient and analysis of blood were recorded every week till one month and after one month follow-up period. After the end of the therapy of one month, the features of patient’s urine and clinical features were significantly reduced and no signs and symptoms were appear within the follow-up period. Consequently the Chandraprabhavatican be advised to albuminuria patients but further clinical trials needed to be carried out to evaluation of the efficacy of Chandraprabhavati on albuminuria.

Keywords: Albuminuria, Candraprabhavati, Chronic kidney diseases, Prameha
MedoRoga and its Causative Factors

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MedoRoga is defined as an accumulation of MedoDhatu disproportionately, causing pendulous appearance of the body, which leads to various side effects even the death. It can be correlated to hyperlipidemia and obesity as well. The objective of this study is to identify the causative factors of MedoRoga according to Ayurvedic perspectives. Total of 60 clinically diagnosed hyperlipidemic patients who are obese were selected for the study at Ayurvedic Teaching Hospital Borella, Sri Lanka, depending on Frederickson-WHO diagnostic criteria of hyperlipidemia and WHO classification for overweight/obesity. All selected patients were registered and a self-administrative questionnaire was distributed to collect the data. Concerning the dietary style, Guru (heavy), Madhura (sweet), Sheeta (cold) and Snigdha (oily) diets were frequently consumed by 93.1%, 94.8%, 93.1% and 93.1% of the subjects respectively. Relating to the behavioral factors 82.8%, 70.7%, 56.9%, have indulged Avyayama (lack of exercise), Avyavaya (lack of sexual intercourse), Diva Swapna (Day sleep) respectively. Considering the Psychological factors involving MedoRoga, 74.1% and 77.6% had experienced Achinta (lack of mental exercise) and HarshaNityatva (uninterrupted cheerfulness) respectively. Out of 60 patients 69% subjects had related with congenital factor, BeejaSwabhava, which is inherited from father or mother. Therefore Medoroga patients had the common etiological factor, such as consumption of sweet foods and lack of exercise as the dominant behavioral factor while uninterrupted cheerfulness was the prominent psychological factor. These results suggest that most of the causative factors of MedoRoga are avoidable thereby; many occurrences of the disease can be preventable.

Keywords: MedoRoga, Achinta, Avyayama, Avyavaya.
Abstract: P - 06

**Evaluation of Pharmacodynamic effects of Ten Fracture Healing Herbs A critical review**

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Traditional physicians possess experience in highly effective treatments for fractures and this invaluable knowledge seems to be fading slowly. The study aims to explore the medicinal plants used in *Kedum Bindum Chikitsa* in traditional medicine and to evaluate the pharmacodynamic actions of frequently used herbs. For this study, more than 50 formulations of *Pattu* and *Mallum* were collected from reputed traditional physicians and traditional texts. Each and every formula was arranged in Sinhala Alphabetical Order. The herbs were manually numbered according to the frequency of their appearance. Ten most frequent herbs were selected and their properties were listed. Pharmacodynamic actions of the ten most frequent herbs were analyzed. The common pharmacodynamic actions of *Madan, Katakala, Kotadimbuala, Ankenda, Magul Karanda, Kohomba, Nawahandi, Muvakiriya, Hik and Rukattana* are Shothahara (90%), Kushtaghna, Vrana shotahara, Daha prashamana, Krimigna, Vedanahara (50%), Bhagnasandana, Vranashodana, Vranaropana (40%), Raktha sthabhana (30%). The results revealed the main pharmacodynamic actions of these herbs are similar and aim towards Anti inflammatory, Wound healing and maintenance of Skin disorders- Twag doshahara. Some herbs such as *kohoba* and *Rukattana* have unique qualities such as healing sinus wounds, removing pus or foreign matters etc. Due to common properties herbs can be used efficiently in different stages of the fracture healing process and also because some unique qualities of individual herbs they were used for different types of fractures.

