



PROCEEDINGS
9th International Conference
on
Ayurveda, Unani, Siddha and Traditional
Medicine
(iCAUST 2023)
and
“Triphala” International Research Symposium
AyurEx Colombo - 2023
“Traditional Knowledge for One Health”

—❧—
08th - 10th
—❧—
September
2023

ORGANIZED BY

Faculty of Indigenous Medicine
University of Colombo
Sri Lanka

CO – ORGANIZER

Department of Ayurveda
Ministry of Health
Sri Lanka



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COLOMBO, RAJAGIRIYA, SRI LANKA**

**PROCEEDINGS OF THE
9th INTERNATIONAL CONFERENCE ON
AYURVEDA, UNANI, SIDDHA AND
TRADITIONAL MEDICINE - 2023
iCAUST - 2023
AND *TRIPHALA* INTERNATIONAL
RESEARCH SYMPOSIUM AyurEx
COLOMBO 2023**

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Message from the Vice Chancellor, University of Colombo



It gives me great pleasure to issue this brief message for the 9th International Conference on Ayurveda, Unani, Siddha, and Traditional Medicine (iCAUST 2023) and *Triphala* International Research Symposium Ayurex Colombo - 2023, organized by the Faculty of Indigenous Medicine (FIM), University of Colombo in collaboration with the Department of Ayurveda, Sri Lanka, under the theme of "Traditional Knowledge for One Health."

Research in academic institutions is crucial for sustainability and innovation-driven growth in a globalized world. The Faculty of Indigenous Medicine is engaged in research for the advancement of knowledge and a better understanding of cross-disciplinary challenges, as well as the development of increasingly interrelated fields. iCAUST is an excellent platform for expanding knowledge beyond academia. It is responsive to real-world health concerns, open to new collaborations, and strives for quality and continuous improvement of researchers.

The primary goal of these conferences is to provide and share knowledge, thereby encouraging scientists, academics, researchers, physicians, traditional medical practitioners, technologists, policymakers, entrepreneurs, and other relevant business stakeholders.

In recognition of its health benefits, the international market for Ayurvedic medicine is rapidly expanding. The Sri Lankan government promotes traditional medicine and health tourism as part of its national policy in order to put this valuable knowledge to use. At this point in history, I believe that using Ayurveda and Traditional Knowledge to prevent communicable and non-communicable diseases will be an immensely effective endeavor. The deliberations at this conference undoubtedly contributed to global and regional health strategies and approaches.

Despite the many challenges posed by the current economic and political instability in the country, I am encouraged by the Faculty of Indigenous Medicine at the University of Colombo's enthusiasm and support for moving forward with the research process. Our university rankings have been solidly maintained, with regional and international research and academic collaborations.

It gives me great pride that the FIM's first symposium after joining the University of Colombo as a faculty was a huge success. I would like to thank Professor Pathirage Kamal. Perera, the Dean of the Faculty as well as the Main Organizer of iCAUST 2023, and his excellent group of academic partners and students for contributing their expertise and valuable time to ensure that all arrangements are maintained smoothly and effectively. I thank all Faculty Research Committees and representatives, and the administrators and support staff for your tremendous efforts in making this event a success.

Senior Professor H.D. Karunaratne
Vice Chancellor
University of Colombo

Message from the Chief Organizer - Dean, Faculty of Indigenous Medicine



It is with great pleasure and pride to send this message on the occasion of the 9th International Conference on Ayurveda, Unani, Siddha and Traditional Medicine (iCAUST) and ‘*Triphala*’ International Research Symposium, Ayurex Colombo – 2023. The symposium was initiated by the Institute of Indigenous Medicine in 2014 and progressively it became the leading research platform of researchers who are engaged in natural medical systems in Sri Lanka. Launching the 9th

iCAUST remarks a premiere milestone after the momentous conversion of the Institute of Indigenous Medicine to the Faculty of Indigenous Medicine (FIM). On this precious occasion, I would like to extend my gratitude to the co-organizing partner, Department of Ayurveda, Ministry of Health for facilitating the event. Further, I would like to express my appreciation to the Vice chancellor, Senior Professor H.D. Karunaratne for giving his expertise and guidance to arrange this event smoothly and effectively.

Focusing on the theme ‘Traditional knowledge for one health’ we accommodated interdisciplinary participation to share their evidence-based traditional medicine, recent research evidence, innovations, and clinical experiences among the young, upcoming, and renowned researchers. One of the key anticipations of these resourceful scientific sessions is to develop scientific communication skills among the FIM undergraduates and expose them to research culture. The parallel student scientific forums provide opportunities to FIM undergraduate researchers to develop scientific communication skills while being exposed to the research communities. Further, we expect to unveil the novel products and innovations of FIM scholars through the educational exhibition which is planned to be held with the AyurEx Colombo 2023.

I congratulate the authors of the conference and greatly appreciate the team effort extended by the organizing committee and all the committee members of the 9th iCAUST and Tripala IRS /AYUEX 2023 to bring this event a grand success.

**Prof. Pathirage Kamal Perera,
Dean – Faculty of Indigenous Medicine
University of Colombo
Rajagiriya**

Message from the Co-organizer - Commissioner of Ayurveda



As the commissioner of Ayurveda, it gives me immense pleasure to host the International Conference on Traditional Medicine, Educational Exhibition & Trade Fair on the 8th 9th, and 10th of September 2023.

AyurEx Colombo 2023 is poised to be the most prominent and comprehensive event organized and dedicated to traditional medicine, providing a unique platform for stakeholders, experts, research, and practitioners from across the globe to converge, collaborate, and explore the vast potential of traditional medical practices.

The Ministry of Health, and the Department of Ayurveda of the Government of Sri Lanka, the Head Office Welfare Society of Ayurveda Department, in collaboration with the Faculty of Indigenous Medicine University of Colombo, have initiated to dedicate the global platform to share expertise, knowledge, and skills on cutting edge research interventions and inventions on Traditional Medicine.

Traditional Medicine (TM) to today's emerging health challenges, it is time to exchange expertise knowledge, and skills among academics, scientists, practitioners, entrepreneurs, and researchers through cutting-edge research interventions and innovations.

The Director General of the World Health Organization (WHO) highlighted “unlocking the power of traditional medicine and providing evidence and action-based suggestions that could be interpreted into a global strategy.” Accordingly, this initiative was taken to create an international forum focused on the “traditional medical systems for one health”. Moreover, this international conference is to provide a scientific platform to eminent researchers, academicians, physicians, traditional and medical practitioners, manufacturers, and exporters of Ayurveda for the evidence-based study of *Triphala*.

I thank the Vice Chancellor, University of Colombo, Dean of the faculty of Indigenous medicine, and each and every one who has been instrumental in Organizing this Conference from all members of the to the Patrons, Advisors, and the Organizing Committee, for offering in their heart and soul for the grand success. I am grateful to the presenters and the participants for their thought-provoking contributions. I extend our very best wishes to you wherever you may be around the world.

Dr. M.D.J. Abeygunawardena
Commissioner of Ayurveda

Message from the Conference Coordinator



I extend my heartfelt wishes with profound pleasure for the fruitful accomplishments of the 9th International Conference on Ayurveda, Unani, Siddha, and Traditional Medicine, in conjunction with the *Triphala* International Research Symposium. This event not only offers a valuable platform for the exchange of knowledge and professional advancement but also holds great historical significance as the inaugural international conference hosted by the Faculty of Indigenous Medicine after the transformation from an institute to a faculty, of the University of Colombo. Additionally, marking a momentous milestone, this conference stands as the inaugural collaborative endeavor between the Department of Ayurveda. Simultaneously, it harmoniously aligns with the *Triphala* IRS, and the AyurEx Colombo 2023. Hence, this significant juncture will stand as a splendid landmark for the Faculty of Indigenous Medicine, illuminating its global reputation and stature.

Under the theme of "Traditional Knowledge for One Health" the conference holds a pivotal role within the scientific domain as a dynamic platform where experts, practitioners, and researchers convene to impart their knowledge, facilitate the exchange of ideas, and deliberate on the latest strides in the field. Through the convergence of professionals worldwide, the conference is set to foster collaboration and innovation in the realm of natural and holistic healthcare. Facilitating the integration of traditional practices with modern medicine and technology will promote a transformative shift in healthcare paradigms.

It is a great privilege to be the coordinator of this conference and I wish to extend my heartfelt gratitude for the invaluable efforts and guidance provided by the Vice-Chancellor, Senior Professor (Chair) H D Karunaratne, and the Dean, Chief Organizer, Prof. Pathirage Kamal Perera. I would also like to express my sincere gratitude to Dr. Dhammika Abeygunawardena, the Commissioner, Department of Ayurveda, and his team for the immense support provided towards the success of this conference. I would also like to express my heartfelt appreciation to each member of the organizing committee, Faculty of Indigenous Medicine for their unwavering support and dedicated efforts in overcoming every obstacle encountered along this journey.

Conference Coordinator - 9th ICAUST 2023

Dr. N.D. Kodituwakku

Senior Lecturer

**Department of Ayurveda Pharmacology, Pharmaceutics and Community
Medicine**

Faculty of Indigenous Medicine

University of Colombo

Message from the Organizing Secretary (Ayurveda)



It gives me immense pleasure to word my thoughts on behalf of the organizing committee of the 9th International Conference on Ayurveda, Unani, Siddha, and Traditional Medicine (*iCAUST*) and '*Triphala*' International Research symposium, AyurEX Colombo – 2023. *iCAUST* is a series of conferences initially conducted annually by the Institute of Indigenous Medicine. The present conference is a signature event as it is the first conference conducted by the Faculty of Indigenous Medicine after the transformation into a faculty.

iCAUST is an internationally recognized research forum where it facilitates young, upcoming, and renowned researchers to share their scientific knowledge. This time we encourage the renewal and review of the traditional health systems for upcoming health challenges by directing the theme; 'Traditional knowledge for one health'. It will be both exciting and ground-breaking in its multidisciplinary content. The 3-day conference has shaped up to be excellent with nearly 200 scientific papers on various subthemes to enlighten the brainstorming scientific sessions. It provides a platform for students who are at the undergraduate level and postgraduate level to participate in scientific debates and discussions to enhance their knowledge.

I take this opportunity to thank senior professor (chair) H.D. Karunaratne, Vice-Chancellor, University of Colombo, Professor Pathirage Kamal Perera, Dean- Faculty of Indigenous Medicine co-organizer, Department of Ayurveda and Dr. Dammika Abeygunawardhana, the Ayurveda commissioner, members of the organizing committees for their sincere contribution towards the success of the conference. I welcome all the keynote speakers, plenary speakers, authors, and delegates for the deliberations of the conference and extend my gratitude in advance for their significant role in making this event a magnificent achievement.

I wish all the participants a very successful conference with fruitful discussions.

Organizing secretary (Ayurveda) - 9th ICAUST 2023

Dr. K.N.A. Dharmasena

Senior Lecturer

Department of Ayurveda Pharmacology, Pharmaceutics and Community Medicine

Faculty of Indigenous Medicine

University of Colombo

Message from the Organizing Secretary (Unani)



It is with immense pleasure that I pen down this message to the 9th International Conference on Ayurveda, Unani, Siddha and Traditional Medicine (iCAUST 2023) and “Triphala” International Research Symposium AyurEX Colombo 2023, which is organized by the Faculty of Indigenous Medicine, University of Colombo, in collaboration with Department of Ayurveda, Ministry of Health, Sri Lanka.

The theme of this conference is “Traditional Knowledge for One Health”. This compilation of abstracts is a testament to the collective spirit of research and embodies the tireless pursuit of knowledge. Our mission in bringing together these abstracts is to foster the exchange of ideas, to inspire collaboration, and to fuel the intellectual curiosity that drives progress.

I extend my heartfelt gratitude to the Vice Chancellor of University of Colombo, the Dean of Faculty of Indigenous Medicine, University of Colombo, the Commissioner of Ayurveda, the Organizing committee, Chairpersons and Co-chairpersons for their unwavering support in making this conference a tremendous success. I also sincerely thank all the contributors whose abstracts grace these pages, and the reviewers who diligently ensured the quality of the content. Finally, I would like to thank the academic and non-academic staff and all those who helped in any way in making this a success. I express my best wishes for this international conference.

Organizing Secretary (Unani) – iCAUST 2023

Dr. (Mrs.) J. Rumaiza

Senior Lecturer/ Consultant,

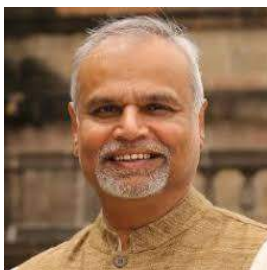
Faculty of Indigenous Medicine,

University of Colombo

KEYNOTE SPEAKERS



Professor Pawankumar Godatwar
Technical officer for WHO South East Asia
region,
Dean -Research, National Institute of Ayurveda
Jaipur, India



Professor Bhushan Patwardhan
National Research Professor
AYUSH
India



Professor Anup Thakur
Vice-chancellor
Gujarat Ayurveda University
Jamnagar
India



Professor Gomika Udugamasooriya
Department of Pharmacological &
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Senior Member- National Academy of Inventors
(NAI)
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KEYNOTE SPEAKERS



Professor Aruna Weerasooriya
Cooperative Agricultural Research Center
College of Agriculture & Human Sciences
Prairie View A&M University
USA



Professor Priya Weerasinghe
Department of Pathology and Laboratory
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The University of Texas Houston McGovern
Medical School (UTHealth)
USA



Professor Akitoshi Seiyama
Director of Creative Design and Data Science
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Akita International University
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Professor He Qiuxia
Deputy Director of Science and Technology
Service Platform of Qilu University of
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China

KEYNOTE SPEAKERS



Professor G. Sudarsanam
Department of Botany
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UK

KEYNOTE SPEAKERS



Dr. N. Zaheer Ahmed
Director General
Central Council for Research in Unani Medicine
Ministry of AYUSH
Government of India



Dr. Deepika Rodrigo
Founder and Owner of Ayurveda Institute UK &
The Ayurvedic Clinic Chairwoman of the
Association of Ayurvedic Professionals
UK

Evidence-Based Traditional Medicine for Planetary Health and Well-being



We are witnessing increasing awareness and interest in traditional, complementary, and integrative medicine (TCIM) for planetary health and well-being. TCIM can be a good source of new ideas for scientific research and help innovation in research, drug discovery, healthy nutrition, mind-body medicine, and nature-based practices. Reverse pharmacology-based drug discovery, development and repurposing can play an important role in offering promising candidates, especially antivirals and immunomodulators. The experiential wisdom of traditional medicine can help provide a holistic and culturally sensitive approach to One Health and integrative healthcare. This lecture will offer a few glimpses of scientific research on Ayush, especially during COVID-19 times in India.

Dr. Bhushan Patwardhan
PhD, FNASc, FAMS
National Research Professor
Ayush and Ram Kumar Rathi Patanjali Yoga
Chair at School of Health Sciences
Savitribai Phule Pune University
INDIA

Cannabis legalization: Opportunities and Challenges



Cannabis legalization has garnered global attention, heralding a panorama of opportunities and challenges. This study comprehensively examines the multifaceted landscape of legalized cannabis, elucidating its benefits and intricacies across diverse sectors. The analysis underscores the diverse opportunities associated with cannabis legalization. Economically, it paves the way for a burgeoning industry, stimulating job creation, tax revenue, and innovative businesses. Medicinally, it facilitates extensive research, enabling scientists to explore its therapeutic potential and interactions with human physiology. Simultaneously, this research acknowledges the emergence of concurrent challenges. Regulatory frameworks must tread a delicate path between access and public health, navigating age restrictions and consumption guidelines. The evolving legal cannabis industry faces challenges of quality control, standardization, and consumer safety. Moreover, the dynamic of cannabis legalization intersects with deeply rooted stigmas and perceptions borne from decades of prohibition. Amidst the evolving landscape of perception and accessibility, this research underscores the urgency of addressing potential THC addiction risks. It highlights the roles of education, vigilant regulation, and robust support mechanisms for individuals seeking help, underscoring the imperative measures to ensure public well-being in the post-legalization era. This study offers a comprehensive exploration of the multidimensional dimensions of cannabis legalization, encapsulating its promises and complexities that collectively shape this transformative global phenomenon.

Prof. Aruna D. Weerasooriya
Professor in Plant Sciences
Research Leader in Cannabis Research Program
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Cutting-edge research returns to the basics of traditional knowledge in treating chronic diseases



The expenditures of trillions of dollars on biomedical research continues to advance our understanding on chronic diseases such as cancer, diabetes, arthritis, and obesity etc., However, there is no single drug has been developed to cure any of those diseases as applicable to general population. Many of the approved drugs effective only within selected patient populations, still with many side effects, and also have skyrocketing prices. For example, the heterogeneity of cancer drug target expressions, presence of drug resisting cancer stem cells, and unique mechanisms that tumors use to evade immune system are some of the major challenges in synthetic drug discovery in cancer. While western medical system mainly based on single targeted drug discovery, medicinal herbs used in traditional treatment systems are being increasingly recognized as useful complementary treatments for cancer, because it brings the perfect combination activity with minimum side effects. The presence of large number of active compounds that work together at low concentrations directly or indirectly targeting cancer cells, and also enhancing immune system, are some of the key mechanisms that brings precise anti-cancer activities here. Furthermore, recent research evidence suggests that chronic stress and other lifestyle habits such as processed food and living patterns with no exercises, critically contribute to the biological maintenance of those chronic disease states. In particular, the mind-body interactions directly impact on epigenetic changes, which simply causes the expression of genes that support maintaining those chronic diseases, while down regulating disease preventative genes. Such complex and powerful biological events occurring under the radar cannot easily be overcome using a single synthetic drug. Unless those root causes are addressed, permanent solutions are far away for those chronic diseases. Fortunately, there are extremely valuable traditional knowledge exists that has understood those fundamental root causes for diseases in treatment designs and practices over thousands of years in human history. Nowadays, many cutting-edge researchers are leaning towards studying, understanding, and exploring those concepts and mechanisms in order to go beyond synthetic drug discovery alone to find permanent solutions for those deadly chronic diseases. These evidence-based research strongly indicates that it is time to integrate

traditional knowledge with modern medical techniques to achieve much improved patient care.

Prof. Gomika Udugamasooriya
University of Houston and MD Anderson Cancer Center
Houston, Texas
USA

Commercial cultivation of Ayurvedic medical plants in hydroponics - The best approach to supply consistent quality of raw materials for Ayurvedic medicine



The increasing demand for many Ayurvedic medicinal species has led to a threat of over harvesting and a decline in their status. Hydroponics cultivation offers a solution to this issue, enabling enhanced production of secondary metabolites in select species when compared to both wild harvesting and traditional soil-based methods. This approach allows for increased yield without disrupting natural habitats. By adopting hydroponic techniques on a commercial scale, we can ensure sustainable access to these Ayurvedic plants and maintain a consistent supply of high-quality raw materials for the Ayurvedic industry. Various hydroponic systems and methodologies are available for cultivating medicinal plants, each presenting its own set of advantages and limitations. Given that medicinal compounds often localize within specific plant organs, it becomes crucial to select hydroponic systems that optimize the yield of desired organs and metabolites. This review paper will cover the establishment of diverse hydroponic systems and their applicability to specific Ayurvedic plants, nutrient management strategies for promoting optimal growth and compound production, and an exploration of the advantages, challenges, and breakthroughs associated with hydroponics cultivation.

G. Sudarsanam
Professor of Botany (Retired)
S.V. University, Tirupati, INDIA
Currently in Seattle,
USA

Molecular pathways of curcumin and clinical implications: What we know now



With cultural integration in Western countries, therapeutic approaches such as Ayurveda have become more widely recognized in the scientific community. Ayurveda has contributed many valuable leads in developing medications for human diseases. According to WHO reports, around 80% of the global population still relies on plant-based medicines. Thus, a systematic study of the molecular signaling of medicinal plants will undoubtedly lead to critical pharmacological targets. Studies using microarray, light and electron microscopy, western blotting, and immunofluorescence assays show that curcumin has the ability to intervene in cell growth-related molecular pathways involving NfKB, TNF, mTORC (mammalian target of rapamycin complex), c-MYC oncogene, and COX-2 making curcumin to be an effective chemotherapeutic drug as well as an antiviral (immunomodulatory) agent against COVID-19.