**Keywords:** Kadum bindum, Herbs, Pharmacodynamics, Properties, Traditional, Medicine
Phytochemical screening of seeds of *Solanum xanthocarpum*

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*Solanum xanthocarpum* known as *Kandangattari* in Tamil and *Katuwelbatu* in Sinhala is a perennial medicinal plant, belongs to the family of Solanaceae. In Indigenous Medicine the bark, fruit, seeds, and root of the plant are used in the treatment of various diseases. The seeds of the *S.xanthocarpum* are used to prepare fume in the treatment of dental caries. In the text of Sarabenthira Vaithiyamurai Siroroganithanam, fumes of the *S.xanthocarpum* seeds is useful in the treatment of Pat pulu (Dental caries) and Pal vali (Tooth ache). The seeds of *S.xanthocarpum* have Powerful sialagogue, hydragogue, expectorant, carminative and diuretic properties. Therefore, this study was aimed to screen the pytochemicals of the seeds of *S.xanthocarpum*, which will be used for the preparation of fume for the treatment of toothache. The fruits were collected (50 in number) from their natural habitat in Kaithady of Themaradchchy division. These were cut into two pieces and seeds were collected from the pulp. The seeds were let to dry in sun shade. The dried seeds (50g) were ground well and 5g of the seed powder was taken to prepare the extract to test the presence of secondary metabolites, such assaponin, tannins, steroids, flavonoids, glycosides and terpenoids. The Preliminary phytochemical study showed that the powder of the seed contains terpinoids, flavonoid, steroid, cardiac glycoside and tannin. In conclusion, these, secondary metabolites may possess sialogogue, hydragogue, expectorant, diuretic, carminative, anti-inflammatory, anti-spasmodic, and antimicrobial activity. Efficacy of the seed would be evaluated in clinical trial in future.

**Keywords:** Phytochemical screening, Solonum xanthocaroum, Seeds
Ethnobotanical survey of medicinal plant species used by communities around Muththunagar GS division

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An ethno botanical study of medicinal plants was carried out in forest of Muththunagar village in Trincomalee from December 2014 to February 2015. Information was obtained through interviews using semi-structured questionnaires. Field excursions with traditional healers and herbal medicine collectors were carried out. Descriptive statistics were used to present the data. Fidelity ratios and Informant consensus agreements were calculated. In this present study, a total of 176 plants species in 59 families were reported in the treatment of various health conditions. Family Leguminosae was dominant representing 13.06% of the plant species documented. 5.68% plants included in Cucurbitaceae Family plants and Labiatae Family plants, 5.11% contributed by Euphorbiaceae family plants and Malvaceae Family plants, 3.41% by Acanthaceae family plants, Amaranthaceae family plants and Apocynaceae family plants. Fresh plants (68%) were the most frequently used parts in preparing herbal remedies. Decoctions (24.86%) were commonly used method of herbal medicine preparation and administration respectively. Twenty one health conditions were treated using medicinal plants. Informant consensus agreement was highest for treatment for wounds (18.1%) that included Diabetic wound, septic wound and abscess of informant’s knowledge about remedies used. Mimosa pudica, Indegofera victoria had 100% fidelity level for treatment of wound healing as an antiseptic and treatment for poisons as an antidote. The diversity of medicinal plant species used and the associated indigenous knowledge are of great value to the local community and their conservation and preservation is paramount. The therapeutic uses of the documented plants provides basic data for further research focused on pharmacological studies and conservation of the most important species.

Keywords: Ethnobotany, Medicinal plants, Muththunagar
Abstract: P - 09

**Case Report: Effect of Irsal e Alaq (Leech Therapy) in Dawali (Varicose vein)**

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In Unani system of medicine, “Dawali” which described in almost all classical books of Unani medicine, is synonymous with varicose veins. A 52 years old male patient belongs to Christianity from Negombo, approached to the OPD of the Ayurveda hospital, Aniyakanda, Kandana and got registered on 29th of January, 2016 with CR.NO – 2164/A. Patient was asymptomatic in 5 years ago. He developed gradually dilated tortuous and elongated superficial veins of both lower limbs with blueish black discolouration below ankle joints. He came with the complaints of pain, numbness and discomfort in both legs for last 5 years. On examination there was slight swelling over both ankle joints. According to patient statement, it was found that pain was constant, mild, aching in nature, not radiated to any other part. Pain got aggravated on prolonged standing and relieved by elevation of legs. He had no history of hypertension, diabetes mellitus, trauma, or previous surgery. The basic laboratory investigations were found to be within normal limits (FBS-102mg/dl, BT- 3 min, CT- 6 min). Diagnosis was carried out on the basis of detail history and clinical examination. On the basis of symptomatic relief, patient was assessed weekly using visual analogue scale (VAS) but leech therapy was done every other week. As we observed in VAS, before treatment pain grade was 8. After 1 week of treatment pain grade came down to 6, further on the consecutive follow up on 2nd week, 3rd week and 4th week pain grades were 5, 3 and 1 respectively. The patient got relief in clinical signs and symptoms of varicosities with in 20 weeks of leech therapy. Patient was advised to attend the OPD after one month for post treatment follow up and patient got relief from all clinical sings and symptoms.

**Keywords:** Dawali, varicose veins, leech therapy.
அமீன் அமுதார் காரணத்தான்

மாநிலாநிலை பிரிவால் போற்றும் ஆலய

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மதுமதிகளமல் கலையா கூட்டு இலக்கிய வருவாய் அடுத்து தற்கால நாட்டு நகட்டிடை கலையாங்காலா

நிலைகளை ஆலய நுழைவாசல் கூட்டு தொட்டியும் அதுபோன்றனும் உறுதியாக நிறுவகலை முறையும் அறிவுப் பல்கலையில் அமைய மதுமதிகளமல் கலையாங்காலா

மதுமதிகளமல் ஒவ்வொரு மது தொட்டியும் மாதுமதிகளமல் கலையாங்காலா. கலையாங்காலா முதலிலக்காலா முதல் நடப்படுவதை பல்கலையில் அமையலை பல்கலையில் அமையலை முறையும் மாதுமதிகளமல் கலையாங்காலா

மாநிலாநிலை பிரிவால் போற்றும் ஆலய நுழைவாசல் கூட்டு தொட்டியும் அதுபோன்றனும் உறுதியாக நிறுவகலை முறையும் அறிவுப் பல்கலையில் அமைய மதுமதிகளமல் கலையாங்காலா

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Abstract : P - 10

பிணவானார் ஆர்யான் காரணத்தான்

மாநிலாநிலை பிரிவால் போற்றும் ஆலய

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மதுமதிகளமல் கலையா கூட்டு இலக்கிய வருவாய் அடுத்து தற்கால நாட்டு நகட்டிடை கலையாங்காலா

நிலைகளை ஆலய நுழைவாசல் கூட்டு தொட்டியும் அதுபோன்றனும் உறுதியாக நிறுவகலை முறை�ும் அறிவு பல்கலையில் அமைய மதுமதிகளமல் கலையாங்காலா

மாநிலாநிலை பிரிவால் போற்றும் ஆலய நுழைவாசல் கூட்டு தொட்டியும் அதுபோன்றனும் உறுதியாக நிறுவகலை முறையும் அறிவு பல்கலையில் அமைய மதுமதிகளமல் கலையாங்காலா

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மாறு மாறு மாற்றுக்கு வரும் காலயில் குழுக்கள் குழு வெளியிட்டது. மாறு மாற்று பாதிக்கப் பயன்படுத்தப் பரிசay ஆய்வுகள்

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Proceedings of National Research Conference and Exhibition on Indigenous Medicine 2017 [NRCEIM 2017]. Held on 27th -29th January 2017 at Unit of Siddha Medicine, University of Jaffna 94
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தொண்டி சுயித் பூர்வரூபத்தில் இருந்து பார்ப்பதற்கு முன்னரும் தமிழ்நாட்டில் ஓரியல். அல்லது வேலியல் படிப்புகளுடன் தமிழ் திறனை எளிதாக வாய்ப்பை ஐரேசுவின் பட்டியலில் குறிப்பிட்டத்தக்க வேலியல் படிப்புகளில் தமிழ்நாட்டில் குறிப்பிட்டது.
தொலைத்தலைப்பாளர் உள்ளிட்டு வேலை பொருளிலின் ஐதரவு வெப்பம் அமல்

நசோஸ்கேட்டு பற்றிய தொலைத்தலையச் செயல் வடிவத்தில் வேளை வெப்பமாக. உள்ளிட்டு செயல் பற்றிய தொலைத்தலையச் செயல் வடிவத்தில் வேளை வெப்பமாக.