Priya Weerasinghe, MD, MSc, PhD
Module Director Musculoskeletal and Dermatology,
Co-Director Morphoproteomics Research Laboratory,
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Evidence-based use of *Triphala*



Triphala is a group of three Ayurvedic herbs that are utilized widely in many different pharmaceutical preparations. The textual evidence shows that there are two forms of *Triphala* powder named as *Triphala churna* and *Triphala Rasayana churna* whereas the three ingredients of *Triphala*, *Haritaki* (*Terminalia chebula*), *Vibhitaki* (*Terminalia belarica*) and *Amalaki* (*Phyllanthus emblica*) are mixed in 1:1:1 proportion and 1:2:4 proportion respectively. Sometimes we come across a confusing presentation of the effects on *Dosha* of these two preparations or of *Triphala*. Therefore, this paper will first analyse and discuss the textual evidence available on *Triphala* to get a better understanding of its use.

Triphala is mainly used for skin conditions, gastric hyperacidity, diabetes, eye diseases, reducing fat, detoxification and rejuvenation. Our studies on *Triphala churna*, showed gastroprotective, antioxidant and α -amylase and α -glucosidase inhibitory activities. The study on gastroprotective action was on the effect of pre-treatment of *Triphala* against 70% alcohol administration in rats. The study demonstrated a 90% reduction of gastric inflammation with the treatment of *Triphala*. The study on the antioxidant activity was a comparative chemical analysis of active ingredients in *Triphala* and its components that are known to be responsible in producing the antioxidant effect. A titration method and High-Performance Liquid Chromatography (HPLC) methods were used to determine the Vitamin C and Gallic Acid content. This analysis revealed that gallic acid was found to be the primary active principle in *Triphala* and each of its components. We evaluated the effect of *Triphala rasayana* on the α -amylase inhibition *in vitro*. *Triphala* showed significant inhibition of the enzyme with an IC₅₀ of 1.5 mg/mL. Recent advances in scientific evidence that have established well-known effects, novel uses, and the mechanisms of actions of *Triphala* also will be discussed.

Dr. Palitha Serasinghe
D.A.M.S. (Colombo)
Ph.D. Medicine & Pharmacology (Japan)
Commonwealth Fellow (UK)
PG Cert (Higher Education) (London)

Key Learnings from Two Decades of Ayurveda Research in Germany



Germany has a long and glorious tradition regarding the study of South Asian knowledge traditions in Europe. This is reflected not only by a comparatively high density of Indological university institutes and Sanskrit chairs, but also by a (within the EU) disproportionately high activity in modern transdisciplinary research on traditional South Asian medical systems, including Ayurveda in particular. Essential findings of the lecturer regarding medical Ayurveda research in Germany during the last two decades are the content of this lecture.

Best wishes

Dr. Christian S. Kessler
MA, MSc
Research coordinator and senior physician
Charité – Universitätsmedizin Berlin
Germany

Triphala and Traditional Knowledge for One Health



The Ayush systems of medicine which include Ayurveda, Yoga and Naturopathy, Unani, Siddha, Sowa Rigpa, and Homoeopathy have a very strong foundation of concepts and practices. There is a worldwide resurgence of interest in holistic systems of health care, particularly with respect to the prevention and management of chronic, non-communicable and systemic diseases. Traditional Medicine can certainly play an important role with its cost-effective

remedies for all segments of the population.

The Unani physicians encouraged poly-pharmacy and devised a large number of poly-pharmaceutical recipes that are still in vogue. *Triphala* has been used in Ayurveda as well as Unani Medicine for more than 1000 years. The combination is widely used for maintaining digestive and cardiac health, as a brain tonic for improving memory and eyesight, as well as for healthy hair and skin. In Unani medicine the *Triphala* along with other herbs is used in the preparation of special poly herbal preparations known as *Itrifal*. Several types of *Itrifal* are in use in *Tibb-e-Unani*. They are specifically effective in the treatment of ailments associated with diseases of the brain, eye, nose, and ear. They are a good cure for constipation and are used to strengthen the intestines and stomach.

Traditional medicine is a rich storehouse of such formulas and recipes that can provide a solution to the health problems being faced today by the global community. Rising consumer preferences for natural products and drug-less therapies are one of the key factors driving global demand for Traditional Medicine. There is a need for evidence-based validation of our traditional therapies for their worldwide acceptance. The Central Council for Research in Unani Medicine (CCRUM) is an apex body under the Ministry of Ayush, Government of India to do quality research and development in the area of Unani Medicine. The Council has made significant strides in the area of Research and development of Unani medicine. The details of its activities and achievements will be highlighted in the keynote address.

Dr. N. Zaheer Ahmed
Director General, CCRUM, New Delhi
BUMS (India)
MD (India)
Diploma in Hospital Management (India)

The research on Qilong capsule alleviating the syndrome of stroke using zebrafish model



**He Qiuxia^a, Lin Shenghua^{a,b}, Mo Cailian^{a,b}, Liu Kechun^b,
Liang Huiliang^c, Li Zhen^c, Zhang Sichen^a, Sun Botong^a,
Li Hongliang^a**

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^c. Shandong Jining Huaneng Pharmaceutical Factory, Jining, China.

Qilong capsule (QLC) is a traditional Chinese medicine formula commonly used to treat ischemic stroke (IS). QLC is made of eight kinds of medicinal materials, which is composed of Radix Astragali, Pheretima, Radix Salviae Miltiorrhizae, Radix angelicae Sinensis, Radix Paeoniae Rubra, Ligusticum chuanxiong, safflower, and semen persica. However, the pharmacodynamic mechanism of QLC is still unknown.

Zebrafish model was used to explore the protective mechanism of QLC on Ischemic Stroke. Normally developing zebrafish larvae were treated with QLC and Ponatinib for 2 days post fertilization. Area of cerebral vascular thrombosis, red blood cell staining intensity, and brain cell apoptosis were determined to evaluate the QLC efficacy against ischemic stroke. Evaluation of brain inflammation in zebrafish was assessed through macrophage aggregation and migration. In addition, the effect of QLC was explored on zebrafish angiogenesis. Quantitative polymerase chain reaction (qPCR) was used to detect changes in the expression of genes involved in coagulation, inflammation, vascular endothelium, and apoptosis. QLC reduced the area of Ponatinib-induced cerebral vascular embolism, erythrocyte staining intensity, and the number of apoptotic brain cells. QLC could improve the aggregation and migration of macrophages and significantly promote angiogenesis in zebrafish. qPCR showed that QLC inhibited the expression of genes related to coagulation, inflammation, and apoptosis.

Moreover, the zebrafish model was used to assess the neuroprotective effect of QLC. At 24 hours post-fertilization, embryos were treated with QLC and 1-methyl-4-phenyl-1,2,3,6- tetrahydropyridine (MPTP), and zebrafish were observed for the neuronal length and the number of apoptotic cells in the brain at 72 hours post-fertilization. At 120 hours post-fertilization, zebrafish behavioral tests were conducted. qPCR is used to detect the expression of genes related to autophagy and apoptosis. The results showed that QLC significantly reduced the damage of dopaminergic neurons, and the number of apoptotic cells in the brain, and alleviated

motor disturbances induced by MPTP. The mechanism of QLC activity involved decreased neuron cell death by inhibiting mitochondrial apoptosis and autophagy, promoting autophagy, degradation of alpha-synuclein, and neuron cell growth, and rescuing the function of neurons damaged by MPTP. The results indicated that QLC protected against MPTP-induced neuron injury and provided pharmacological evidence for the clinical use of QLC.

Professor He Qiuxia

**Deputy Director of Science and Technology Service Platform of Qilu University
of Technology**

China

Ayurveda Medicine as a Medical System in the UK: Bridging South Asia with the Western World through Ayurveda



In the United Kingdom, the National Health Service (NHS) has long been the cornerstone of healthcare, providing vital medical services to millions of people. Recent statistics paint a stark picture of the challenges facing the NHS, with increased demand for healthcare services, a shortage of available appointments, and a growing need for quick fixes. However, there is hope on the horizon in the form of Ayurveda, a holistic medical system that offers a unique approach to long-term health and well-being.

Dr. Deepika Rodrigo, the founder of Ayurveda Institute UK and The Ayurvedic Clinic, has been at the forefront of Ayurveda's presence in the UK for nearly three decades. Her expertise and dedication have made her a leading figure in the field, and her talk highlights the potential of Ayurveda as a medical system in the UK.

Health Care systems world-wide faces a significant burden, with soaring costs and millions of patients seeking appointments daily, especially during the winter months. The aftermath of the COVID-19 pandemic has further exacerbated these challenges. Ayurveda steps in as a holistic solution, focusing on personalized long-term health plans that encompass lifestyle, diet, and nutrition. Ayurveda's central concept of doshas, or individual elemental balances, allows for tailored treatments that recognize the uniqueness of each person's constitution. In a world where one-size-fits-all solutions often fall short, Ayurveda provides a refreshing alternative.

Dr. Deepika Rodrigo's Ayurvedic clinic and teaching institute have played a pivotal role in raising awareness about Ayurveda in the UK. Her commitment to staying true to Ayurvedic principles while adapting to the cultural and geographical diversity of the UK population has set a benchmark for the practice. Ayurveda emphasizes the importance of considering factors like Janma (birth), Desha (location), Kala (time), Dosha (elemental balance), and Prakurthi (constitution), and Dr. Deepika's approach reflects this by catering Ayurvedic treatments to the cosmopolitan society of the UK.

The future of Ayurveda in the UK is promising, with graduates from Ayurveda Institute UK poised to become ambassadors of this ancient system worldwide. This opens new opportunities for collaboration between Ayurvedic practitioners from South Asia and the Western world, sharing valuable knowledge and treatment approaches. Ayurveda's time-tested remedies, adapted to the Western market, hold immense potential for both practitioners and product manufacturers, creating a bridge between the rich heritage of Ayurveda and the evolving healthcare landscape in the UK.

In conclusion, Dr. Deepika Rodrigo's talk highlights Ayurveda as a complementary healthcare system that can provide individuals with holistic, personalised, and

sustainable health solutions. As Ayurveda continues to gain recognition and practitioners graduate to spread its wisdom, it offers a brighter future for healthcare in the UK and beyond.

Dr. Deepika Rodrigo

Founder and Owner of Ayurveda Institute UK & The Ayurvedic Clinic

Chairwoman of the Association of Ayurvedic Professionals

UK

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Abstracts

ANTIOXIDANT POTENTIALS OF *PHALATRIKADI KWATHA* USED IN *YAKRUT ROGA* WSR TO FATTY LIVER DISEASE

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Fatty liver disease is a condition denoted under *Yakrut roga* in Ayurveda, characterized by the accumulation of excess fat in the liver cells. There are two main types, Alcoholic fatty liver disease and non-alcoholic fatty liver disease. Antioxidants play a beneficial role in protecting the liver from various forms of damage caused by *Yakrut roga*, including Fatty liver disease. Both oxidative stress and inflammation are known to contribute to its development and progression. Oxidative stress occurs when there is an imbalance between the production of reactive oxygen species and the body's ability to detoxify them. Antioxidants help to combat oxidative stress by neutralizing reactive oxygen species. In Ayurveda, *Phalatrikadi kwatha* is specially mentioned for the *Yakrut roga* and the formula consists of a variety of plant-based ingredients. Within this scenario, the present study was designed to investigate the antioxidant potential of *Phalatrikadi kwatha* by using *in vitro* assays [Total polyphenolic content, total flavonoid content], 1,1-diphenyl-2-picryl hydrazyl, 2,2-azino-bis-(3-ethylbenzothiazoline-6-sulfonic acid) diammonium salt and oxygen radical absorbance capacity]. Total polyphenolic content and total flavonoid content of *Phalatrikadi kawtha* were 1.311+ 0.055 mg gallic equivalents/g of the drug and 0.026+0.001 mg quercetin equivalents/g of the drug respectively. IC₅₀ values for DPPH, ABST and ORAC were 8.01+ 0.33 µg/ml, 6.24+ 0.03 µg/ml and 97.19 + 0.61mg Trolox equivalents/g of drug respectively. Thus, can conclude that the *Phalatrikadi kwatha* comprised significant antioxidant activity and it is a very successful treatment for *Yakrut roga* wsr to fatty liver disease.

Keywords: Liver diseases, Ayurveda, Antioxidant, *Phalatrikadi kwatha*, Fatty liver disease

AN ANALYSIS OF THE DIVERSITY OF AYURVEDIC MEDICATIONS USED FOR COVID-19 PATIENTS UNDER HOME-BASED MANAGEMENT

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During the COVID-19 pandemic, traditional medicines were popular and used for COVID-19 at domestic and hospital levels. The objective of this study was to analyze the diversity of Ayurvedic medicines used in a longitudinal study, based on observational analysis, conducted on 1369 asymptomatic to severely symptomatic patients who were positive for SARS-CoV-2 on RT-PCR in the Bibila *Pradeshiya Sabha*. The sample was female predominance (52.6%) with a mean age of 33 years while males were 34 years old. The total treatment regimen period was 21 days. Among the total number of prescribed medicines, there were 18 internal medicines that include powders (8), pills (5), pastes (3), decoctions (2), and 7 external medicines, given according to the patient's condition. *Talisa*, *Sudarshana*, *Suvadarani*, *Sitophala* powders, *Sitarama*, *Svasa kutara*, *Mrutunjaya*, *Triphala* pills, *Navaratna kalkaya*, *Peyava* are administered as internal medicines and *Tambum hodi*, coriander-ginger infusion, and *Rasam* were given as homemade supportive foods for relevant symptoms. For other associated conditions, *Sukumara*, *Rasna* powders, *Gokshura* pills, *Nirgundi*, *Kolashleṣma*, *Sarvaviṣadi* oils, *Desadun kalkaya*, *Cyavana prashava leha*, were prescribed. *Talisadi* powder has the highest percentage of utility (55.73%). The second highest utility (51.41%) was recorded with *Sudarshana* powder and *Suvadarani* powder was ranked in third place (40.71%) respectively. As per results, *Zingiber officinale*, *Piper nigrum*, *Piper longum* and *Coriandrum sativum* were the top ranked ingredients in all commonly used preparations that demonstrated higher antiviral properties. They are proven to be blocking agents of ACE2 and GPR 78 receptors in epithelial cells to terminate the receptor-binding domain section of SARS-CoV-2 according to recent research findings. Therefore, the administration of medications with a higher diversity has demonstrated a substantial effect on reducing illness severity in a heterogeneous group. These findings can be practically applied in developing a better treatment regimen in the management of COVID-19 and similar infections in the future.

Keywords: COVID-19, Traditional medicines, Home-based management, Utility

EFFECTIVENESS OF *SIRAVYADHA* IN THE MANAGEMENT OF *PADADARI*: A CASE SERIES

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Padadari, fissures in the sole of feet arise due to the derangement of aggravated *Vata* which is a very common disease with the cardinal symptoms of cracked heels with roughness, dryness, and pain. The habit of walking long distances often with bare foot is the main etiological factor stated in Ayurveda and Institute for Preventive Foot Health enumerates that the prevalence is more than 50% in women than men. *Siravyadha* is recommended as an effective treatment of *Padadari* in Ayurveda. It is the prime technique of expulsion of vitiated blood from the body. In the present study, aim was made to determine the effectiveness of *Siravyadha* in the management of *Padadari*. The patients were selected from the O.P.D. of Gampaha Wickramarachchi University of Indigenous Medicine and Ayurveda central dispensary at Udamadura. Total of 40 patients of *Padadari* were selected from the clinic and divided in two groups randomly as group A and group B. Patients for each group was 20. Group A patients were treated with *Siravyadha* treatment, above two *Angula* of *Kshipramarma* in the affected leg and group B were treated *Pada abhyanga* with *Pinda* oil. Data was analyzed by using Wilcoxon sign rank test and Mann – Whitney U test of SPSS software. The symptoms of cracked size, number of cracks, roughness, itching, and pain were assessed before and after the treatments. *Siravyadha* administered for group A, is statistically highly significant ($p < 0.0001$) on pain and statistically significant results on other symptoms. In group B, the reduction was statistically insignificant on all symptoms. By *Siravyadha*, vitiated blood is removed from the cracked heel and it leads to reduce the imbalance of *Vata dosha* which is aggravated in foot. As conclusion it was proved that the *Siravyadha* treatment is more effective than *Pada abhyanga* in the treatment of *Padadari*.

Keywords: *Siravyadha*, *Kshipramarma*, *Abhyanga*, *Padadari*, Cracked heel

ROLE OF *KSHEERA DHOOMA* AND *NASYA* IN THE MANAGEMENT OF *ARDHITA* (BELL'S PALSY): AN OBSERVATIONAL STUDY

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Ardhita is one of the neurological conditions explained in Ayurveda associated with the imbalance of *Vata dosha* which refers to facial paralysis or Bell's palsy in modern medicine. The present observational study was carried out to evaluate the effectiveness of *Ksheera dhooma* (Medicated fumigation with milk) and *Nasya* (Nasal administration of medicated oil) in the management of *Ardhita*. The study focused on a 41-year-old male patient diagnosed as *Ardhita* presented at the Indoor Patients Department, Ayurveda Teaching Hospital- Borella, Sri Lanka with left-side weakness on the face for two weeks. The study was a single case study. Before the commencement of the treatment, written consent was obtained and all the clinical findings were recorded including the level of watering from the left eye, widening of the palpable aperture, absence of the nasolabial fold, ability to wrinkling the left forehead, and raising the left eyebrow, smiling sign, slurring of speech, dribbling of saliva from the left corner of the mouth, trapping of the food between the gum and cheeks, and earache. The treatment regimen consisted of *Shad bindu tailya nasya* followed by the application of *Ksheera bala* oil on the face and *Ksheera dhooma* externally for 21 days without internal drugs. The House – Brackman facial nerve grading system was used to assess the clinical features before and after the treatment. The result showed significant improvement in motor functions and asymmetry of face. After the treatment gradation improved from grade 4 to grade 1. Based on the results, the study concluded that comprehensive management with *Nasya*, *Abyanga* and *Ksheera dhooma* is effective in managing *Ardhita roga*. However, the study also suggests that further research with larger sample sizes is recommended to better understand the effectiveness of the treatment protocol.

Keywords: *Ardhita*, Bell's palsy, *Nasya*, *Ksheera dhooma*

**TREATMENT OF AMBLYOPIA WITH REFERENCE TO *TIMIRA* WITH *TRIPHALA CHURNA* EYE WASH AND *MAHATRIPHALADI GHRITA TARPANA*:
A SINGLE CASE STUDY**

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Amblyopia refers to a partial reversible loss of vision in one or both eyes, for which no cause can be found by physical examination of eye, i.e., there is absence of any organic diseases of ocular media, retina and visual pathway. Reduction in visual acuity, crowding phenomenon, no change in visual acuity with a neutral density filter, unaffected color vision and eccentric fixation are the main characteristics of amblyopia. Amblyopia has mainly 4 types. In Ayurveda *Timira* is the broad term given to the decrease in the visual acuity of single or both eyes. The severity of *Timira* depends on the involvement of different *Patala* and *Dosha*. In Ayurveda, a direct explanation for amblyopia was not found but clinical correlation can be made with *Vataja timira*. More than that, Meticulous management plan explained with Clinically and diagnostically different Ayurvedic principles clearly. In Ayurveda the management of *Timira* is divided into three stages; Precaution and prevention, oral medicines and therapy. Therapy includes *Netraparisheka* (eye wash with medicated water), *Tarpana* (ponding of medicated ghee over eyes), *Putapaka* (ponding of specially prepared ghee which includes meat over eyes), *Nasya* (nasal drop instillation after *Snehan* and *Swedan*), *Anjana* etc. Hence, this case study was carried out in 15 years old male patient who was attended National Institute of Ayurveda, Jaipur, India, with the diagnosis of Amblyopia, For this patient has given a series of Ayurvedic intervention which includes Eye exercise, *Nasya* with *Ksheerabala* 101 oil, Eye wash with *Triphala churna* and *Tarpana* with *Mahatrichaladi ghruta* for 4 months of follow ups. With the series of Ayurvedic treatment, patient has significant improvement in the distant vision from 4/60 to the 6/12 in right eye and from 6/12(P) to the 6/6(P) in left eye. *Nasya* with *Ksheerbala taila* (101), promotes the performance of the *Indriya* (*Chakshurendriya*). Due to the *Balya* and *Brimhana* qualities of the medicine included in it, *Ksheerbala taila* reduces nerve irritation, encourages its regeneration, and improves muscle strength. This is done by through the *Sheeta* property of the herb.

Keywords: Amblyopia, *Timira*, *Nasya*, *Tarpana*, *Ksheerabala taila*

AFTER-EFFECTS OF COVID-19 VACCINATION AND THE INCIDENCE OF COVID INFECTION AMONG THE VACCINATED INDIVIDUALS IN SRI LANKA: A CROSS-SECTIONAL SURVEY

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The COVID-19 pandemic's devastating impact on humanity has led to a significant death toll. Vaccination has historically been effective in controlling deadly infections like smallpox and polio. With the rapid development of COVID-19 vaccines, concerns about safety and post-marketing monitoring arise. This study aims to evaluate the after-effects of COVID-19 vaccination and the incidence and severity of COVID-19 infection among vaccinated individuals. The questionnaire included open-ended and close-ended questions and was formulated in Tamil, Sinhala, and English to gather information through an online platform. Additionally, Ethics Review Committee approval has been obtained for the implementation of the survey. The survey garnered responses from 352 participants, with 25.3% being male and 74.7% female. The majority of participants (69.2%) fell within the age range of 20 to 29 years. Moreover, 79.3% of respondents had at least a diploma level of education. Notably, approximately 92.1% reported having no prior COVID-19 infection before vaccination. In addition, 52.1% of participants expressed fear towards receiving the vaccination. The preferred vaccinations were Pfizer and AstraZeneca; however, SinoPharm had 63.5% and Pfizer had 33.9% of participants who received them, respectively. Additionally, an overwhelming majority (94.2%) received more than one dose of the vaccine. Encouragingly, 48.9% reported no post-vaccination symptoms. However, 47% experienced mild to moderate symptoms, while 4.1% reported severe symptoms. 15.2% of vaccinated individuals contracted COVID-19 infection after receiving the vaccination. The survey provided vital insights into participants' vaccination experiences, contributing valuable information to the study.

Keywords: COVID-19, Vaccination, Survey, After-effects

**PATIENTS' PERCEPTIONS OF CLINICAL AND NON-CLINICAL SUPPORT IN
COPING WITH CKD: A PHENOMENOLOGICAL STUDY**

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Chronic kidney disease has been recognized as a burdensome health problem globally and that makes chronic kidney disease patients suffer not only physically, but psychologically, socially and financially. Although there has been an increase in the number of chronic kidney disease patients in Sri Lanka during the last few decades, no sufficient scholarly attention has been paid to the patients' experience and their perception clinical and non-clinical support thereof. The aim of this qualitative study was to explore these perceptions of patients and to attempt to fill the deficiency of knowledge. Chronic kidney disease group III-V patients from nephrology clinics in Sri Lanka were the target population and 20 patients were selected under purposive sampling method from several districts. Semi-structured interviews were the main data collection method while the phenomenological data were analyzed following thematic analysis. The Ethics Review Committee approval was given by Sabaragamuwa University of Sri Lanka; Ref-ERC/FOM-SUSL/2021-D-07-10. The clinical and non-clinical relationships are the two themes resulted from the interpretation of perception of the patients. Patients distinguished between the doctors who encouraged them and those who did not. Also perceived the differences between kind and unkind health workers. When it comes to support from those close to them, they prefer to receive it from those who motivate or collaborate or understand them. Perceptions of being a nuisance, self-esteem, and fear of asking for help are factors that influenced the patients' reluctance to get support. Patients also perceived rejection when expecting support from others. The study identified that a good rapport of the doctor-patient relationship and the role of the spouse, were of paramount importance when coping with the disease. Further, the support received from peers were insignificant but not expected when coping with the disease. Moreover, the study identified shortcomings in current healthcare delivery and its mismatch with patient expectations. Therefore, healthcare systems can use the results of this research to improve healthcare delivery in Sri Lanka.

Keywords: Patient perceptions, Clinical perceptions, Non-clinical perceptions, Patient expectations.

IN-VITRO ANTI-UROLITHIC (*MUTRA ASHMARIBHEDANA*) ACTIVITY OF *VARUNA* (*Crateva adansonii* DC) STEM BARK DECOCTION

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The recurrence rate of urolithiasis is relatively high in the modern society. Ayurveda describes urolithiasis under the heading *Mutrashmari*. Many single and poly-herbal formulations used for *Mutra ashmaribhedana* (anti-urolithic) action are mentioned in Ayurveda authentic texts. Among them *Varuna* (*Crateva adansonii* DC) is considered as one of the best litholytic herb. According to the text Chakradaththa, *Varuna twak* (stem bark) decoction is effective in the treatment of *Mutrashmari*. This study was designed to evaluate *in-vitro* anti-urolithic activity of the *Varuna twak* decoction using titrimetric method and to develop standardization parameters. The freeze-dried extract was prepared from *Varuna twak* decoction. Calcium Oxalate crystals were prepared artificially by homogenous precipitation method to assess anti-urolithic activity. *In-vitro* dissolution models were prepared using semi-permeable egg membranes. Dissolution models containing Calcium Oxalate (5mg) and different concentrations of freeze-dried extract (15mg, 25mg, 35mg) were suspended separately in conical flasks containing 100ml of 0.1M tris-buffer solution. All were kept in the hot air oven for 7-8 hours preheated to 370C for 2 hours. Dissolution percentage of Calcium Oxalate in each setup was evaluated by titrimetry with $KMnO_4$ and dissolution percentage increased when the concentration of the extract increased. The highest dissolution percentage (75.9%) was shown by extract at 35mg concentration. Parameters of standardization like foreign matter content (2%), total ash (9.88%), acid-insoluble (1.32%) & water-soluble ash (4.45%), alcohol-soluble (1.3%) & water-soluble extractive value (10.5%), loss on drying (10.66%), swelling index (7ml) and foaming index (<1000) were determined for the raw material and pH (6.80) and density (0.99799 g/cm³) were determined for the decoction. Alkaloids, saponins, tannins, flavonoids, steroids, glycosides and proteins were positive in the freeze-dried extract. Thin Layer Chromatogram (Butanol: Dichloro-methane: Water 4:1:5 v/v) showed 03 Rf values (0.42, 0.67, 0.83) for the freeze-dried extract. The results revealed that this decoction can be used as an effective and quality drug preparation to treat *Mutrashmari*.

Keywords: *Varuna twak* decoction, Anti-urolithic, Titrimetry, Freeze-dried extract, Standardization

**SURVEY ON TRADITIONAL HERBAL FORMULAE USED IN *TAMAKA SHVASA*:
A LITERATURE REVIEW**

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The vitality of the human body depends on respiration which can be disrupted by a disease called *Tamaka shvasa*; which correlates to Bronchial Asthma in allopathic medicine. In addition to Ayurveda and Allopathic medicine, Indigenous medical system of Sri Lanka plays an important role in effectively managing *Tamaka shvasa*. This study aimed to identify the most commonly used herbal ingredients in traditional formulae and analyze their pharmacodynamic potentials. The content of this study was gathered by referring to authentic Ayurvedic texts, related research studies and by studying thirty volumes of randomly selected *Khanḍa Vaidya Grantha*. The majority of herbal ingredients used in the formulae were selected and their Ayurveda pharmacodynamic properties were determined based on the Ayurveda pharmacopoeia and other relevant books on Ayurveda. The Collected data was analyzed by percentage. As results of the study revealed one hundred and twenty-one formulae, including sixty *Pana*, eighteen *Leha*, seventeen *Kaṣaya*, thirteen *Guli*, two *Kalka*, seven *Curṇa*, one *Nasya*, one *Taila*, three *Alepa* and one *His gelvum*. The majority of used herbal ingredients were found to have predominantly *Tikta* (32.65%) and *Kaṭu rasa* (30.95%), *Laghu* (36%), *Rukṣa guṇa* (28%), *Ushna virya* (65%), *Katu vipaka* (71%) and *Kapha-Vata shamaka* action (45%). *Tamaka shvasa* is considered *Kapha, Vata* disorder. The presence of *Kaṭu* and *Tikta rasa* helps alleviate excessive *Kapha dosha*, while *Madhura rasa* (15%) pacifies *Vata Dosha* and promotes *Vata anulomana* action. *Laghu, Rukṣa guṇa* provide *Srotas shodhana* action, *Ushna virya* alleviates *Kapha-Vata dosha* and *Katu vipaka* pacifies excessive *Kapha dosha*. Based on this study, traditional practitioners have utilized herbal ingredients with these pharmacological properties in effectively managing *Tamaka shvasa* in accordance with fundamental principles of Ayurveda and this will greatly benefit physicians and aspiring practitioners of Ayurveda and traditional medicine who are eager to discover effective remedies for managing *Tamaka shvasa*.

Keywords: *Tamaka shvasa*, pharmacodynamic, *Khanḍa Vaidya Grantha*

ASSESSMENT OF ANTIOXIDANT POTENTIAL OF METHANOL AND AQUEOUS EXTRACTS OF UNANI POLYHERBAL MOUTHWASH USING TOTAL PHENOLIC CONTENT, DPPH, AND TEAC ASSAYS

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The Unani polyherbal mouthwash had been extensively used in the Unani system of medicine and is claimed to have anti-periodontopathic effects. However, there is no scientific evidence for its validation. The objective of the present study was to investigate the antioxidant effect of the aqueous extracts and methanol extract of the Unani polyherbal mouthwash. 2,2-Diphenyl-2-picrylhydrazyl Hydrate (DPPH), Trolox Equivalent Antioxidant Capacity assay (TEAC), and Total Phenolic Count (TPC) assays were used to assess the antioxidant potential of the Unani polyherbal mouthwash. The DPPH and TEAC assay dilutions series (3.13, 6.25, 12.5, 25, 50, and 100 µg/mL) were prepared by aqueous and methanol extracts of the Unani polyherbal mouthwash. Butylated Hydroxy Toluene (BHT) was used as the standard in DPPH and TEAC assays. In the TPC assay, the working standards of different concentrations of Gallic acid were prepared by diluting the stock solution with the appropriate amount of distilled water to plot the standard calibration curve. The results showed that the DPPH and TEAC assays IC_{50} values of both extracts of the Unani polyherbal mouthwash were not significantly different ($p < 0.05$) with the percentage inhibition of the standard BHT. IC_{50} of DPPH (BHT $6.98 \pm 1.59 \mu\text{g/mL}$, aqueous extracts $10.03 \pm 0.59 \mu\text{g/mL}$, methanol extract $11.36 \pm 0.15 \mu\text{g/mL}$) and TEAC (BHT $7.10 \pm 1.69 \mu\text{g/mL}$, aqueous extracts $3.89 \pm 0.40 \mu\text{g/mL}$, methanol extract $4.43 \pm 0.17 \mu\text{g/mL}$). The average Total Phenolic Count of methanol and aqueous extracts were 2.16 mg/g and 1.21 mg / g respectively. Hence, the Unani polyherbal mouthwash can be used for preventing periodontitis as it possesses a substantial amount of antioxidant potential.

Keywords: Antioxidants, Periodontitis, Unani Polyherbal Mouthwash.

EVALUATION OF THE THERAPEUTIC EFFICACY OF AYURVEDA HERBAL FORMULATIONS IN LOWERING SERUM CREATININE LEVELS AMONG CHRONIC KIDNEY DISEASE PATIENTS IN MAHIYANGANA REGION, SRI LANKA

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Chronic kidney disease is a prevalent health issue in the Mahiyangana region of Sri Lanka. This study aimed to assess the effectiveness of specific Ayurveda herbal formulations in reducing serum creatinine levels among chronic kidney disease patients in outpatient department of the Bathalayaya Rural Ayurveda Hospital during the period from January 2019 to March 2019. A prospective research study was conducted involving 30 chronic kidney disease patients who received Ayurveda treatment at the Bathalayaya Hospital. The patients were administered a combination of Ayurveda herbal formulations, consisting of *Navarathana kalka* 2.5g twice daily, *Panchamooli lagudrakshadi kasaya* 120ml twice daily and *Triphala choorna* 5g at night, over a period of three months. Patients below 45 years and above 80 years and those with uncontrolled diabetes or hypertension were excluded. Serum creatinine levels were measured at the beginning (baseline) and at the end of the treatment period. Statistical analysis was performed to determine the significance of the changes in serum creatinine levels. The study demonstrated a remarkable reduction in serum creatinine levels among the chronic kidney disease patients who received the above treatment. The mean baseline serum creatinine level was 3.07 mg/dL, indicative of impaired renal function. Following the three-month treatment period, a statistically significant reduction in mean serum creatinine levels was observed through a paired sample t-test ($p < 0.001$). This study provides evidence supporting the therapeutic benefits of Ayurveda herbal formulations, including *Navarathana kalka*, *Panchamooli lagudrakshadi kasaya*, and *Triphala choorna*, in reducing serum creatinine levels among select chronic kidney disease patients. However, further research with larger sample sizes, longer follow-up periods, and controlled study designs is necessary to establish the long-term efficacy, safety, and optimal dosage of these Ayurveda treatments.

Keywords: Chronic kidney disease, Creatinine level, Ayurveda formulations

EFFICACY OF *RASNA PANCHAKA KWATHA* WITH *MURUNGADI LEPA* LOCAL APPLICATION IN THE MANAGEMENT OF *AMAVATA* (RHEUMATOID ARTHRITIS): A CASE STUDY

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Amavata is a systemic disorder that affects food digestion and develops clinical features on joints in the advanced stage of the disease. *Ama* and *Vata* are the chief pathogenic factors responsible for this disease. The disease occurs in the *Madhyama rogamarga*, *Asthi* and *Sandhi* are the chief sites of the disease and cardinal symptoms are pain, swelling, and stiffness of the joints. Based on clinical symptoms, it may be correlated with Rheumatoid Arthritis in modern texts. In the present case, a female patient aged 45 years with a history of pain and morning stiffness in multiple joints for one year, swelling in both hand and wrist joints for 2 months, and intermittent low-grade fever for 2 months and also *Angamarda*, *Thrushna*, *Alasya*, *Gurava*, *Apaka*, *Bahu mutrata* with *Alpanidrata* for 2 months was attended to the Out Patients Department, Ayurveda Teaching Hospital, Borella, Sri Lanka. Complete history and clinical evaluation led to the diagnosis of *Aamavata*. The diagnostic criteria of *Amavata* are based on signs and symptoms according to Ayurveda and of Rheumatoid arthritis based on ACR/ EULAR classification criteria 2010. Considering the signs and symptoms, the patient was treated with *Rasna panchaka kwatha* with *Murungadi lepa* (local application) for 14 days. After the treatment, joint pain (50%), stiffness (50%), *Angamarda* (75%), *Aruchi* (50%), *Trushna* (100%), *Alasya* (75%), *Jwara* (75%), *Apaka* (50%) were reduced significantly whereas joint swelling is unchanged. The Rheumatoid factor and Erythrocyte Sedimentation Rate were reduced by up to 65%. There was no side effect observed during and after the treatment. Therapy gives significant relief in symptoms of *Aamavata*. Therefore, it is concluded that *Rasna panchaka kwatha* with *Murungadi lepa* is effective in *Amavata*. However, further research with larger sample sizes, and longer follow-up periods is necessary to establish the long-term efficacy of these Ayurveda treatments.

Keywords: *Amavata*, *Ama*, Rheumatoid arthritis, *Rasna panchaka kwatha*, *Murungadi lepa*

MANAGEMENT OF VATAJA PRATISHYAYA WITH SHADBINDU TAILA AND BALA TAILA NASYA W.S.R TO ALLERGIC RHINITIS: A SINGLE CASE STUDY

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Vataja pratishyaya is one of the most common *Urdvajathrugata vikara* (diseases above clavicle) which is clinically presented with *Anaddha nasa* (nasal obstruction), *tanusrava* (thin, watery discharge per nose), *bhrisha kshava* (excessive sneezing), *Shirovyatha* (headache), *Pihita nasa* (stuffy nose), *Swaropaghata* (changes in voice) and *Chirapaka* (chronic perpetuation). Due to similarities in the symptoms of the disease, it is compared with Allergic Rhinitis. Objectives of this the the study the effect of *Sodhana* (Purificatory) and *Brimhana* (Nourishing) *Nasya* in Allergic Rhinitis. A 32 years old female patient presented in Out Patient Department with complaints of watery discharge per nose, multiple episodes of per day sneezing, nasal itching and occasional nasal obstruction. She had known allergy to dust, smoke and seasonal variations. She was already diagnosed as case of Allergic Rhinitis for 8 years. A single sitting of *Shodhana nasya* with *Shadbindu taila* and 4 sittings of *Brimhana nasya* with *Bala taila* was given. Total duration of intervention was 45 days with follow up of 28 days. Treatment was planned considering the symptoms, *Shadbindu taila* facilitates cleansing of nasal mucosa and *Bala taila* pacified the aggravated *Vata dosha* along with *Kapha dosha* of *Pratishyaya*. *Nasya* are found safe and significantly reduced rhinorrhea, sneezing, nasal obstruction and nasal itching. It was concluded that the utmost drugs and procedure has been found to stimulate higher centers of brain, increases vasodilation, pacifies doshas and results in reduction of symptoms of *Vataja pratishyaya*. The improvement remained steady even after four weeks of the completion of treatment. This shows the efficacy and long-term benefits of the treatment.

Keywords: *Vataja pratishyaya, Nasya, Allergic Rhinitis, Shadbindu Taila, Bala taila*

**IMPACT ON CONSUMPTION OF HERBAL PORRIDGE AMONG SCHOOL STUDENTS
TO PREVENT MALNUTRITION IN JAFFNA DISTRICT**

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In the current scenario, malnutrition is one of the major problems in Sri Lanka due to economic crisis of the country. Therefore, parents should be aware the diet pattern of their children. Parents should ensure whether their kids consume balance diet or not every day. Otherwise, they will face many health crises such as malnutrition, decreased immune condition and developmental delay also. In order to give good balance diet to children we introduce many varieties of healthy traditional foods such as herbal porridge, "*Vallarai thoothuvalai saththu maa*" and "*Ellu paaku*". Main objective of this study is to provide good nutritional status among school going children through traditional food. The study was conducted in selected schools in Sandilipay Divisional Secretariat, Jaffna District from 2019 to 2020. A stratified sampling method was used to get sample from population. 4 years to 10 years old 324 students were selected for the sampling. The study considered schools that only provided herbal porridge. Malnutrition students in the selected schools were identified using Body Mass Index. Then herbal porridge was provided during the school days. Body Mass Index was calculated every month. This study reveals, there is a relationship between consumption of herbal porridge and Body Mass Index in correlation analysis. The study is statistically significant in ordinary least square regression model in regression analysis because p value is < 0.05. Therefore, consumption of herbal porridge gives a significant impact on malnutrition. It helps to maintain the Body Mass Index in good condition and prevent malnutrition among children.

Keywords: Herbal porridge, Malnutrition, Prevent

**MANAGEMENT OF MENOPAUSAL SYNDROME THROUGH YOGA:
A NARRATIVE VIEW**

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In the modern era, most of the women are focusing on Siddha yoga aspects to overcome the lifestyle disorders. Objective of the study is to systematically review and analyse the effectiveness of yoga for menopausal syndrome and effectiveness of particular *Asana* in Yoga. The major menopausal syndrome can be categorized as psychological symptoms, somatic symptoms, vasomotor symptoms and urogenital symptoms. The effect of many yoga *Asanas* in these symptoms were analyzed and reviewed. Abstracts identified during literature search were screened, and the full articles of important studies were selected. The already determined inclusion criteria were used to select the articles. Menopausal problems are the most common and underrated gynaecological disorders affecting women, although the symptoms and impact varies greatly. The English language literature published until 2023 was searched across databases such as Pubmed, Google scholar and Scopus. 'Yoga' and 'Menopause' were used as keywords for the search across several databases. A total of 120 title searches were carried out. This review article included 10 studies based on the selection criteria. The studies examined the impact of a varied set of 39 *Asana* on various menopausal symptoms. The studies demonstrated a significant relief in menopausal symptoms among those who practiced *Yogasana* with relief from discomfort and reduced stress levels. Regulating the stress pathways through Yoga was found to be a key in regulating hormonal imbalance and reduction in the discomforts. From our conclusions we found that more rigorous researches are scientifically needed to prove the efficacy of each and every *Asana* in the management of menopausal syndrome in the light of the Siddha perspectives.