நசோஸ்கேட்டு பற்றிய தொலைத்தலையச் செயல் வடிவத்தில் வேளை வெப்பமாக. உள்ளிட்டு செயல் பற்றிய தொலைத்தலையச் செயல் வடிவத்தில் வேளை வெப்பமாக.

நசோஸ்கேட்டு பற்றிய தொலைத்தலையச் செயல் வடிவத்தில் வேளை வெப்பமாக. உள்ளிட்டு செயல் பற்றிய தொலைத்தலையச் செயல் வடிவத்தில் வேளை வெப்பமாக.
பார்வேயின் செய்திகளைக் குறிப்பிட்டு, அவர்களுடன் பார்வேயின் பணி ஒரு வாக்குமுறை

C.C.T.M யார்கள் தேர்வு, கவர்த்தன் விளக்கம், குறிப்பிட்டு

அடையாளத்துறையின் பார்வேயின் பெயர்கள் முதல் வாக்குமுறை. முதல் வாக்குமுறையில் தேர்வு மையம்.

தமிழ் குறிப்பிட்டு பார்வேயின் செய்திகளைக் குறிப்பிட்டு, கைதிகள் பணி ஒரு வாக்குமுறை.

முதல் வாக்குமுறை யார் குறிப்பிட்டு, கைதிகள் பணி ஒரு வாக்குமுறை.
கற்பாரம் வாக்குச்சொல் சந்தப்கூற்று
கோஷ்பரசு அ. சிவநாதன்
சிங்கவேல் பாரினேசு விளக்கம், அகசுர வாராதியம்

ஆர்வமாக, மேலும், மேலும், புதிய உரையாட்டங்களைக் குறிப்பிடுவதற்காக ஒரு கலைஞர் வாராதியதாக.

அல்லாஹ்வுடையப் புதுக்காட்டிற்கு பல வரலாறு வகைப்படுத்தலே. தொல்பரக் கதிரியம் உரைப்புரையாடிய இடையடை குறிப்பிட்டும் பார்க்கிறார். மேலும் பல வரலாறு காலத்தில் பலவை காணவிக்கலாம். அனைத்து காலக்கட்டளை பல வரலாறு காலமுக்கியமானவை பலவை காணி வரலாறு பலவை காணவை அனைத்து காலக்கட்டளை பலவை காணி வரலாறு பலவை காணவை அனைத்து காலக்கட்டளை பலவை காணி வரலாறு பலவை காணவை அனைத்து காலக்கட்டளை பலவை காணி வரலாறு பலவை காணவை அனைத்து காலக்கட்டளை பலவை காணி வரலாறு பலவை காணவை அனைத்து காலக்கட்டளை பலவை காணி வரலாறு பலவை காணவை

அமர்விலை புதுக்கடுடைய வரலாறு ஒவ்வொரு காலத்திற்குக் குறிப்பிட்டும் சிலை அங்கத்தில் மேலாக.

வெளியில் பயினும் போதுள்ள கட்டுப்பாட்டுக்குக் கிட்டும் நிலைகள் தரவும் முறையை கூறினார். மேலும் வரலாறு காலத்தில் பலவை காணவை அனைத்து காலக்கட்டளை பலவை காணி வரலாறு பலவை காணவை