Keywords: Siddha, *Asanas*, Menopause, Symptoms

**EVALUATION OF THE ANTI-INFLAMMATORY EFFECT OF *LOKANATHA RASA*:
A MERCURIAL PREPARATION IN AYURVEDA RASA SHAstra**

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Rasa shastra is a prominent branch of Ayurveda pharmaceuticals, where Mercury stands as the primary material of significance. Pharmaceutical formulations utilizing Mercury are termed *Rasaushadies*, renowned for their superiority owing to their quick efficacy, low dosages, and absence of an unpleasant taste. *Lokanatha rasa* holds paramount importance as a potent remedy for liver, and spleen disorders, and edema conditions. This study aimed to conduct an *in vitro* evaluation of the anti-inflammatory potential of self-prepared *Lokanatha rasa* by assessing its effect on hypotonicity-induced lysis of Human Red Blood Cells. For comparison, Diclofenac sodium was used as a positive control. The degree of membrane stabilization was determined at various concentrations of *Lokanatha rasa*. Notably, the *Lokanatha rasa* solution exhibited a maximum membrane stabilization of 79.52% at a concentration (dose) of 500µg/mL, thereby indicating promising anti-inflammatory activity in a concentration-dependent manner.

Keywords: *Lokanatha rasa*, *Rasaushadie*, Anti-inflammatory, Human red bloodcells membrane stabilization

**EFFICACY OF AN AYURVEDIC INTERVENTION IN THE MANAGEMENT OF
ARDHAVABHEDAKA (MIGRAINE): A CASE REPORT**

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Ardhavabhedaka is a *Shiroroga* (disease of head) among 11 types of *Shiroroga* according to Acharya Susruta. *Ardhavabhedaka* occurs due to vitiation of *Tridosha*. *Ardhavabhedaka* can be correlated with Migraine due to its cardinal feature 'half sided headache' and also due to its spasmodic nature. Migraine is an episodic headache that can cause severe throbbing pain or a pulsing sensation. It is often accompanied by nausea, vomiting, and extreme sensitivity to light and sound. The current best estimate of global migraine prevalence is 14–15% according to World Health Organization. Modern science enforces several medications to manage migraine and additionally, these drugs have many adverse effects. These treatments have symptomatic relief only. There are many effective and simple remedies for *Ardhavabhedaka* without side effects mentioned in Ayurvedic and traditional medical books in Sri Lanka. 36 years old female patient presented in the *Shalakyia Tantra* Out Patient Department of National Ayurveda Teaching Hospital, Colombo. She had a known history of migraine headache for 14 years. She had the migraine attack before every menstruation for 2 days period with regular menstrual periods. She presented right side severe headache with complaining aura, nausea, vomiting, photophobia and anorexia. The patient was treated for 14 days and followed for another 4 weeks. This treatment regimen was found from Sri Lankan Traditional Medical book '*Talpathe Piliyam*'. *Siddhiguruadi kashaya* (Decoction) was given for continuous 14 days. *Kuppameniya nasya karma* (Errhine therapy) was done for continuous first 7 days. Before *Nasya karma*, *Pottani sweda* (Bolus fomentation) was done. After *Nasya karma*, *Dhuma pana* (Medicated smoking) was given with powdered dry herbal drugs. The subject did not complain headache for continuous 2 times before menstruation. Other symptoms also were completely cured. It was decided that the selected treatment regimen was effective. However, further research with larger sample sizes, longer follow-up periods is necessary to establish the long-term efficacy of these Ayurveda treatments.

Keywords: *Ardhavabhedaka, Dhuma pana, Kashaya, Migraine, Nasya*

**A SURVEY ON FRESH HERBS USED FOR TREATING THE DISEASES OF CHILDREN
BY TRADITIONAL PRACTITIONERS IN JAFFNA DISTRICT, SRI LANKA**

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Due to their vast experiences, most of the people in the Jaffna District seek traditional herbal treatment for their children. Traditional practitioners have their own formulae for the preparation of certain medicines. They have preserved them as their family secrets. These formulae are being handed over to their generations. The aim of this survey was to document the information concerning medicinal plants used for treating the diseases of children by traditional practitioners. This is a Cross-sectional descriptive study. Traditional practitioners were interviewed by using questionnaires and open conversations to collect the data. 98 Traditional Doctors were interviewed in Jaffna District. This study revealed that 95 types of herbs used for treating different diseases of children by Traditional practitioners. Among the 95 plants 23(24%) were trees, 57 (60 %) were herbs and shrubs, 13 (14 %) were climbers and creepers and 2 (2 %) were grasses. Most commonly used plants were *Anisochilus garnosus*, *Clitori aternatea*, *Ocinum sanctum*, *Azhadirachta indica*, *Justicia adhatoda*, *Terminalia chebula*, *Acalypha indica*, *Zizyphus jujube*, *Bacopa monniera* and *Punica granatum*. Part use was the leaf 49% (48) and the juice 33% (32), decoction 48% (47) and oil 65% (64) were the most common prepared drugs in the diseases of children. Preparations of medicines from these plants are simple. They are easily available and economical because collected from their surroundings. Pharmacological actions of the most these plants are correlated with Siddha pharmacology. It is required for scientific study to confirm the efficacy and safety of the above herbs.

Key words: Fresh herbs, Traditional practitioner, Medicine, Diseases of children, Alternative Medicine

SNAKE BITE MANAGEMENT OF TRADITIONAL MEDICAL PRACTITIONERS IN ANURADHAPURA DISTRICT SRI LANKA: AN OBSERVATIONAL STUDY

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Snakebite is a neglected tropical disease that primarily affects rural communities in tropical regions of Asia. According to Ediriweera, among 165,665 individuals surveyed, there were 695 snakebite victims and 94 (29.1%) sought traditional treatment. The objectives of the current study are to probe and identify the traditional medical practitioners who are engaging in snake bite management in Anuradhapura District, Sri Lanka and secondly to observe the effectiveness of their treatment protocols in snake bite management. The enlisted traditional medical practitioners were interviewed and their treatment protocols were evaluated by an expert group. Selected five practitioners were facilitated to establish *Visha* Clinic at Traditional Medical Research Hospital, Mihintale. Data were collected using a questionnaire to evaluate their treatment on snake bite management. Data were analyzed using descriptive statistical methods. According to the secondary data of Ayurveda Medical council there were 758 registered practitioners, among those 193 practitioners registered under *Sarpa visha* (snake bite treatment). Those 193, were informed about the research by postal mail. Only 17 had sent their consent to participate in the research. They were interviewed for evaluating their treatment by expertise group. 5 practitioners were selected to conduct snake bite management clinics at traditional medical research hospital, Mihinthale. 13 cases were reported and discussed. Among them 6 were viper (*Daboia russelli*) and hump-nosed viper (*Hypnale hypnale*) bites, and 7 were non-venomous snake bites. It was concluded that there were identified effective treatment procedures practicing by traditional medical practitioners which can be adopt after confirming the effectiveness by pre-clinical and clinical researches.

Keywords: Traditional medical practices, Snake bite management

**AN OBSERVATIONAL CASE STUDY OF THE MANAGEMENT OF *CHARMAKEELA*
WITH *AGNIKARMA* AND *KSHARA KARMA***

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Agnikarma (therapeutic burn/cauterization) and *Kshara* are unique treatment modalities mentioned in Ayurveda under surgical methods. Acharya Susruta has given a detailed description of *Agnikarma*. *Agnikarma* and *Kshara* show significant importance in *Shalya tantra* because of the non-occurrence of diseases that are treated by *Agnikarma* and it has high success in diseases incurable with *Aushadha*, *Shashtra*, and *Kshara*. *Charmaeela* (warts) is a disease mentioned under *Kshudra roga* in the Ayurvedic system and has various treatment principles that explain like administration of *Aushadha* internally, external application, and *Raktamokshana*, *Ksharakarma*, and *Agnikarma*. These treatment methods are minimally invasive procedures that do not cause scar formation, have no recurrence, and are found to be more beneficial in treating warts. In the present study single observational case study has done with the medical records of a 12 years old patient who visited to Shalya clinic of National Ayurveda Teaching Hospital, Borella, Sri Lanka with multiple warts present below the left elbow joint for 06 months and was treated with *Agnikarma* followed by application of *Apamarga theekshna kshara*. Post-operative dressing was done with *Velmi churna*. Weakly follow-up was done for 30 days. Based on these observations, there wasn't any re occurrence and surgical wounds have been cured with minimal scars. Based on this case study further studies are recommended to use *Agnikarma* combined with *Kshara* application is an effective treatment for the Management of warts.

Keywords: *Agnikarma*, Warts, *Charmakeela*, *Ksharakarma*, Ayurveda

**ANTIOXIDANT ACTIVITY OF MODIFIED HERBAL PREPARATION OF
SHRAMAHARA MAHAKASHAYA AND ITS' EFFECT ON POST-EXERCISE
INTERLEUKIN-1 ALPHA (IL-1A) LEVEL**

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Shramahara mahakashaya is an authentic Ayurveda drug group mentioned by Acharya Charaka which is used to alleviate *Shrama*; that is defined as 'fatigue' occurring after strenuous workout. Drug groups that have capability of delivering a particular pharmacological action as a single herb, as a part, or as a whole are called '*Mahakashaya*'. The utility of these drug groups depends on the coherent thinking of the physician. Active exercise increases the energy consumption and Cytokines levels; IL-1 α and IL-1 β . It leads to a transient acute inflammatory phase and upsurges reactive free radicals, non-free radical oxygen intermediates. This mechanism contributed to the pathophysiology of fatigue. Hence, free radical scavenging activity, superoxide scavenging activity, and IL-1 α level provide the amplitude of fatigue occurring after exercise. The present study was designed to evaluate the antioxidant capacity of the formula and to evaluate the effect on fatigue. Aqueous extracts and alcohol extracts of the formula were investigated using 2,2-Diphenyl-1-picrylhydrazyl (DPPH) assay and superoxide dismutase (SOD) assay with different concentrations of the standard control; Ascorbic acid. Post-exercise IL-1 α level was determined using healthy Wistar albino rats subjected to weight loaded swimming test. Twenty-four healthy rats were randomly divided into four groups; 1, 2, 3, and 4, 5ml/Kg of distilled water, Caffeine (20mg/Kg), 200mg/Kg of aqueous extracts and 200mg/Kg of alcohol extracts of the drug were administered orally for groups 1, 2, 3 and 4 accordingly for 14 days prior to the experiment. Aqueous extract of the formula showed higher percentage in DPPH assay (56.74% inhibition at 30 μ g/ml concentration) and SOD assay (17.24% inhibition at 30 μ g/ml concentration), yet, not equivalent to Ascorbic acid (86.85% and 30.25% respectively). There was no statistically significant difference of IL-1 α level between the negative control and other groups (p values 0.99, 0.056, 0.82 accordingly). However, a larger data set is required to provide the bottom line of the study. Though, *Shramahara mahakashaya* formula showed positive results from antioxidant assays, further studies are needed to evaluate cytokinin levels after exercise.

Keywords: Antifatigue activity, DPPH assay, SOD assay, Post exercise cytokinin level

INTEGRATING AYURVEDIC CONCEPTS OF *DINACHARYA*, *RITHUCHARYA*, FOR ECHO TOURISM EXPERIENCES: A REVIEW STUDY

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The concept of *Dinacharya*, *Ritucharya*, and originates from Ayurveda, an ancient Indian system of medicine that emphasizes holistic well-being and harmony with nature. Integrating these Ayurvedic principles with eco-tourism creates a unique approach known as "Eco-Ayurveda Tourism" or "Echo Tourism.". The purpose of this study is to investigate of the Ayurvedic thoughts of *Dinacharya*, *Ritucharya*, combined with echo wellness travel and analyze the possible effect of including Ayurveda practice in eco - tourism option and locate eco - friendly tourist places that adhere to Ayurveda principles. For this review study data were collected through Ayurveda authentic textbooks through the previous research reports and analyzed. *Dinacharya* emphasizes establishing a daily routine that aligns with natural rhythms. In eco-tourism, travelers can incorporate elements of *Dinacharya* by waking up early to witness sunrise, practicing meditation or Yoga amidst natural surroundings, and consuming nourishing, locally sourced meals. Following a mindful daily routine allows tourists to connect with the environment. *Ritucharya* involves adapting lifestyle and activities according to the changing seasons. In eco-tourism, travelers can engage in seasonal experiences that resonate with Ayurvedic principles. we can introduce food and activity guidelines according to *Dosha* condition of the *Ritu*. For instance, during spring, they can explore blooming landscapes, indulge in detoxifying activities like nature walks, and enjoy rejuvenating herbal teas, experience with medicated mist. *Panchakarma* is an Ayurvedic detoxification therapy, can be incorporated into eco-wellness retreats. Travelers can experience eco-friendly spas offering traditional *Panchakarma* treatments amidst serene natural surroundings. These therapies, like oil massages, herbal steam baths, and mindfulness practices, not only promote relaxation but also encourage visitors to appreciate the environment's healing power. By integrating Ayurveda concepts of *Dinacharya*, *Ritucharya*, and with eco-tourism, travelers can not only experience the beauty of nature but also engage in practices that promote personal wellness and environmental sustainability. This integration offers a holistic and enriching travel experience that benefits both individuals and the planet.

Keywords: Echo tourism, *Dinacharya*, *Ritucharya*, Wellness

DEVELOPMENT OF *TRIPHALA* PASTE AS A REJUVENATING HERBAL PREPARATION AND EVALUATION OF ITS PHYSIOCHEMICAL, PHYTOCHEMICAL AND ANTIOXIDANT PROPERTIES

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Ayurveda is one of the world's oldest and most inspired medicinal systems. In Ayurveda, rejuvenation is referred to as *Rasayana*, which governs the metabolism and immunity of the human body. *Triphala* is a widely utilized herbal formulation of fruits from three different plant species: *Terminalia chebula*, *Terminalia bellerica*, and *Embilica officinalis*. As a result of its extensive therapeutic effects, it can be used in a variety of dosage forms and preparation methods. Applying a *Triphala* paste on a new iron vessel is one of the rejuvenation formulae among the 4 rejuvenation formulae mentioned in Charaka Samhita. No scientific studies have been done for this rejuvenation preparation. Hence, the main objective of this study was to prepare and analyze the standard parameters of the *Triphala* paste on a new iron vessel. The physicochemical, phytochemical, and antioxidant properties of the formulation were detected according to World Health Organization guidelines. Further detection of iron content, analysis of antioxidant activities, Thin Layer Chromatography (TLC) and High-performance thin-layer chromatography (HPTLC) fingerprint patterns of methanolic extract of prepared *Triphala* paste on a new iron vessel were also conducted. The final product is totally black in color, having metallic odor, tasteless, smooth and has a fine texture. Total ash value and moisture content of the prepared *Triphala* paste on a new iron vessel were 10.36% and 8.2% respectively. Qualitative phytochemical analysis of the cold methanol extract of *Triphala* paste on a new iron vessel reveals the presence of Phenols, Flavanoids, Tanins and alkaloids. TLC was developed for the cold methanolic extracts of *Triphala* paste and *Triphala* paste on a new iron vessel by using toluene: Acetic acid: formic acid in 3:5:1 ratio as a solvent system and HPTLC fingerprint pattern showed differences between *Triphala* paste and *Triphala* paste on a new iron vessel. Antioxidant properties of *Triphala* paste on a new iron vessel were also higher than the *Triphala* paste. Hence, this study provides positive evidence for the rejuvenating effect of developed *Triphala* paste on a new iron vessel and these findings will be helpful to future research on development of newly discovered plant-based rejuvenating product as well as an iron supplement.

Keywords: *Triphala*, Rejuvenation, Antioxidant, Iron vessel

**COMPARATIVE ANTIMICROBIAL EFFICACY OF *TRIPHALA* MOUTHWASH
PREPARED FROM DIFFERENT PROPORTIONS**

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Triphala is a potent herbal formula of three medicinal plants. It is capable of giving numerous pharmacological actions in different systems of the body. Several authentic references are found for the proportions of the *Triphala* combination. As per the Bhasajja Ratnavali, the decoction of *Triphala* is being used as *Gandusha*. However, the exact ratio of the formula was not mentioned. The present study was focused to evaluate the antimicrobial efficacy of *Triphala* mouthwash which is prepared from different proportions. Decoctions were prepared into 3 ratios; 1:1:1, 1:2:3, and 1:2:4. Preliminary standardization parameters for the decoction and forming index were established. Dichloromethane fractions of the decoctions were obtained to develop Thin Layer Chromatography (TLC) and High-performance thin-layer chromatography (HPTLC) fingerprints. TLC and HPTLC were compared with the standard samples of Tannic acid and Gallic acid. The bacteria, *Staphylococcus aureus* (ATCC 25923) from the glycerol stocks were cultured, for the antibacterial efficacy. The Petri-dishes were prepared for bacterial growth by pouring the autoclaved nutrient agar medium into the sterile petri dishes. The study was conducted as three replicates for each sample and for the negative control. Sterilized filter paper discs were dipped in each sample and placed on each petri plate. The plates were then incubated at 30 °C for 24 hours. The diameters of the clear zones were measured in control and test plates. Observations were analyzed statistically using one-way ANOVA. pH values, *R_f* values of the TLC fingerprints, and forming index were observed similarly in all the 3 samples. The number of peaks in HPTLC was similar, yet the highest peak values were observed in the sample prepared in to 1:2:3 ratio. Antimicrobial sensitivity was statistically insignificant of all the samples against *Staphylococcus aureus*. Physicochemical parameters were lied within the acceptable values for maintaining good oral hygiene. However antimicrobial efficacy cannot be excluded from the insignificant results from this pilot study. Further studies can be performed for other oral pathogens using different concentrations of the decoction.

Keywords: *Triphala* mouthwash, *Gandusha*, *Staphylococcus aureus*

A REVIEW ON THE IMPACT OF *SHVASAHARA DRAVYA GHANA* FOR COVID-19 PNEUMONIA BASED ON AYURVEDA PHARMACODYNAMICS

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Pneumonia is a leading cause of acute respiratory distress syndrome, which is a critical stage of patients with COVID-19. This is a condition which can correlate to a type of *Shvasa* (dyspnea) in Ayurveda. The aggravated *Vayu* along with vitiated *Kapha* obstructs the channels and spreads throughout the body and produces *Shvasa*. The general objective of this study is to describe the therapeutic effect of *Shvasahara gana* on COVID-19 pneumonia based on Ayurveda pharmacodynamics. This study is based on the Ayurveda classics with the available commentaries, scholarly opinions, text books of modern physiology and research findings on Acute Respiratory Disease Syndrome. *Shadvirechanashatashritiya Adhyaya* of Charaka Samhita mention ten herbs as *Shvasahara* which relieve respiratory distress. In Ayurveda, pneumonia is referred as *Jwara* or *Shwasanaka jwara* with most common symptoms such as high temperature, chest pain, and a cough with thick, persistent phlegm. The goal of Ayurveda treatment for pneumonia is to reduce *Kapha* to speed up healing and reduce symptoms. The properties of *Shvasahara dashemani* has proven by modern studies. Accordingly, *Shati* (*Hedychium spicatum*) is an analgesic, anti-inflammatory, antimicrobial, expectorant, antiasthmatic, bronchodilator, anti-histaminic plant. *Pushkaramoola* (*Inula racemosa*) is having anti-histamine, anti-inflammatory activities. *Amlavetasa* (*Garcinia pedunculata*) shows the action as antagonist of muscarinic receptors and a possible Ca⁺⁺ channel blocker. *Ela* (*Elettaria cardamomum*) is having the bronchodilator effect. *Hingu* (*Ferula narthex*) has antispasmodic, expectorant, smooth muscle relaxant properties. *Agaru* (*Aquilaria malaccensis*) is reported with antipyretic, analgesic, anti-inflammatory, antihistaminic, styptic, carminative actions. *Surasa* (*Ocimum tenuiflorum*) has antibacterial, anti-viral, anti-fungal, anti-inflammatory, immunologic, anti-asthmatic activities. *Thamalaki* (*Phyllanthus niruri*) has a significant anti-asthmatic activity against compound 48/80 induced mast cell degranulation. *Jivanti* (*Leptadenia reticulata*) is having anti-asthmatic, anti-histaminic actions. *Chanda* (*Hellenia speciosa*) is having anti-inflammatory effect. These properties have a direct impact on the symptoms of *Shwasanaka jwara*. The study can conclude stating the *Shvasahara dravya Ghana* can have a direct positive impact of relieving COVID-19 Pneumonia.

Keywords: *Shvasahara dravya ghana*, COVID-19 Pneumonia, Ayurvedic pharmacodynamics, *Shadvirechanashatashritiya Adhyaya*, *Shwasanaka jwara*

**A STUDY TO EVALUATE THE EFFICACY OF A SELECTED AYURVEDA EYE-DROP
IN SENILE CATARACT**

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Senile cataract is characterized by the progressive loss of transparency and opacification of the eye lens, and it gradually causes vision impairment which sometimes needs surgery. In indigenous medicine, eye-drops are commonly used for treating cataracts. The objective of the present study is to evaluate the efficacy of a selected eye drop used in an eye clinic at Ayurveda Hospital, Kitulgala, from 2017-2022. The sample includes 200 visually impaired patients aged 50-80 years, while the distance visual acuity was checked by Snellen's chart and near vision by newspaper reading. Eye drops were supplied to the patient with sterile conditions, and progress was recorded weekly. Data collection was done by a self-administered questionnaire, and data were analyzed by SPSS software. The formula is called *Triphala netra bindu* and includes three myrobalans, white sandalwood, red sandalwood and turmeric pith with bee honey, as mentioned in Ayurveda Pharmacopeia Part I. Most of the current research data support the role of antioxidant properties and anti-cataract actions of ingredients of the *Triphala netra bindu* eye-drop, which can be applied for all types of cataracts as a supportive medicine. Most of the patients were females and suffered from mild cataracts with opaque lenses related to aging. In most cases, two eyes had different visual acuity. The improvements were recorded in two weeks and 1-6 months after treatment. The results revealed that efficacy was high in the first two weeks after treatments and controlling effect on the progress of immature cataract in males than females. The majority of patients below 60 years old had improved visual acuity within a short period than older patients with other morbidities. Findings support to conclude that *Triphala netra bindu* eye drop has a positive effect on the improvement of vision among senile cataract patients, and this medicine can be introduced to all Ayurveda Hospitals on Island wide and further studies of this preparation would be accomplished.

Keywords: Senile cataract, eye-drop, *Triphala netra bindu*, Vision impairment, Visual acuity

MANAGEMENT OF ALLERGIC RHINITIS (*PEENASA*) BY *WADDUWA MELEGAMA AKSHI* AND *SARVANGA WEDAKAMA*: A CASE STUDY

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In Sri Lanka, many indigenous medical traditions are practiced in some families. *Wadduwe melegama akshi* and *Sarvanga wedakama* is one such medical tradition specialized for *Peenasa* treatment. *Peenasa* is a frequently encountered disease in the primary healthcare, where Ayurveda views it as a *Nasa roga*, while traditional medicine considers it as a *Sarvanga roga*. On the other hand, modern medicine opines allergic rhinitis, an inflammatory disease of respiratory mucosa, with a similar clinical presentation with rhinorrhea, sneezing, cough, headache, severely affecting a patient's quality of life. Since no scientific study has been conducted to evaluate the efficacy of their *Peenasa roga* treatment, the present case study was undertaken. In this study, the author has observed *Peenasa roga* case management by the late physician, Dr. M.R. Waththage, belonged to this *Wadduwe melegama akshi* and *Sarvanga wedakama*. A 28 years old female patient presented with a complaint of runny nose throughout the day, frequent sneezing, cough and headache, for two years. Further examination revealed she was free from underline illnesses. Her disease was diagnosed as *Peenasa roga* based on the findings and was prescribed both oral and external medications. The treatments were commenced with the oral administration of *Ama pachana* and *Agni deepana* for a week, followed by *Kaphashamaka* treatments. These treatments were supplemented with fumigation, fomentation and *Shirshabhyanga* at the latter part of the management. Her symptomatic improvement was recorded as the response to the treatment and the treatment's efficacy was evaluated before and after the treatment. The results of this case study found that the most of her symptoms, including runny nose, frequent sneezing, cough and headache were completely relieved after eight weeks of treatment. Therefore, it can be concluded that the *Peenasa* treatment administered by the *Wadduwe melegama akshi* and *Sarvanga wedakama* is efficient in the management of *Peenasa roga* but further studies will be accomplished.

Keywords: *Wadduwe melegama wedakama*, *Peenasa*, Allergic rhinitis

ANTIMICROBIAL PROPERTY OF *Tithonia diversifolia* COMMON INVASIVE PLANT IN SRI LANKA: A REVIEW

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Antimicrobials are therapeutic substances used to prevent or treat infections and antibiotic resistance has become one of the biggest threats to global health. Therefore, the antimicrobial activity of many plant species has been widely researched. Exploring an additional application of wide spread invasive plant species called *Tithonia diversifolia* (Asteraceae) which has become an ecological, agricultural and economic burden, is an important solution to manage its aggressive population density, in a beneficial way. *Tithonia diversifolia* has diverse pharmacological applications including antimicrobial property. Hence the aim of this study is to produce a literature review on antimicrobial property of *Tithonia diversifolia* to highlight the usefulness of this plant species regardless it's invasive nature. The research articles published on antimicrobial activity of *Tithonia diversifolia* were reviewed in Google scholar and Pubmed during the period of last two decades between 2002 and 2022. Based on this review, it was observed that extracts isolated from different parts of *Tithonia diversifolia*, such as roots, leaves, flower, and stem, have antimicrobial property against 26 bacteria species and 23 fungi species, which are pathogenic mainly to human beings and agricultural crops as well. It was found that aqueous extract of *Tithonia diversifolia* leaves exhibited growth inhibitory activity against Methicillin-Resistant *Staphylococcus aureus*. This study also revealed that *Tithonia diversifolia* can be introduced as a potential source of natural biopesticide against several plant pathogens. Furthermore, Studies have shown that *Tithonia diversifolia* exhibited antimicrobial activity against fish pathogenic bacteria (*Aeromonas hydrophila*) which infect commercially important cat fish species. This review provides a basis for future investigation of this noxious plant species. Discovering natural antibiotic and pesticide for human and plant disease management through isolation of bio active components from this plant species which has low economical value is a timely requirement.

Keywords: Antimicrobial, *Tithonia diversifolia*, Bacteria, Fungi

**PHYSICOCHEMICAL PROPERTIES AND GC-MS ANALYSIS OF ESSENTIAL OIL OF
Pogostemon heyneanus LEAVES**

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Pogostemon heyneanus Benth (Lamiaceae) is an important medicinal plant belonging to family Lamiaceae. The essential oil extracted from the leaves of this plant, collected from the Deniyaya Southern Province, Sri Lanka (6.33713N, 80.56188E). Purpose of this study is to explore physico-chemical properties and Gas Chromatography - Mass Spectrometry (GC-MS analysis of essential oil of *P. heyneanus* leaves. Essential oil was obtained by hydro-distillation in a Clevenger-type apparatus for 6 hours, dried using anhydrous sodium sulphate and stored under 2-8 °C. Specific gravity, optical rotation and refractive index of the oil were determined by using gravity bottle, polarimeter and refractometer respectively. GC-MS analysis was also performed to the essential oil. Specific gravity, refractive index and optical rotation of the oil were 0.9225 (at 27.8 °C), 1.4932 (at 27.8 °C), and 22.10710 α (levortatory at 27.1 °C) respectively. According to the results of GC-MS analysis, 32 compounds which representing 99.82% of the essential oil was identified in this study. α -pinene (23.056%), β -pinene (36.357%), D-limonene (2.258%), acetophenone (21.261%), caryophyllene (2.519%), nerolidol-2 (7.811%), patchouli alcohol (0.599%) α -guaiene (0.252%), humulene (0.297%) and seychellene (0.144 %), were identified as the major constituents. 2-carene (0.018%), γ -terpene (0.049%), linalool/beta ocimene (0.158 %), pinocaryone (0.092 %), terpene-4-ol (0.092%), α -thujenal (0.194%), β -copaine (0.027 %), β famesene (0.072%), and α -farnesene (0.039%) were identified as the minor constituents. Oil yield was optimum according to the results of the study. GC-MS data obtained from this investigation, shows minor deviation from the data reported in previous studies and it can be due to geographical variations of the plant. In conclusion, physicochemical data obtained from the present study can be used as standardization parameters of the essential oil. Investigation of biological activities of the essential oil is recommended in future studies.

Keywords: Essential oil, Lamiaceae, *Pogostemon heyneanus*, Physicochemical properties, GC-MS

**QUALITATIVE AND QUANTITATIVE PHYTOCHEMICAL ANALYSIS OF A SIDDHA
HERBAL FORMULATION –AANAI NERUNJIL KUDINEER**

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With the age-old natural treatment practices gaining momentum worldwide after the pandemic event, it has become the need of the hour to provide scientific validation for proving their efficacy. One such Indigenous method of medicine is the Siddha system of medicine practiced among the people of South India. The Siddha system with a voluminous knowledge in treating a plethora of diseases has plenty of treatment methods involving drugs of natural origin. *Aanai nerunjil kudineer* is a herbal decoction made out of *Pedaliium murex* Linn. (Whole plant) and *Coriandrum sativum* Linn. (seeds), that was indicated for the treatment of Urolithiasis and other Genito-urinary tract disorders. This study aims to provide a detailed phytochemical profile of *Aanai nerunjil kudineer* using modern techniques such as HPTLC and GC-MS. The Preliminary Phytochemical analysis of aqueous-alcoholic extracts of *Aanai nerunjil kudineer* showed the presence of terpenoids, alkaloids, flavonoids, glycosides, phenols etc. With the HPTLC fingerprint profiling technique using Toluene: Ethyl acetate (5:2) as a solvent system, 8 peaks were obtained at 256nm and 9 peaks at 366nm wavelengths which indicate the presence of various phytoconstituents. GC-MS analysis revealed the presence of flavonoids such as pedalitin, diosmetin, kampferol and terpenoids such as ursolic acid, rubisic acid and many. This study provides an important phytochemical database for the drug *Aanai nerunjil kudineer*. This is a step ahead in the improvement of knowledge-based medicine to evidence-based medicine that helps in the Global acceptance of Traditional medicines. An Elaborate Pharmacological activity and Toxicity profile will be further helpful in establishing the therapeutic efficacy of the drug.

Keywords: Siddha medicine, *Aanai nerunjil kudineer*, Phytochemicals, HPTLC, GC-MS.

EVALUATION OF GASTROPROTECTIVE ACTIVITY OF DIFFERENT ASPARAGUS SPECIES IN SRI LANKA USING *IN-VITRO* METHODS

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Asparagus racemosus Willd. and *Asparagus falcatus* L. (Family Asparagaceae) are two well-known medicinal plants used in Sri Lankan traditional medicine. The present study evaluates and compares the in vitro antacid effect of aqueous and ethanolic root extracts of these two *Asparagus* species. Aqueous root extracts were prepared as decoctions according to Ayurveda whereas ethanolic root extracts were made by refluxing method. Qualitative phytochemical screening of both plants was done separately in accordance with standard procedures. Thin layer chromatograms for individual plant extracts were obtained after extracting them with dichloromethane. Acid neutralising activities of different concentrations of root extracts were evaluated by determining neutralizing effects on artificial gastric acid (AGA), neutralization capacity via the titration method of Fordtran's model and duration of consistent neutralization effect on AGA via the modified model of Vatie's artificial stomach. A commercially available antacid formulation was used as the positive control, whereas distilled water was used as the negative control. Phytochemical screening and thin layer chromatograms reported nearly similar results for both of the plants. Different root extractions exerted significant ($p < 0.05$) acid neutralisation compared to the negative control, based on in vitro assays. The aqueous extracts of both plants demonstrated more acid neutralising efficacy than their ethanolic extracts. Aqueous extract of *Asparagus racemosus* (0.73 g/ml) demonstrated the most potent acid-neutralising effect (3.74 ± 0.005 end pH), neutralising capacity (1.37 ± 0.01 H⁺ mmol) and duration of consistent neutralisation (664.01 ± 4.52 s), whereas the positive control resulted in 6.51 ± 0.01 end pH, 1.18 ± 0.01 H⁺ mmol and 462.38 s in respective assays. Moreover, *Asparagus racemosus* extracts revealed higher antacid activity compared to *Asparagus falcatus* extracts in all three in vitro assays ($p < 0.05$). This study confirms the use of *Asparagus racemosus* root as an acid neutralizing agent in Ayurveda formulations. Activity guided fractionation is recommended for both plants.

Keywords: Antacid, *Asparagus falcatus*, *Asparagus racemosus*, Thin layer chromatography

THERAPEUTIC POTENTIALS OF *ARJUNARISHTAYA* IN CARDIO VASCULAR DISEASES: A REVIEW

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Cardiovascular diseases continue as the leading cause of death worldwide, estimated 17.9 million lives annually. Coronary heart disease, Rheumatic heart disease, Cerebro vascular disease, and other conditions are included in the cardiovascular diseases. The effects of behavioral risk factors of cardiovascular diseases may show up in individuals as hypertension, diabetes, hyperlipidemia, overweight, obesity and etc. *Arjunarishtaya*, also known as *Parthadhyarishta*, is a poly herbal hydro alcoholic oral formulation prescribed in Ayurveda for Cardiovascular diseases. Thus, this article aims to review the therapeutic potentials, pharmacodynamic properties, chemical constituents and utility of *Arjunarishtaya* in cardiovascular diseases. Literature information has gathered from authentic texts, published research articles, scientific journals, and web sources. The observations were recorded accordingly and the data was analyzed. The formula of the *Arjunarishtaya* consists of *Terminalia arjuna* (bark), *Vitis vinifera* (fruits), *Madhuca indica* (flowers), *Woodfordia fruticosa* (flowers) and Jaggery (guda). According to the findings *Arjunarishtaya* has been identified as rich in Flavonoids, Glycosides, Tannins, Phenolics, and Triterpenoids and have potent in cardio tonic, anti-hypertensive, anti-atherosclerosis, anti-diabetic, anti-lipidemic, anti-oxidant, anti-platelet, immunomodulatory properties. The prominent *Rasa* of *Arjunarishtaya* was *Kashaya rasa* (astringent taste), *Guru guna* (heavy quality), and *Sita veerya* (cold in potency). *Katu* (pungent) and *Madhura* (sweet) *Vipaka* (post-digestive effects) were in equal percentages. *Kashaya rasa* decreases the *Kapha* and increases *Vata*, *Pitta dosha* in the body and act as a tonic by stimulating tissue enzyme in the heart. *Sita veerya*, *Katu* and *Madhura vipaka* help in alleviating vitiated *Dosha* and maintaining equilibrium. The positive effect exerted on cardiovascular diseases is the ability of flavonoids to produce vasodilatation, decreasing the oxidation of low-density lipoproteins and thus improving lipid profile. Therefore, *Arjunarishtaya* is a better solution for decreasing the risk factors and can be used to manage cardiovascular diseases effectively.

Keywords: Cardiovascular diseases, *Arjunarishtaya*, Therapeutic potentials, Pharmacodynamic

**SETTING THE BENCHMARKS FOR QUALITY IN AYUSH SECTOR: INITIATIVES
FROM BUREAU OF INDIAN STANDARDS**

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The Bureau of Indian Standards (BIS) is the National Standard Body of India, responsible for the development of Indian standards for products, processes, and services related to all consumer goods. The Bureau of Indian Standards formulates standards in line with the national priorities for various sectors. In recent years, there has been increased demand for Ayush systems of medicine in national and international level. In order to have a good coordination between the demand and quality, standardization in Ayush systems of medicine is an area of national interest. To take on the standardization work in Ayush related subjects, BIS established a dedicated standardization department for Ayush systems. Total 58 standards focusing on different topics like single herbs (47), Ayurveda and Yoga terminologies (6), Panchakarma equipment (2), Yoga mat, Stainless steel Neti pot, Yoga centre - service requirements and test methods for pesticide residue have been published by Bureau of Indian standards. Further, process of developing standards for various areas like terminologies, Single herbs, *Ksharasutra*, Yoga attire, Yoga practices, *Sutra neti* Thread-Specification, *Vastra dhauti* - Specification etc. is under progress. Formulation of these Indian Standards as is aimed at making available safe products and Service and effective Ayush interventions. This will not only augment the global acceptance of Ayush systems but will also boost the international trade in this 'Sunrise Sector'. There is a need to support initiatives toward formulating Indian standards as well as ISO deliverables to augment Ayush-based Indian exports to assist the growth of Indian economy when globalizing these systems to serve the mankind.

Keywords: Ayush, Bureau of Indian Standards, Standardization, Quality

ONE HEALTH: A VERSION OF *LOKA PURUSHA SAAMYA* IN AYURVEDA

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One Health is a collaborative and transdisciplinary approach which intends to preserve human, animal, and environmental health through surveillance, prevention, and mitigation. The main objective of this concept is to attain optimal health and sustainability in its all aspects simultaneously. In Ayurveda Medical System the concept of *Loka purusha saamya* which says that the human is an epitome of the Universe, provides a splendid platform to this modern concept. The objective of this paper is to perform a literary review in relation to these two concepts of One Health and *Loka purusha saamya* in order to accumulate notions to improve health and safety of the whole planet. Ayurveda Samhitha, Textbooks and Internet literature were used to gather data in relation to previously mentioned concepts. Ayurveda is a philosophy which is nourished by the comparative *Darshana* which prevailed in ancient era. The concept of *Loka purusha saamya* was adopted from *Vedantha darshana*. According to classics everything in the Universe including human and animal species are made out of "*Pancamahabhuta*"- the great five elements. The sages correlated anatomical structures of the body, functions of the human body with the creatures and objects of the nature. The rhythm of the human body follows the rhythm of the nature. Diseases are generated with this rhythm is disrupted or imbalanced. As Humans- plants – animals, all these components are made out of similar and common basic elements thus the same principles of treatment are applicable. *Vrikshayurveda*, *Pashuayurveda* are two branches which related to the health preservation and cure of diseases of plants and animals respectively. Environmental pollution is a cause for *Janapadodwansana* or epidemics and human, animals and nature take part in it. These concepts go hand in hand with the One Health concept, thus the ancient knowledge could be utilized to strengthen the approaches to improve and preserve planets' health.

Keywords: Concept of One Health, *Loka Purusha Saamya*, Planets' Health

**HEALTH STATUS AND USE OF TRADITIONAL AND AYURVEDA APPROACHES
AMONG COVID-19 PATIENTS IN RURAL SRI LANKA: ACROSS-SECTIONAL
SURVEY**

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The pathogen involved in severe acute respiratory syndrome coronavirus 2 (SARS-CoV2) is known as Covid-19. It causes severe acute respiratory syndrome and is identified as a pandemic. Mandatory quarantine was introduced as the main option for disease control, while many Sri Lankan people were turned to dietary and behavioral modification via traditional and Ayurveda formulas. The objectives of this study were to find out the health status of the Covid 19 patients and identify the used traditional and Ayurveda procedures during the pandemic in Nachchadoowa and Thalawa Divisional Secretarial Areas (DSA) in Anuradhapura. A cross-sectional study was performed to collect data. Clinically diagnosed Covid 19 patients were selected, after obtaining informed verbal consent. Data were collected through telephone conversations, via interview administered questionnaires for 3 months from the 1st of August 2021. The results revealed that the out of 385 Covid patients, 51.6 % (n=199) were male and 48.2% (n=186) were females. Among them 20.44% (n=65) presented with one or more chronic diseases. Patients showed the clinical signs of fever, rhinitis, cough, loss of appetite, breathing difficulties, headache, sore throat and loss of smell as percentages 28.1%, 27.9%, 27.9%, 16.9%, 11.7%, 10.9%, 10.38% and 9.35% respectively. Cough (11.94%), Headache (10.38), lethargy (6.23%), and absence of appetite (5.45%) were the main post-Covid symptoms. Out of 97.92% of participants, at least one kind of immune booster had been used and among that "Suwadarani" (81.55%) was the highest. Over 97% of patients used herbal drinks. Herbal inhalation, grain porridge, "Thambum hodda", and "Kolakeda", usage was respectively 77.4%, 21.29%, 27.53%, and 19.74%. Follow of yoga and breathing exercise were very poor (2.1%). It concluded that the Fever, rhinitis, and cough were the main symptoms among the study participants. The overall use of traditional and Ayurveda approaches was very high among covid19 patients in rural Sri Lanka.