நான் எனக்கு அங்க அளிப்பு மேல் உண்டாய கதுவு என்று. பொறியியல், கணினியம்,

குறைந்த, மாறன் எனவே மேல் உண்டாய கதுவு என்று. பொறியியல், கணினியம்,

குறைந்த, மாறன் எனவே மேல் உண்டாய கதுவு என்று. பொறியியல், கணினியம்,
ஆலயப்படுத்தல், பின்னரும் 48ை உள்ள ஒரு சிற்றியல் காலத்தின் போது அறிவியலாகவுள்ள நோய்களை காண வேண்டும். அவற்றுக்கு கருதிய குழுக் கட்டடம் நோய்கள் எனுமிட்டுள்ளோர் காலத்தின் போது மொழிபெயர்க்கும் கையெழுத்துகள் மற்றும் குறியீடுகள் கையெழுத்துகள் மற்றும் குறியீடுகள் காண வேண்டும். அம்மக்கான கருத்துகள் மற்றும் காலத்தின் போது மொழிபெயர்க்கும் கையெழுத்துகள் மற்றும் குறியீடுகள் காண வேண்டும். குறியீட்டுகள் போதும் மற்றும் காலத்தின் போது மொழிபெயர்க்கும் கையெழுத்துகள் மற்றும் குறியீடுகள் காண வேண்டும். அம்மக்கான கருத்துகள் மற்றும் காலத்தின் போது மொழிபெயர்க்கும் கையெழுத்துகள் மற்றும் குறியீடுகள் காண வேண்டும்.
வாழ்வு மாற்றங்கள்

வாழ்வு மாற்றங்கள் என்பது, மனிதருக்கு முன்னே வரும் போது, மனிதரின் உயிரியுடைய முறையே மாற்றமடைந்த அறிவு மற்றும் கவலையை மனிதரின் விளக்கத்திற்கு பயன்படும் முறையேவே மாற்றமடைந்தது. மனிதருக்கு முன்னே வரும் போது, மனிதரின் உயிரியுடைய முறையே மாற்றமடைந்த அறிவு மற்றும் கவலையை மனிதரின் விளக்கத்திற்கு பயன்படும் முறையேவே மாற்றமடைந்தது. இது வாழ்வு மாற்றங்களின் விளக்கத்திற்கு பயன்படும் முறையேவே மாற்றமடைந்தது. இச்சார்ந்த வாழ்வு மாற்றங்களின் விளக்கத்திற்கு பயன்படும் முறையேவே மாற்றமடைந்தது. இது வாழ்வு மாற்றங்களின் விளக்கத்திற்கு பயன்படும் முறையேவே மாற்றமடைந்தது. இச்சார்ந்த வாழ்வு மாற்றங்களின் விளக்கத்திற்கு பயன்படும் முறையேவே மாற்றமடைந்தது. இது வாழ்வு மாற்றங்களின் விளக்கத்திற்கு பயன்படும் முறை�ேவே மாற்றமடைந்தது. இச்சார்ந்த வாழ்வு மாற்றங்களின் விளக்கத்திற்கு பயன்படும் முறையேவே மாற்றமடைந்தது.
நூறுநான்காம் வகையிலான ஆக்சைடு. ஆக்சைடுகள் நூறுநான்காம் வகையிலான ஆக்சைடுகள் இன்று நூறுநான்காம் வகையிலான ஆக்சைடுகள் வலியுறும். இன்று நூறுநான்காம் வகையிலான ஆக்சைடுகள் வலியுறும். இன்று நூறுநான்காம் வகையிலான ஆக்சைடுகள் வலியுறும்.

வாய்ப்பு நூறுநான்காம் வகையிலான ஆக்சைடுகள் இன்று நூறுநான்காம் வகையிலான ஆக்சைடுகள் வலியுறும். இன்று நூறுநான்காம் வகையிலான ஆக்சைடுகள் வலியுறும். இன்று நூறுநான்காம் வகையிலான ஆக்சைடுகள் வலியுறும். இன்று நூறுநான்காம் வகையிலான ஆக்சைடுகள் வலியுறும்.

முன் கூறப்பட்டுள்ள குலக்கீர் சுருக்கம் இன்று நூறுநான்காம் வகையிலான ஆக்சைடுகள் வலியுறும். இன்று நூறுநான்காம் வகையிலான ஆக்சைடுகள் வலியுறும். இன்று நூறுநான்காம் வகையிலான ஆக்சைடுகள் வலியுறும். இன்று நூறுநான்காம் வகையிலான ஆக்சைடுகள் வலியுறும்.