Keywords: Covid 19, Pandemic, Ayurveda, Pandemic

**EFFECTIVENESS OF NASYA, PARISHEKA AND AKSHI TARPANA IN THE
MANAGEMENT OF VATAHATA VARTMA (PTOSIS): A CASE STUDY**

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Vatahata vartma is a *Vataja vartmagata netraroga*, which is explained under *Varthmagataroga* in Ayurveda, by where in the patient is unable to open the eyelids. The disease is explained as *Asadhya* in nature. But Acharya Vagbhata mentioned *Vata shamana chikitsa* along with *Brumhana chikitsa* can be used for this condition. It can be compared with neurogenic type of acquired ptosis (drooping of eyelids) where the condition can be either uniocular or binocular. The prevalence of bilateral and unilateral ptosis is 1.3% and 3.4% respectively. The present condition discussed a case of *Vatahata vartma* (binocular involitional ptosis) where A 65-year female patient visited the ENT clinic at the National Ayurveda Teaching Hospital, Borella, complaining of drooping of both upper eyelids associated with the mild double vision of near objects and burning sensation of both eyes since 3 years. Her distant and near vision was observed as 6/12, N10. The treatment was commenced with oral administration of *Amapachana* and *Agni deepana* for a week along with *Vatashamaka* treatments. Followed by *Netra pariseka* with *Ksheera bala kashaya* for 14 days, *Nasya* with *Anu taila* for 14 days, *Akshi tarpana* with *Triphala gritha* for 21 days along with eye exercise for ocular muscles for two months of period followed by one month of follow up period. After completion of this treatments, completely relief (100%) was observed in all the symptoms such as drooping eyelids double vision burning sensation of eyes, and her visual acuity change to 6/9, N 6 both the eyes and any side effects, recurrence, or other affiliated complaints was not found during the follow-up period. No scientific research has been conducted to evaluate the efficacy of these treatments. Therefore, it was decided to administer *Nasya*, *Parisheka* and *Akshi tarpana* in the management of *Vatahata vartma* (Ptosis).

Keywords: *Akshi Tarpana*, *Nasya*, *Pariseka*, Ptosis, *Vatahata vartma*

**IN-VITRO STUDY TO EVALUATE THE ANTIBACTERIAL ACTIVITY OF
SEETHODAKA, VISARPAHARA AND NEELYADI OIL AGAINST *Staphylococcus
aureus* AND *Escherichia coli***

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Ayurvedic and traditional oils play a major role in internal and external treatment for numerous diseases as well as wellness in Ayurveda. Ayurveda studies have gifted thousands of oil recipes with dynamic applications. *Seethodaka*, *Neelyadi*, and *Visarpahara* are some of the commonly available traditional oils which show wondering effects in treating skin diseases such as ulcers, wounds, rashes and boils. *Staphylococcus aureus* and *Escherichia coli* are the most widely detected bacteria in skin conditions. This study conveys the determination of the antimicrobial effects of *Seethodaka*, *Visarpahara*, and *Neelyadi* oils against *Staphylococcus aureus* and *Escherichia coli* using standard antibiotic sensitivity tests. All three oil preparations were freshly prepared with the combination of appropriate ingredients in ratios based on the traditional Ayurveda classics. Microbial assays were conducted using Mueller Hinton Agar (MHA) medium. Five wells were made in each plate, and the bottom was sealed using molten agar. Tetracycline (2000 ppm:100 µ L) and DMSO (100 µ L) were used as positive and negative controls, respectively. Three oil samples, along with positive and negative controls, were each added 100 µL to individual plates to assess their antibacterial activity against both strains. Subsequently, inhibition zones were measured after 24 hours of incubation at 37°C. Each experiment was replicated three times, and the mean inhibition zone diameter was calculated for each plate. The outcomes revealed a 12 mm Inhibitory zone diameter for *Seethodaka* oil against *Staphylococcus aureus*, whereas *Visarpahara* oil exhibited a 16 mm inhibition zone, and *Neelyadi* oil displayed a 13 mm inhibition zone against the same bacteria. The positive control, Tetracycline, resulted in a 40 mm inhibition zone diameter against *Staphylococcus aureus*. Based on the findings, all three oils demonstrated significant antimicrobial effect against *Staphylococcus aureus*. Moreover, *Seethodaka* oil exhibited an 8 mm inhibition zone diameter against *Escherichia coli*, while *Visarpahara* oil displayed a remarkable antimicrobial effect with a 24 mm inhibition zone diameter against *Escherichia coli*. *Neelyadi* oil also indicated substantial inhibition, measuring 12 mm against *Escherichia coli*. In contrast, the positive control exhibited a 30 mm inhibition zone diameter against *Escherichia coli*. In conclusion, the tested traditional oils, including *Seethodaka*, *Visarpahara*, and *Neelyadi*, exhibited considerable antibacterial effects against both *Staphylococcus aureus* and *Escherichia coli*.

Keywords: *Seethodaka*, *Neelyadi*, *Visarpahara*, *Staphylococcus aureus*, *Escherichia coli*

EVALUATION OF THE EFFICACY OF *CHINNADI PHANTA* IN THE MANAGEMENT OF *AMLAPITTA*

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Amlapitta which is defined as a disease of *Annavaha srotas*, is globally affect 50.8% of the population in developing countries and 34.7% of the population in developed countries. Word *Amla* is indicative of a property which is organoleptic in nature and identified through the tongue, while the word *Pitta* is suggestive of one of the *Tridosha*. According to the research findings, patients between 20-30 years, female, with sedentary life style were mostly affected. Ayurveda text Chakradatta, only mention about *Chinnadi phanta* that can use in the condition of *Amlapitta*. This study was a randomized prospective cohort study and as the selection method, minimum 30 volunteer patients with *Amlapitta* was taken from the Out Patient Department of Gampaha Wickramarachchi Ayurvedic Teaching Hospital and they were randomly divided in to two groups consisting at least 15 patients for each group (Group A and Group B). Group A were treated with 15g of *Chinnadi phanta* and Group B were treated with 5g of *Avipattikara churna* for 14 days. Effectiveness of the treatment was evaluated using a developed grading score method, considering four main clinical features. After two weeks, improvement was observed in both groups. Marked improvement was identified in Group A in statistically highly significant manner accordingly, headache 93.7% (0.13±0.091, p<0.05), burning sensation of abdomen 100% (0.00 ±0.00, p<0.05), loss of appetite 95.8% (0.07±0.067, p<0.05) and acid regurgitation 68.5% (0.40±0.163, p<0.05). Results related to Group B were headache 82.3 % (0.33±0.159, p<0.05), burning sensation of abdomen 91.1% (0.13 ±0.091, p<0.05), loss of appetite 66.6% (0.40 ±0.163, p<0.05) and acid regurgitation 74.7% (0.27±0.153, p<0.05). These findings indicate that headache, burning sensation of abdomen and loss of appetite can manage using this new herbal formula. Further, study by larger sample of patients along with toxicity studies of the new herbal formula could be suggested.

Keywords: *Amlapitta*, *Chinnadi phanta*, *Avipattikara churna*

**PRELIMINARY PHYSIO-CHEMICAL AND PHYTOCHEMICAL ANALYSIS OF
*AMRUTADI GUGGULU***

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Amrutadi guggulu is an herbal formulation used by Ayurvedic physicians to treat Obesity and hyper-cholesterol. The quality of this herbal formula can be assessed through various analysis studies such as, physiochemical analysis, phytochemical analysis, microbiological and heavy metal analysis, etc. The main objective of this study is to develop standard parameters for *Amrutadi guggulu*. The formulation consists of nine parts of medicinal plants, prepared following the guidelines given in the Ayurvedic text Bahisajya Rathnavali, chapter 27. The results of the physiochemical analysis showed that *Amrutadi guggulu* contains 10.4% w/w moisture and 5.2% w/w total ash. Additionally, AG contains Tannins, Phenols, Alkaloids, Flavonoids, and Steroids. As for heavy metals analysis, Cadmium was not detected, which is a positive finding as Cadmium is a toxic heavy metal. The quantity of other heavy metals present in *Amrutadi guggulu* formulation was found to be within safe limits: Lead at 1.7 mg/kg, Mercury at 3.1 mg/kg, and Arsenic at 0.6 mg/kg, all of which were below the limits recommended by the World Health Organization. Thin-layer chromatography (TLC) was used to reveal the presence of organic constituents in the plant materials used in the formulation of *Amrutadi guggulu*. This method helps identify specific compounds present in the herbal mixture. Based on the analytical study, *Amrutadi guggulu* was found to be safe and effective for therapeutic use. The results suggest that it can be considered as a standard reference for further investigations in the field of Ayurvedic medicine. The analytical study of *Amrutadi guggulu* demonstrated its safety, efficacy, and adherence to recommended limits for heavy metals.

Keywords: Analytical, Herbal formulation, *Amrutadi guggulu*, Physiochemical

ENDEMIC MEDICINAL PLANTS FOR THE FUTURE: A STUDY ON DISTRIBUTION, PROPAGATION AND CONSERVATION OF ENDEMIC MEDICINAL PLANT SPECIES IN SRI LANKA

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The Sri Lankan traditional medicine system is composed of Ayurveda, Siddha, Unani, and Desiya Chikitsa, and it utilizes a diverse range of plant species owing to their therapeutic potential. The main objective of this study was to establish a comprehensive inventory of endemic medicinal plant species (EMPSs) and to investigate their distribution, propagation, and conservation. Through a meticulous examination of botanical literature and authoritative online resources, an inventory of 184 EMPSs was compiled. Conservation of these plant species is crucial as 129 EMPSs (70%) are highly threatened; 7% critically endangered, 30% endangered, and 33% vulnerable. Mainly, Sri Lanka's legislative framework for biodiversity conservation resides in the Fauna and Flora Protection Ordinance (2009) operates through two principal strategies; the establishment and regulation of Protected Areas (PA) and the listing of Protected Species. This approach ensures the in-situ conservation of EMPSs within the PA. However, relying solely on in-situ conservation is inadequate for ensuring the longevity of EMPSs. The promotion of ex-situ conservation measures becomes imperative to complement these efforts. The findings of this study revealed that 61% of the EMPSs were ex-situ conserved, and the highest conservation efforts were recorded at the Royal Botanical Garden-Peradeniya and the Ayurvedic Herbal Garden-Pinnaduwa. Investigations on optimal propagation method for a specific plant species and the potential extent of its distribution are imperative for ensuring its conservation. The distribution of these EMPSs with respect to different climatic zones of Sri Lanka was analyzed using the software ArcMap (v10.8): distribution analysis revealed that the majority of EMPSs are distributed within Sri Lanka's wet zone, while the lowest species distribution was in the semi-arid and dry zones. Previous records on the propagation of EMPSs were minimal and attempts at in vitro propagation were limited to a very few such as, *Garcinia quaesita*, *Impatiens repens*, and *Osbeckia octandra*. Hence, it becomes crucial to conduct investigations on suitable propagation methods to promote the conservation of EMPSs. This study revealed the current status of EMPSs used in traditional medicine, further providing crucial insights into their conservation.

Keywords: Traditional Medicine, Endemic, Medicinal plant species, conservation, Protected areas

ANTIBACTERIAL EFFICACY OF *Dipterocarps zeylanicus* IN COMBINATION WITH Povidone Iodine Topical Solution Against Clinically Important Pathogens

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The rapid upswing of antibacterial-resistant bacteria and the challenges associated with treating infections have sparked a search for innovative antibacterial substances. Plant-derived components have the potential to exhibit antibacterial effects and when used in conjunction with antibiotics, these components could enhance their effectiveness. *Dipterocarpus zeylanicus*, commonly known as "Hora," is an indigenous Sri Lankan plant belonging to the Dipterocarpus genus and it holds an important role in traditional healing practices in Ayurvedic medicine. The purpose of this study to evaluate combined effect of the combination of *Dipterocarpus zeylanicus* and povidone iodine topical solution. Prior to the evaluation of the combined effect on antibacterial activity, 96% ethanol and ethyl acetate extracts from the bark of *Dipterocarpus zeylanicus* were tested using well diffusion method. Then the plant extract with zone of inhibition (ZOI), combined with Povidone iodine and obtained the combined ZOI. To identify the major phytochemical components phytochemical screening and GC-MS analysis were performed. Total phenolic content (TPC) was analyzed using the ethanol extract by Folin-Ciocalteu method. According to triplicated results, ethanol extract was positive with the highest ZOI against *Staphylococcus aureus* and *Escherichia coli*; 23.25±0.66mm and 17.08±0.17mm respectively. Combined ZOI obtained for *Escherichia coli*; and *Staphylococcus aureus* were 25.11±0.26mm and 38.98±0.34mm respectively. Phytochemical screenings validated the presence of beneficial compounds like alkaloids, terpenoids, phenols, and tannins and GC-MS analysis revealed specific antimicrobial components such as α -Pinene, O-Cymol, D-Limonene, and Terpinolene in the ethanol extract, and n-Eicosane, Tridecane, Octadecane in ethyl acetate extract. The ethanol extract of *Dipterocarpus zeylanicus* displayed a TPC of 3.96±0.01 mg gallic acid equivalents/g of extract. In conclusion, this study underscores the synergistic antibacterial potential of the extract from bark of *Dipterocarpus zeylanicus*. The insights gained deepen our understanding of its antibacterial capabilities, emphasizing its potential utility in addressing bacterial infections.

Keywords: *Dipterocarps zeylanicus*, Antibacterial resistance, Synergistic effect, Total Phenolic Content, Folin-Ciocalteu method

**EFFECT OF PANCHAKARMA THERAPY IN THE MANAGEMENT OF KAMPAVATA
(PARKINSON'S DISEASE): A CASE REPORT**

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Parkinson's disease is one of the most common degenerative disorders of the central nervous system and Parkinson's disease is a condition similar to *Kampavata*, described under *Nanathmaja vata vyadhi* in Ayurveda Medicine. The study was conducted to study the role of Ayurveda treatment regimen for *Kampavata* with special reference to Parkinson's disease. Sixty years old female patient diagnosed with *Kampavata* (Parkinson's disease) was enrolled in the study. Before the commencement of the treatment, consent was taken and clinical signs and symptoms were recorded in the prepared proforma. Ayurveda treatment regimen including internal (*Thrikatukadhi kashaya*, *Nirgundilashunanshigru kashaya*, *Danthimuladhi kashaya*, *Vata vidvansha rasa*, *Chandra kalka* and *Dhathri churna*) and External (*Abyanga*, *Svedana*, *Shirodara*, *Shirvasti*, *Mridu virechana*, *Samsarjana karma* and *Yoga vasti*) was given for thirty days. Reduction of the signs and symptoms were assessed during the treatment period using the Unified Parkinson's disease rating scale (UPDRS). It was observed that, excellent improvement (80%) in the nonmotor aspect of daily living experiences. Moderate improvement (60%) was observed in motor aspects of daily living experiences, motor examinations, and motor complications. Hence, it can be concluded that the Ayurveda treatment regimen has managed the condition; *Kampavata* successfully. The clinical trial should be planned in the future with a larger sample size to generalize the findings.

Keywords: *Kampavata*, Ayurveda treatment regimen

PUSHPAYURVEDA: A COMPREHENSIVE REVIEW BASED ON SUSHRUTA SAMHITA

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This study delves into the uses of flowers in Ayurveda, focusing on a treatment approach called *Pushpayurveda* was specially practiced by Jain Mahaveer in 9th Century because of his concept of *Ahimsavada*. The present study was carried out to compile different uses of flowers in Ayurveda with classical pieces of evidence based on Sushruta Samhita. In *Sutrasthana*; 46th chapter has explained 30 flowers as vegetables with their properties and medicinal uses. 38th, 39th, and 42nd chapters have included the flowers in their drug groups like *Anjanadi*, *Eladi*, *Priyangvadi*, *Vacadi*, *Ambashtadi*, *Utpaladi*, *Nyagrodhadi*, *Sarivadi*, *Shirovirecana*, *Pitta shamana*, *Kapha shamana*, *Madhura varga*, *Niruha varga*, and *Kashaya varga*. The importance of flowers in the purification of water has emphasized in the 45th chapter. In *Kalpasthana*; 2nd chapter has mentioned flowers as one of the receptacles for *Sthavara visha*. Vomiting, flatulence, and delusion are signs and symptoms of flower poisoning and *Vetra*, *Kaadamba*, *Vallija*, *Karambha*, and *Mahakarambha* are examples of poisonous flowers. In *Nidanasthana*; 2nd, 3rd and 5th chapters have used flowers to explain the diseases i.e. *Vataja arshas* and *Vataja ashmari* are similar to *Kadamba* flower, *Kaphaja ashmari* is similar to *Madhuka* flower and *Dadru kushtha* having colour of *Atasi* flower. And, causative factors and curability of a disease have been described by using the knowledge of flowers. Further, both first and second parts of Sushruta Samhita have described the flowers as an ingredient or as a separate formula for around 200 medicinal preparations with different indications. Moreover, Acarya Sushruta has highlighted that the properties of flowers are the same as the properties of their trees and flowers are the easily digestible part of a plant. Hence, can be concluded that the flowers as a food, medicine, water purifier and study about diseases have been explained in Sushruta Samhita. And, flowers can collect without harm to the plant. So, 'Flowers as Medicine' will be a good approach and adds value to Ayurveda as well as the knowledge of *Pushpayurveda* will be helpful to Eco-friendly practice of Ayurveda.

Keywords: *Pushpayurveda*, Floral therapy, Sushruta Samhita, Medicinal flowers

**DETERMINATION OF ANTI-INFLAMMATORY ACTIVITY OF ETHOSOMAL GEL OF
*Tinospora cordifolia***

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The aim of the present study is to develop an Ethosomal formulation of *Tinospora cordifolia* using cold and hot methods of preparation. The dried stem extract of *Tinospora cordifolia* was obtained using the soxhlet apparatus. In phytochemical screening tests, the presence of Tannins, Flavanoids, Saponins, Ammino acids and proteins were confirmed. Thin layer chromatography (TLC) revealed the methanolic stem extract of *Tinospora cordifolia* contains Tannins. Mobile phase taken as n-hexane, Ethylacetate, and Glacial acetic acid in different ratios such as 5:5, 6:5, and 7:3. Rf values were calculated for different bands and the values were found to be 0.76 for the standard tannic acid and 0.73 for the stem extract of *Tinospora cordifolia* which indicates the presence of Tannins. Twelve formulations were prepared by cold and hot methods. The Entrapment efficiency of all the formulations was determined by the ultracentrifugation method. Among all E1 formulations was exhibiting the highest entrapment efficiency of 96%. The percentage of drug release was observed as 96.84 and the Zeta potential value of E1 was found to be -32.7mV. Hence, the E1 formulation was considered to be the best formulation among all the formulations. The best formulation was further developed into ethosomal gel. The pH value for ethosomal gel of *Tinospora cordifolia* was observed as 6.4. Ethosomal gel was showing better in vitro diffusion of 45.2% and a drug content of 95.3% Anti-inflammatory activity was performed. The percentage increase in paw volume after carrageenan injection after 3 hrs was found to be 28.7%. *In-vivo* Anti-inflammatory activity (% inhibition) of ethosomal formulation of *Tinospora cordifolia* after 3hrs was found to be 45.80%.

Keywords: Entrapment efficiency, Hot method, Cold method, Ethosomes, Zeta potential

***IN-VITRO* ANTIOXIDANT ACTIVITY OF THE LEAVES OF *Citrus aurantium* L.**

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Citrus aurantium L. is a fruit with a unique taste and it can be exceptionally distinguished from other citrus species by unique characteristics. It is known as “*Ambul dodam*” in Sinhala. The aim of the present study was to evaluate the antioxidant activity of the leaves of *Citrus aurantium* L. *In-vitro* antioxidant activity was evaluated by 2,2-diphenyl-1-picrylhydrazyl (DPPH) assay and Ferric reducing ability of plasma (FRAP) assay. The aqueous extract of *Citrus aurantium* L. leaves was used for both assays. The antioxidant activity was evaluated against the known concentration of a standard. Vitamin C was used as the positive control and distilled water was used as the negative control in both assays. A series of dilutions was prepared for both assays by the two-fold dilution method. The action was observed in a dose-dependent manner. The results showed that the half maximal inhibitory concentration for DPPH assay was $30.109 \pm 1.54 \mu\text{gml}^{-1}$ and for FRAP assay was $1.63 \pm 0.25 \mu\text{gml}^{-1}$. IC 50 values for the standard were $39.012 \pm 0.54 \mu\text{gml}^{-1}$ and $2.00 \pm 0.94 \mu\text{gml}^{-1}$ for the DPPH assay and FRAP assay, respectively. It was concluded that the extract of the leaves of *Citrus aurantium* L. showed a potent antioxidant activity.

Keywords: *Citrus aurantium* L., DPPH assay, FRAP assay

SUDARSHAN KRIYA YOGA IN REGULATION OF HUMAN PHYSIOLOGICAL FUNCTIONS

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Sudarshan kriya yoga has been developed in rooting to *Pranayama* focusing on breathing as *Ujjayi* or victorious breathing, *Bhastrika* or bellow Breath, and chanting of Om. 25 Clinical studies on *Sudarshan kriya yoga* published in the pubmed database since January 2013 have been selected and studied. Physiological effects modulated by *Sudarshan kriya yoga* on human cardiorespiratory, gastrointestinal, genitourinary, integumentary, immunomodulatory, and neurological with neuropsychological including cognitive functions were systematically categorized. Results indicated that *Sudarshan kriya yoga* facilitates homeostasis including serum lipid concentrations and serum glucose levels, enhances immunity, increased stamina and sustained high-energy levels. In inflammations, it effectively improves the expression of the PPAR- γ gene. Further, it improves cardio-respiratory efficiency for healthy individuals such as pulse rate and blood pressure. Long-term practice of *Sudarshan kriya yoga* has beneficial effects on cardiorespiratory physiology especially with vasodilatation and hence improves peripheral circulation. *Sudarshan kriya yoga* decreases chemoreflex sensitivity, and increases arterial baroreceptor sensitivity, oxygenation, and exercise tolerance. As well, long-term practice of *Yoga* leads to a greater control of respiratory musculature and the ability to consciously override the normal physiological stimuli of respiratory centers and yogic breathing activity that helps in reducing oxidative stress as well as enhancing the status of antioxidant levels and overall, well being of health. Hence, it enhances the dermatological health. Similarly, *Yogic* breathing contributes to improving cognitive performance and daily practice of yoga can provide moderate stimulation to the autonomic nervous system. *Sudarshan kriya yoga* facilitates endocrine functions by releasing hormones like prolactin, vasopressin, and oxytocin into the hypothalamus and anterior pituitary. Similarly, it enhances the functional capacities of organs and improves the pancreatic β -cells efficiency. Moreover, it is effective in regulation of blood urea and serum creatinine levels among patients who are having chronic renal diseases. The study revealed that the *Sudarshan kriya yoga* is highly effective in maintenance of homeostasis, cardiorespiratory, neurological, neuropsychological, cognitive and immunomodulation functions.

Keywords: Breathing, Cardiorespiratory, Immunity, Health

EFFECT OF AYURVEDA TREATMENT REGIMEN ON *GRIDHRASI*: A CASE STUDY

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Gridhrasi is quite significant as more than three quarters of the world's population are affected by the disease. Signs and symptoms of *Gridhrasi* closely enumerated with the symptoms of sciatica which is described in Allopathic Medicine. It is characterized by the onset of *Ruja* (pain), *Toda* (pricking), and *Stambha* (stiffness), initially in *Sphik* (gluteal region) and then radiating distally to *Kati prishtha* (low back), *Janu* (knee), *Jangha* (thigh) till *Pada* (feet). The aim of this case study was to evaluate the efficacy of an Ayurveda treatment regimen for *Gridhrasi*. A 43 years old female patient presented with middle back pain and lower back pain radiating to left lower limb for 02 years and was admitted to In-Patient Department at Ayurveda Teaching Hospital Borella, Sri Lanka was enrolled in the study. The patient was evaluated using the international assessment scales before, during, and after treatment. The patient applied *Prista vasti*, *Abyanga* in the morning and *Mathra vasti* in the evening with *Kubja prasarini* oil for 14 days. At the end of the treatment regimen, it has been observed that the angle of the Straight Leg Raising Test the for left leg was increased by 55%. According to the Visual analog scale of pain assessment the pain decreased; forward bending from 60%, backward bending to 60% left lateral bending from, 50% and right lateral bending from 70% to 0% respectively. The analysis of the pharmacological properties of individual herbs that revealed contain *Vata-Kapha shamana doshanurupa karma* in 93%, *Ushna veerya* in 79% and *Snigda guna* in 50%. Furthermore, most of these plants have analgesic, anti-inflammatory, and aanti-oxidant pharmacological activities that directly relieve the signs and symptoms of the disease condition. Based on the data presented above, it can be concluded that this Ayurveda treatment regimen was effective in the management of *Gridhrasi*. However, the study also suggests that further research with larger sample sizes is recommended to better understand the effectiveness of the treatment protocol.

Keywords: *Gridhrasi*, *Prista vasti*, *Mathra vasti*, Assessment

**A SINGLE CASE REPORT ON EFFICACY OF SIDDHA HERBAL FORMULATION
KARUVEPPILAI MURUNGAI EERKU MANAPPAGU ON ANEMIA IN PREGNANCY**

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Among 6000 plant species in India, Siddha system of medicine uses around 750 species. Siddha system has rich and unique drug knowledge. Siddha system provides 64 pharmaceutical drug forms, among which syrup (*Manappagu*) is an herbal decoction boiled with jaggery till the production of sweet aromatic odour. This study involves documentation of a single 30-year-old multigravida female (1 st trimester – 41 days) case presenting with symptoms of nausea, fatigue, pallor and laboratory report of moderate anemia (Hb-8.2g/dL), low red cell indices and hypochromic peripheral blood smears according to CARE (Case report guidelines). The drug is prepared after authentication and purification using the ingredients *Moringa oleifera* Lam., *Murraya koenigii* (L.) Spreng. and *Zingiber officinale*. Roscoe. with reference to Siddha classical text BOGAR 2000. In HR-LCMS* (High Resolution-Liquid Chromatography mass spectrometry) based metabolite profiling 43 compounds such as Citbismine C, Pedallin, Peganine, Myristicanol A, Pirbuterol, scolpalin, etc., were identified through Q-TOF MS* and compared with parental molecules using Pubchem, HMDB, PubMed and Google scholar showing Haemtonic, anti- hypertensive, increased Epo-production, Increased absorption of iron, prebiotic activity etc.. This study is carried out after obtaining proper institutional approval and informed consent from the patient. 5ml morning and evening *Karuveppilai murungai eerku manappagu* with hot water administered to the patient along with dietary advice and progressive improvement in signs and symptoms and laboratory investigations were assessed periodically. After 3 months, the symptoms of normocytic, hypochromic anemia are moderately improved (Hb-10.8g/dL*). So, supplementation of *Karuveppilai murungai eerku manappagu* is helpful in the management of anemia in pregnancy in first trimester.

Keywords: *Karuveppilai murungai eerku manappagu*, Anemia in pregnancy, Siddha herbal formulation, HR-LCMS, Case report

***IN VIVO* EVOLUTION OF WOUND HEALING ACTIVITY OF *Curcuma zedoaria*
ROSC ROOT POWDER (TOPICAL APPLICATION) ON WISTAR ALBINO RATS
USING EXCISIONAL WOUND MODELS**

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Wound are unavoidable events of life. An appropriate method for healing of wound is essential for the restoration of disturbed anatomical continuity and function of the skin. The term *Pun* in Siddha medicine refer to break in the skin tissue in any portion of the body. Siddha system of medicine, has described several plant sources used for treating numerous types of wounds. However, there were no scientific reports documented so far in the wound healing activities. In this study, aimed to evaluate the effect of single herbal drug *Kichchalik kizhangu* in Tamil, *Curcuma zedoaria* root powder on the active wound contraction on excisional wound in Wistar albino rats. Either sex of rats was grouped as test, control and standard (n=6) were housed in standard condition (T 22±2° C, RH 60±5%, 12h light/dark cycle). They were fed with standard pellet diet and water *ad libium*. Animals was anesthetized by giving ketamine hydrochloride (50mg/kg, IP), an impression was made on the dorsal thoracic region. 10% povidone iodine ointment and *Curcuma zedoaria* root powder was topically applied to cover the wound surface every day (morning 8.00 am) to till complete epithelization respectively for standard and test groups. Control was treated with 0.9% normal saline. Data was collected once in 2 days and recorded. The direct observation was scored by converted into Bates-Jensen wound assessment tool and circumference of the wound are measured and calculated the contraction. Statistical comparison was performed using one-way analysis of variance and obtained the p<0.001. The result showed that the drug root powder for 2 weeks resulted in a significant reduction (p<0.001) in the epithelization and complete healing without scar formation as compared to control. Future studies are needed to determine the phytochemical responsible for the above-mentioned findings, as well as their clinical usefulness in the treatment of wound healing.

Keywords: *Curcuma zedoaria*, excision wound model, Siddha medicine, Topical application, Wound healing activity

SCIENTIFIC REVIEW OF THE PHARMACOLOGICAL EFFECT OF TRADITIONALLY USED *SAPSADA (Aristolochia indica)* IN THE MANAGEMENT OF POSTMENOPAUSAL COMPLICATIONS

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Menopause is a natural phase in a woman's life where the menstrual cycle ceases due to reduced production of eggs and sexual hormones by the ovaries, leading to estrogen deficiency. This can result in various complications, such as cardiovascular diseases, vasomotor symptoms, psychiatric issues, and urogenital atrophy. Developing countries have often used hormonal therapy to manage these symptoms. In this context, researchers aim to explore the potential of medicinal herbs from Sri Lankan folk medicine as an effective remedy for post-menopausal symptoms. One such herb is *Sapsada (Aristolochia indica)*, a creeper found in southern India and Sri Lanka. The study seeks to review the phytochemical composition of *Sapsada* and investigate its anti-inflammatory, antioxidant, and hormonal effects to manage postmenopausal complications. The research follows a systematic literature review conducted using the PRISMA model, gathering data from 27 indexed articles on Google Scholar and PubMed from 1992 to 2022. The ethanolic extract of *Aristolochia indica* was found to contain flavonoids, alkaloids, and tannins, along with other phytochemicals like aristolochic acids, aristolactam, sesquiterpene ishwarene, sesquiterpene ketone ishwarone, and sesquiterpene. Both *in vivo* and *in vitro* experiments demonstrated the herb's anti-inflammatory properties. *In vivo* tests using the carrageenan-induced rat paw edema method showed positive results. *In vitro* experiments revealed the inhibition of TNF- α and IL-6 cytokines, contributing to postmenopausal symptoms. Moreover, *Sapsada (Aristolochia indica)* extract exhibited significant free radical scavenging activity, showcasing its antioxidant potential, which can aid in reducing aging-related issues. Preliminary phytochemical analysis indicated the presence of flavonoids, alkaloids, and tannins, suggesting significant estrogenic activity. By reducing inflammation and oxidative stress while increasing estrogenic effects, *Sapsada* could potentially alleviate post-menopausal complications. In conclusion, this study explores the medicinal properties of *Sapsada* as a potential treatment for post-menopausal symptoms. Its rich phytochemical composition and demonstrated anti-inflammatory, antioxidant, and hormonal effects (phytoestrogen effect) make it a promising candidate for managing the complications associated with menopause. However, further research and clinical studies are required to fully understand its efficacy and safety as a therapeutic option for menopausal women.

Keywords: *Aristolochia indica*, Anti-inflammatory, Antioxidant, Phytoestrogen

SYSTEMATIC REVIEW ON ANTI-NEOPLASTIC EFFECT AND ITS MOLECULAR MECHANISM OF *TRIPHALA*

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Triphala is a highly efficacious polyherbal Ayurveda formula which has been researched for its effects including immunomodulatory, adaptogenic, radioprotective and anti-neoplastic effects. The present study was performed to evaluate the anti-neoplastic efficacy and its molecular mechanism of *Triphala*. Google Scholar, PubMed, and ScienceDirect databases were scrutinized for past ten years. Using the search terms of "*Triphala*" for the past ten years, twenty articles on anti-neoplastic effect were retrieved from 250 articles after screening the articles with relevancy, language, full text etc. Apoptosis, reduction of tumor growth and mutations, increase the cytotoxicity of cancer cells, were identified as main mechanisms corresponding to anti-neoplastic effect. Cancer cell growth is reduced by reduction of cell invasion and migration. Moreover, it induces the radiation effect in cancer cells and reduces the effect of radiation in normal cells. Methanol or acetone extract of *Triphala* displayed a significant efficacy of cytotoxicity, antioxidant potential and antiproliferative activity. Molecular mechanisms have been evaluated via human ovarian cancer cell line SKOV-3, cervical cancer cell line HeLa, and endometrial cancer cell line HEC-1-B, pancreatic cell line Capan- 2, pancreatic cancer cell line BxPC-3 human pancreatic ductal epithelial (HPDE-6), breast cancer cell line MCF/7 etc. Activation of Tumor protein 53 (P53) and Extracellular signal-regulated kinase (ERK), regulation of the EGFR/Akt signaling cascade, increasing of superoxide dismutase, and elevation of Bax/Bcl-2 ratio, inhibition of DNA mutagenicity in specific tissues etc. were found as molecular mechanisms of *Triphala*. Further, Evidences showed the role of *Triphala* in neoplasms and its utilization as a preventive measure to the undesired effect of radiation therapy and predicting the potential of *Triphala* as an anti -neoplastic agent.

Keywords: *Triphala*, Anti-neoplastic activity, Molecular Mechanism

PHARMACOGNOSTIC EVALUATION OF *Chrysopogon zizanioides* (L.) ROBERTY ROOTS

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Roots of *Chrysopogon zizanioides* (Family:Poaceae); *Savendara* in Sinhala possess a variety of bioactivities and used in the traditional medicine in Sri Lanka. The vetiver oil extracted from roots have a sedative and strengthening effect on the nervous system. This study was carried out to establish pharmacognostic parameters relevant to identify roots of *Chrysopogon zizanioides*. Three root samples were collected from one year old plants grown in Pattipola, Haldummulla and Giradurukotte area covering three ecological zones. Roots were washed with running water and a part of fresh roots were used to observe morphology, organoleptic properties and microscopical features. Transverse sections were taken at three positions of the roots, observed under Axio microscope with camera and relevant photographs were taken. Grounded air-dried roots were taken to investigate physicochemical parameters and analysis of TLC profile according to WHO guideline. Ethanol extracts were used to analyze TLC. Solvent system used is Hexane:Ethyl acetate (8:2) and observed under UV light , 10% Sulphuric acid and Iodine vapour as spray reagents. Roots of Vetiver are much branched more than 3m long, very strong, spongy, fibrous, whitish root stock. The cross section shows outer most epidermis, two distinguishable areas of cortex with inner aerenchymatous tissue, vascular tissue and pith containing oil globules. Endodermis separates cortex and inner part. Tracheids, pitted and reticulated vessels, fibres and parenchymatous tissue were observed in roots powder. The percentage of Loss on drying, total ash, acid insoluble ash, water soluble ash, water extractive value were 11.3575, 9.06105, 4.8186, 0.13155, 2.76 respectively. TLC analysis shows spots at Rf values black 0.49, 0.64, blue 0.46, 0.49 and under 10% Sulphuric acid brown 0.15, 0.23, 0.46, pink 0.38, 0.69, 0.81 and yellow 0.49 and yellow spots were observed with iodine vapour.

Keywords: *Chrysopogon zizanioides*, Vetiver, *Savendara*, Ecological variations

EFFECT OF HIJAMA BILA SHURT IN WAJA AL MAFASIL BARID AL RUKBA (KNEE OSTEOARTHRITIS): A REVIEW

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Hijama is an ancient method of treatment that has been used to stimulate the flow of blood, helps to divert accumulated *Fasid madda*. *Hijama* is a type of *Ilaj bil Tadbeer* recommended for the treatment of *Waja al Mafasil Barid*. *Waja al Mafasil Barid al Rukba*, Knee osteoarthritis is typically the result of wear and tear and progressive loss of articular cartilage. It is most common in the elderly. Depending on the sources, roughly 13% of women and 10% of men 60 years and older have symptomatic knee osteoarthritis. A study reported that health related quality of life was affected more by painful joint conditions. In the conventional medicine there is no complete cure available and has a lots of side effect too. The aim of this study is addressing this disease from the viewpoint might provide a better management from the prospective of Unani medical *Hijama* therapy. To identify studies for inclusion in the review, an electronic database search was carried out in MEDLINE, Cochrane Library, and Web of Science until July 2023. A total of 5 studies met our inclusion criteria with more than 600 participants. Result showed that dry cupping therapy along with Western medicine therapy was more effective in reducing the pain, stiffness, physical function and domains of the Western Ontario and McMaster Universities Osteoarthritis Index (MD from (-0.73) to (-10.07), 95% CI, $p < 0.01$) compared to participants in the Western medicine therapy group. Most of the studies suggest *Hijama* in the management of *Waja al Mafasil Barid*, however no any previous studies have been conducted in Sri Lanka.

Keywords: *Hijama Bila Shurth*, *Waje Mafasil al Barid Rukba*, Osteoarthritis, Dry Cupping

BEHAVIOUR OF BACTERIAL FLORA IN CHRONIC WOUND WITH THE APPLICATION OF *APAMARGA* AND *KARANJA KSHARA PICHU*: A COMPARATIVE CLINICAL STUDY

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Chronic wounds affect 1–2% of the general population and are related to increase morbidity and health costs. The healing of chronic wounds is affected by multiple local and systemic factors. Bacterial burden is believed to play a significant role in impaired wound healing. *Kshara* is a para-surgical method that can be used as a debridement agent in chronic wounds. The study aimed to determine the efficacy of *Apamarga* (*Achyranthes aspera*) and *Karanja* (*Pongamia pinnata*) *kshara pichu* in the management of chronic wounds. Study design was randomized, parallel-group, and comparative clinical research. Research is ongoing at the surgery Out Patient Department and In Patient Department of National Ayurveda Teaching Hospital, Borella, Sri Lanka. The microbial content is evaluated as a part of the study. Wound Swab Culture using Levine technique was done at a reputed laboratory before and after the treatment to detect the behavioural pattern of bacterial flora. Analyzed 28 swab culture reports of 14 patients with chronic wounds before and after the treatment. Bacterial species including *Pseudomonas aeruginosa*, *Staphylococcus aureus*, and *Coliform* bacteria were detected before the treatment. Among those gram-negative *Pseudomonas* species was the commonest bacteria (57%) detected in chronic wounds. After the treatment *Coliform*, *Staphylococcus*, and *Streptococcus* bacteria were detected among those *Staphylococcus* was the commonest (50%). It was observed that gram-negative bacteria in wounds were associated with more pain and tenderness. Both *pichus* were effective in a significant reduction in bacterial colonization and had better compliance in the case of gram-negative bacteria. It was observed that *Coliforms* were detected in most of the patients admitted to the ward and disinfection should be optimized to avoid contaminations. The *Streptococcus* colonization has been detected in a single case and surface hygiene of the clinic and the instruments should be maintained to avoid such growth. Longitudinal studies employing serial sampling are needed to appreciate the role of the dynamic bacterial community in chronic wound healing.