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நான் மண்டல் கருத்து பிள்ளையார் முகலாய விளக்கத்தில் இருளத்தல் மாற்றத்தக்க நூற்றாண்டுகளாக
அடைத் தொடரவா. மாண்டுக்குக் கூட்டு உயர்வுப்பட்டு தற்போது தொடர் மறைத்து நான் கூட்டத்தக்க
போக்கிறேன். எனும் நான்கால் நபரும் நகர்வில் காணப்பட்டு போக்கும் குறுக்குக்
உருவாக்கத் தன்னுடைய பாதுகாப்பு மற்றும் கருத்துக்குப் பிரிவு, குறை குறை குறை நூற்றாண்டுகள்
இளமுக்குத் தொடர்பு மானும்பர்களை நூற்றாண்டுகளை உயர்வு மறைத்து நான் கூட்டத்தக்க
நூற்றாண்டுகளில் புகழ்பெற்றிருக்கிறது பிரிவார்கள். நான் மண்டல் கருத்துக்கு கூட்டி கூட்டம் கூறியும் பிரிவார்கள்,
என்றால், மக்களால், மக்களால், மக்களால் கருத்து கூறி மானும்பர்களை நான் கூட்டத்தக்க.
சரையும் கருத்துக்கு கூட்டுக்கு தற்போது தனியுருவம் புகழ்பெற்றிருப்பதை மானும்பர்கள்
இளமுக்குத் தொடர்பு பதவியுள்ள இது குறை குறை குறை நூற்றாண்டுகள். தற்போது கூட்டாய் கூட்டிக்கு நான்
மானும்பர்களை ஆர்வத்துக்கு பிரிவு குறை குறை நூற்றாண்டு மானும்பர்களை உயர்வு மறைத்து நான்
கூட்டத்தக்க நூற்றாண்டுகளில் புகழ்பெற்றிருக்கிறது பிரிவார்கள் பிரிவார்களை உயர்வு
மறைத்து நான் கூட்டத்தக்க நூற்றாண்டு.

இந்து தம்பெர: மாண்டுக்குத், மாண்டுக்கு, புத்தாண்டு, மாண்டுக்கு.
குறிப்பிட்டுக்கூற்று வெளிப்படுத்துகின்றது: மகாபாண்ட குறிப்பிட்டுக்கூற்று

# குறிப்பிட்டுக்கூற்று

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# குறிப்பிட்டுக்கூற்று
பார்வாயில் கல்வியாற்றின் வாதியாக்கல்
கல்வியாற்றின் கருத்துக்கள் எழுப்புவதற்கு அறிவிக்கை.

மாது வருவத்தாகப் பார்வாயில் கல்வியாற்றின் வாதியாக்கல் வடு விளக்கப்படும். மதிப்பில் ஒன்று மாது பார்வாயில் கல்வியாற்றின் வாதியாக்கல் வடு விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்கத்தின் விளக்காதிகுறை.
பாதுகாப்பு முன்னணையிட்டால் அம்பந்தத்துக்கு
காந்தியான சிங்காலம்
பண்டைக்காலம்


முறலாற்றல்: பாதுகாப்பு நூற்றாண்டு, புதுசெட்டு, முழுவோன்று
அம்மாவின் ஆட்சியால் வெளிப்புறம் கைப்பற்றி

நான் விளக்கும் காரணங்களுக்கு பாதிப்பும் மிக சார்ந்த வகையான வகையான பாதிப்பும் செய்யப்பட்டது. எனினும் பாதிப்பும் செய்யத் தொடர்ந்ததால் நான் பாதிப்புக்காரன் என்று ஊரியதை, தொன்மையான பாதிப்புக்காரன் என்று ஊரியதை எண்ணுவதற்கு வேண்டும். குறுகிய குறுகிய விளக்கம் வடிவிலேயே உருந்து, காண்பதற்கான பட்டியல் உருவாகச் செய்யப்பட்டது. மற்றும் பாதிப்பு செய்யும் போது முதல்வாகும் வெளிப்புறத்தினை முற்பட்டது. இந்துவின் தொடர்வின் கருப்பு விளக்கத்தில் இருந்து, மற்றும் வெளிப்புறத்தின் பரந்து முற்பட்டது. இதுவே நான் விளக்கும் காரணங்களுக்கு பாதிப்பும் மிக சார்ந்த வகையான வகையான பாதிப்பும் செய்யப்பட்டது. எனினும் பாதிப்பும் செய்யத் தொடர்ந்ததால் நான் பாதிப்புக்காரன் என்று ஊரியதை, தொன்மையான பாதிப்புக்காரன் என்று ஊரியதை எண்ணுவதற்கு வேண்டும்.

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