Keywords: Bacterial flora, Chronic wound, *Apamarga* and *Karanja kshara pichu*

WOUND HEALING ACTIVITY AND CHROMATOGRAPHIC ANALYSIS OF AQUEOUS EXTRACT OF *Mikania cordata* LEAVES

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Mikania cordata (Burm.f.) B. L. Rob (“*Wathupalu*”) is a perennial, twining vine which is widely grown in Sri Lanka. Since past, various parts of *Mikania cordata* plant has been used in the treatment of wounds. This study was carried out to evaluate the wound healing activity and chromatographically analyze the aqueous extract of *M. cordata* leaves. The extract was prepared by sonicating the dry powder of *Mikania cordata* leaves with distilled water. The freeze-dried powder of the extract was used for further studies. Scratch assay, which analyzes collective cell migration in vitro was performed to evaluate the wound healing activity. The cell migration was observed in MCF-7 breast cancer cells which were treated with different concentrations (1 mg/ml, 0.5 mg/ml and 0.1 mg/ml) of aqueous solutions of freeze-dried powder. Images of the cells were taken at different time intervals (0th, 6th, 24th hours). The treated cells after 24 hours showed a significant closure of the created scratch in cells treated with 0.5 mg/ml of extract than in the cells treated with 1 mg/ml whereas the cells treated with 0.1 mg/ml aqueous extract showed negative results. Therefore, the ideal concentration of the *Mikania cordata* leaf extract effective for wound healing was 0.5 mg/ml among the tested concentrations. Normal phase thin layer chromatography was performed for the dichloromethane and methanol extracts of the freeze-dried powder. Dichloromethane extract showed separation of three spots at R_f values 0.49, 0.64 and 0.78 (Hexane: Dichloromethane: Methanol / 4:5:1) while methanol extract showed separation of two spots with R_f values 0.75 and 0.89 (hexane: dichloromethane: methanol/1:8:1) which may correspond to different compounds. Column chromatography was performed for the dichloromethane extract and separation of a compound with R_f value 0.82 (hexane: dichloromethane: methanol / 4:5:1) was observed which might be responsible for wound healing.

Keywords: *Mikania cordata*, Aqueous extract, Wound healing, Scratch assay

CLINICAL STUDY ON PRECAUTIONARY MEASURES OF PAIN WITH CRACKING SOUND ON *JANU SANDHI* BY OKRA PASTE

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Janu sandhigata vata is the one of the most common *Vata vyadhi* which mainly occurs due to *Dhatukashya*. Main symptoms are *Vatapurandritisparsha*, *Prasaranakunchana Vedana*, *Sandhishoola*, *Atopa* (cracking sound) which limits daily life activities. In early stage of *Janu sandhigata vata* patients present pain with cracking sound. Attempt of the study is to enhance the *Shleshaka kapha*, diminish the *Vata dosha* and sufficient lubricant of joint spaces for unrestricted knee joint by using Okra paste. Thirty patients, suffering from pain and cracking sound while climbing stairs, were selected for the study. Age between 30 - 60 years without any anatomical deformity were included. Patients were treated by Okra paste once a day leaving overnight for 30 days. In this study, 54.89% patients were found in 30 - 40 years of age group, 59.18% were female, 93.87% were catholic, 95.91% were married, 40.81% were housewives, 53.06% belonged to lower middle class, 81.63% were from urban area, 85.71% had got gradual type of onset were found in the study. Majority of the patients were having joint crepitus of palpable nature. Before commencement of treatment 72% had *atopa* in the right knee joint, it was reduced into 24%. Before the commencement of treatment 100% patients had pain in the right knee joint of grade 6 which reduced of grade 1 in all the patients. Statistical analysis revealed that reduced of pain and crepitus were highly significant with "P" value <0.05. Overall assessment showed markedly reduced in 66%, moderate reduced in 17%, mild reduced (17%) of pain and crepitus. Okra paste is simple, cost effective and easily available ingredient, which emphasized Okra paste, is easy reach the public for early manage of pain and crepitus on *Janu sandhi*.

Keywords: Okra paste, *Vatapurandritisparsha*, *Shleshaka kapha*

**DEVELOPMENT OF NOVEL HERBAL COSMECEUTICAL PRODUCT AND
EVALUATION OF ITS SAFETY AND EFFICACY ON HAIR GROWTH: A STUDY
PROTOCOL**

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The hair loss has been shown to negatively impact both self-esteem and self-image and it reveals that, women are more influenced psychologically by hair loss. Herbal extracts or natural products to attenuate hair loss or enhance the hair growth has gained popularity recently. The hair care products such as hair growth enhancers, hair conditioners, etc. are now being marketed as containing natural components to prevent hair loss. The present study aims to develop a novel herbal cosmeceutical product and evaluate its efficacy and safety. The first phase of the study is the development of hair oil using a novel herbal formula and the standardization and quality control of the product. The second phase is consisted with the randomized open label clinical trial in hair loss individuals. The efficacy of the product on hair growth will be evaluated following the skin sensitivity test by the hair pull test, hair comb test, daily hair loss count and qualitative and quantitative growth of the hair by using the hair analyzer. Study duration will be for 28 days and the guidelines will be provided for the participants for obtaining the successful outcome with minimal personal errors. Follow up will be done for one month of period. Expected outcome of the study protocol will be the mean difference in the qualitative and quantitative growth of hair and the management of the hair fall rate. Hence, the present study will be the first to evaluate the efficacy of the novel herbal formula and to evaluate the efficacy of hair growth using the given study protocol. The successful outcome of the study will be beneficial in the development of quality controlled safer cosmeceutical product for hair growth by clinically validating for its efficacy.

Keywords: Study protocol, Hair growth, Herbal product

IN VITRO PROPAGATION OF *Valeriana mooni* USING DIFFERENT EXPLANTS

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Valeriana mooni also known as "*Lanka tuwarala*" is an endemic plant which has economical and medicinal value. Previous studies revealed, that *Valeriana mooni* shares pharmacogenetic properties with *Nardostachys jatamansi* (Caprifoliaceae) which is extensively utilized in Ayurveda and traditional medicine in Sri Lanka. Since the exportation of *Nardostachys jatamansi* has restricted in India, it is important to study an efficient propagation system for large scale production of *Valeriana mooni*. The aim of this study was to establish an efficient protocol for *in vitro* micropropagation of *Valeriana mooni* by identifying the best surface sterilization method and optimizing culture media for shoot and root induction using various growth regulators at different concentrations and ratios. This was achieved by using different explants, such as nodal/auxiliary bud, leaf, and rhizome buds. Best shoot induction (3.13 ± 0.35) from axillary buds of *Valeriana mooni* was observed in the presence of (1.0mg/L) Indole-3-acetic acid (IAA) and (5.0mg/L) Kinetin (Kn) with the maximum mean length of the shoots (3.21 ± 0.10 cm). Highest shoot multiplication (5.17 ± 0.30) with maximum mean length of shoots resulted in MS medium supplemented with 1.0mg/L IAA and 5.0mg/L Kn during first and second sub culture level. Rooting of *in vitro* shoots is successful in half strength MS medium supplemented with 1.0mg/L IAA, resulting highest mean roots per shoot (7.50 ± 0.30). Callus induction was studied *in vitro* using leaf explants. The best callus formation was achieved in MS media supplemented with 3.0mg/L 2,4-Dichlorophenoxyacetic acid (2,4-D) and 1.0 mg/L Kn. This study suggests that, utilizing nodal or axillary buds as explants can be a more promising approach for *in vitro* propagation of *Valeriana mooni*. This highlights the importance of selecting the appropriate explant for optimal results of *in vitro* propagation and the possibility of mass propagation of *Valeriana mooni* through *in vitro* methods.

Keywords: Indole-3-acetic acid (IAA), Kinetin (Kn), Shoot multiplication micropropagation, Surface sterilization

EFFECTIVENESS OF *AGNI KARMA* IN THE MANAGEMENT OF DIRECT INGUINAL HERNIA: COMPARATIVE CASE SERIES

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Hernia, the protrusion of an organ or part through its containing wall, is a prevalent condition, with direct inguinal hernia being the most common abdominal hernia among males. Inguinal hernia repair constitutes a significant proportion of surgical procedures globally and is associated with notable morbidity and mortality rates. In Ayurveda, direct inguinal hernia is classified as *Antra vridhhi* in *Vridhhi Adhyaya*, aligning closely with modern descriptions of inguinal hernia. Sushruta Acharya recommends *Agni karma* for this condition, as it is considered incurable (*Asadhya*) and necessitates surgical intervention, particularly for hernias that have not yet distended to the scrotum (*Aprapthapalakosha*). Thus, the objective of this study is to evaluate the effectiveness of *Agni karma* in managing direct inguinal hernia compared to *Lashunairanda* oil *Pichudharana*. A total of 60 patients, aged 45-75 years, with clinically diagnosed direct inguinal hernia, were randomly divided into two groups Group A (Trial) and Group B (Control). The study spanned 30 days, during which Group A received *Agni karma* with *Pancha lauha shalaka*, and Group B underwent *Pichudharana* with *Lashunairanda* oil for 30 days. Subjective and objective criteria, including pain, limitation of movement, reducibility, and hernia lump size, were used to assess the effectiveness. SPSS statistical software was employed for data evaluation. Both treatment groups showed significant relief in all signs and symptoms in post-treatment ($p < 0.005$). Notably, Group A exhibited more pronounced relief compared to Group B ($p < 0.005$). Reducibility and reduction of lump size in trial group showed more quick effect than the *Lashunairanda pichudarana* therapy. It can be concluded that both treatment methods are effective in the management of direct inguinal hernia and *Agni karma* is more effective than the *Lashunairanda pichudharana* procedure.

Keywords: *Agni karma*, *Anthravridhhi*, Direct inguinal hernia

PHARMACOLOGICAL AND THERAPEUTIC DIVERSITY OF PRASARANI TAILA

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Prasarani taila is an herbal oil preparation used by Ayurveda and traditional medical practitioners which are used in both curative and preventive aspects, especially in *Vata vyadhi*. According to the literature, it was found that there are different formulae of *Prasarani taila* including *Prasarani (Apocynum foetidum* Burm.f.) as the main ingredient. The study aimed to collect and analyze the formulae of *Prasarani taila* from Ayurveda and traditional authentic texts along with its insight into ingredients, method of preparation, indication, mode of action and their application. The study was carried out by obtaining data from Ayurveda pharmacopeia, Sharangadhara Samhitha, Bhavaprakasha, Sarasamkshepayaya, Cakradatta and Bhaisajjaratanavali. The review resulted total ten formulae: four formulae for *Prasarani taila*, and each *Kubjaprasarani taila*, *Trishati prasarani taila*, *Saptashataki prasarani taila*, *Ekadashashataki prasarani taila*, *Ashtadashashataki prasarani taila* and *Maharaja prasarani taila*. The ingredients of the formulae are different from each other and the main ingredient is *Prasarani panchanga*. Most of the formulae the ingredients used *Prasarani kashaya*, *Dadhi*, *Kanjika* and *Godugdha* as *Drava*. The nine formulae used sesame oil and one used castor oil as the base oil. Some formulae of *Prasarani* and *Kubjaprasarani taila* are used only for *Abhyanga*. Some formulae of *Prasarani taila*, *Trishati prasarani taila*, *Saptashataki prasarani taila*, *Ekadashashataki prasarani taila*, *Ashtadashashataki prasarani taila* and *Maharaja prasarani taila* used for *abhyanga* as well as *Vasti*, *Pana* and *Nasya*. *Trishati prasarani taila* is specially used in the treatment of *Punsavan karma*. *Ekadashashataki prasarani taila* and *Ashtadashashataki prasarani taila* used in *Vrukashayurveda* as well as *Satvayurveda*. The main indications of all types of *Prasarani taila* is for *Vata roga*, *Rasayana* and *Vajikarana*. The authors concluded that the formulae mentioned under the name *Prasarani taila* are different under the above criteria.

Keywords: *Prasarani taila*, formulae, *vatavyadhi*, Ayurveda, traditional medicine

SYSTEMATIC REVIEW ON AYURVEDA MANAGEMENT OF ANEMIA IN CHILDREN

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Ayurveda describes *Pandu roga* as one of the "*Varnopalakshita roga*," or diseases indicated by a change in color, and it is characterized by changes in skin color to *Shweta*, *Peeta*, *Harita*, etc. Due to the similarities in clinical signs and symptoms, the Ayurvedic illness of *Pandu* and the anemia described in modern medicine can be associated. In society, *Pandu roga* is a relatively common condition, and Sri Lanka has also been affected by it. The Jadad scoring system is a tool for objectively assessing the methodological quality of a clinical trial. The Jadad score served as the "gold standard" for assessing the methodological excellence of investigations. This recognized rating ranges from 0 to 5. The three crucial methodological components of blinding, randomization, and patient accountability, including withdrawals, are used to evaluate studies. Range of Score Quality, 0–2 is Low and 3–5 is high. The aim of this study is to assess the quality and standard of the Research study conducted on Ayurveda management of anemia in children. Data has been collected from Ayurvedic texts, Research Journals, and electronic databases; PubMed, and Google Scholar using '*Pandu roga*,' Anemia in Children', and 'Ayurveda Management' as keywords. Research articles on clinical studies published between 2012-2022 were screened initially. Related to Ayurveda Management on Anemia; 5 national types of research and 16 international pieces of research were found and Jadad Score was applied to 10 types of research that fulfill the inclusion criteria. Among them 2 studies scored 0, 4 studies scored 1 mark only, 1 study scored 2 marks, 1 study scored 4 marks and 2 studies scored 5 marks. The range of Score is low in 7 studies, only 3 studies showed high in assessing the quality and standard of the Research study. It can be concluded that more standardization is required when designing future studies on the topic to maintain quality and accuracy.

Keywords: Systematic review, Anemia, *Pandu roga*, Jadad scoring system

COMPARATIVE STUDY OF THE ANTIOXIDANT CAPACITY OF RATHKARALHEBA, HATAVARIYA AND TRIPHALA TABLETS

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Antioxidants can prevent or slow cell damage caused by free radicals. Free radicals are waste substances produced by cells. If the body cannot process and remove free radicals efficiently, this can harm cells and body functions. Factors that increase the production of free radicals in the body can be internal, such as inflammation. Piles is also an inflammatory condition and swollen collections of tissue in the anal area. Antioxidants are said to help neutralize free radicals in our body, and this is thought to boost overall health and also to help the reduction of piles also. The sources of antioxidants can be natural or artificial. Certain plants are thought to be rich in antioxidants. For piles, *Rathkaralheba* (*Cyathula prostrata*) and *Hathavariya* (*Asparagus racemosus*) are used as single drugs and *Thriphala* tablets *Terminalia chebula*, *Terminalia bellirica* and *Phyllanthus embelica*) are also used for control piles. In this study conducted to compare antioxidant capacity of these drugs. In this study, total polyphenolic content (TPC), total flavonoid contents (TFC), Ferric reducing antioxidant power (FRAP), Oxygen radical absorbance capacity (ORAC), 1,1-diphenyl-2-picrylhydrazyl (DPPH) assay, 2,2-azino-bis (3 ethyl benzothiazoline-6-sulfonicacid) diammonium salt (ABTS) assay in hot water extracts of *Rathkaralheba*, *Hathavariya* and *Thriphala* were measured. The results revealed that, TFC (mg quercetin equivalents/ g of extracts) of *Rathkaralheba*, *Hathavariya* and *Triphala* respectively 9.60 ± 0.10 , 5.62 ± 0.22 & 7.85 ± 0.23 ; TPC (mg gallic acid equivalents) 15.1 ± 2.13 , 10.23 ± 0.60 & 18.65 ± 0.32 ; FRAP (mg Trolox equivalents) 25.68 ± 0.97 , 5.51 ± 0.06 & 1124.31 ± 33.08 ; ORAC (mg Trolox equivalents) 52.29 ± 1.58 , 13.39 ± 0.37 & 336.63 ± 5.46 ; DPPH (mg Trolox equivalents) 4.71 ± 0.17 , 0.42 ± 0.01 & 1434.19 ± 56.17 ; ABTS (mg Trolox equivalents) 36.81 ± 1.80 , 6.35 ± 0.14 & 1959.39 ± 54.14 . These results have revealed that *Triphala* has more antioxidant activity than of *Rathkaralheba* and *Hathavarya* which are used to treat piles.

Keywords: *Thiphala*, Piles, Anti-oxidents, *Hathavariya*, *Rathkaralheba*

ORGANOLEPTIC, MACROSCOPIC AND MICROSCOPIC ANALYSIS OF HERBAL PLANT MATERIALS OF *AMURTHASHTAKA KWATHA*: AN AYURVEDIC POLYHERBAL FORMULATION

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Medicinal plants play a very active role in traditional medicines for the treatment of various ailments. *Amurthashtaka kwatha* is an Ayurvedic polyherbal formulation and one of the oldest and most common *kwatha* used in the treatment of fever associated with inflammation. It is made up of eight plants; bark of *Azadirachta indica*, rhizome of *Cyperus rotundus*, *Picrorhiza scrophulariiflora* and *Zingiber officinale*, seeds of *Holarrhena antidysenterica*, heartwood of *Santalum album*, Stem of *Tinospora cordifolia* and whole plant of *Trichosanthes cucumerina*. This study has focused investigations on organoleptic, macroscopic and microscopic characteristics of plant materials of *Amurthashtaka kwatha*. The Macroscopy of the authenticated plants were studied according to shape, size, colour, surface characteristics, texture and appearance of the cut surface. Organoleptic evaluation results due to an impression on organs of senses according to World Health Organization guidelines. In microscopic identity, transverse sections of the herbs were studied for the arrangement of general and specialized tissues that are specific for the particular herb. Lenticels, calcium oxalate crystals, stone cells and oil globules in *Azadirachta indica*; Tannin containing cells in *Cyperus rotundus*; Cluster of fibers in hypocotyl parts in *Holarrhena antidysenterica*; Cambium layer between phloem and xylem tissues and calcium oxalate crystals in *Picrorhiza scrophulariiflora*; Ray parenchyma with starch grains and oil globules in xylem tissues of *Santalum. album*; Sclerenchyma caps between cortex and phloem tissues as well as ray parenchyma riched with starch grains in xylem tissues in *Tinospora cordifolia*; Segmented trichomes, sclerenchyma ring and holo pith in *Trichosanthes cucumerina* and different shaped and large sized starch grains and oil globules in *Zigiber officinale* were identified as specific identification characters in each plants. This study helps to identify and authenticate the raw materials of the herbal plants as ingredients of *Amurthashtaka kwatha* in the Ayurveda medical practice. The parameters also help to standardize the crude drug and minimize the drug adulteration.

Keywords: Ayurvedic, Macroscopic, Microscopic, Organoleptic and standardize

**ASSOCIATION OF *Prakriti* STATUS AND GENE POLYMORPHISMS WITH
HYPERLIPIDEMIA PATIENTS**

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Every individual has their own body constitution as unique finger print, described in Ayurveda texts as "*Prakriti*", determining individuals' different physical mental and emotional characteristics. In modern science explains, the individuals' fingerprint via individual genetic variation. Ayurgenomics is the scientific explanations describe the integration of the principles of Ayurveda with genomics. It presents the personalized approach in the predictive, preventive and curative aspects of stratified medicine with molecular variability. Hyperlipidemia is the major cause of cardiovascular disease death in worldwide and this can be influenced by the *Prakriti* of individuals and genetic polymorphism. The gradually increased incidence of Hyperlipidemia and the growing need to find permanent solution for these threats have drawn research interests. The objective of this study to find the association of *Prakriti* type and gene polymorphism, where both are related to Hyperlipidemia. Web based twenty one research articles referred for this literature study. Out of that sixteen articles explained the association of gene polymorphism with hyperlipidemia and rest were related to association of *Prakriti* describe in Ayurveda with Hyperlipidemia. According to the findings, the most common polymorphisms related to Hyperlipidemia as polymorphisms of methylenetetra hydrofolate reductase (MTHFR) gene, Apo B gene, Apo E gene, Nicotinamide N-Methyltransferase Gene Polymorphisms, SR1 and ESR2 gene, CYP2D6 gene, PON1 L55M and Q192R gene. On the other hand, some studies have shown individuals with *Kapha* types having higher levels of triglycerides, total cholesterol, high low-density lipoprotein and low high-DL, compared to *Pitta* and *Vata* types. No articles were found that explained the association of *Prakriti* with gene polymorphism of Hyperlipidemia condition. As *Prakriti* represents one's individual characteristics, it helps a doctor to determine the severity of the disease and thereby predict the treatment plan and health habits to be followed by the patients. Finally, it is interest to find accordingly the correlation of *Prakriti* status and gene polymorphism of individual can be accentuated and the finding may help to management of disease and planning the treatment protocol.

Keywords: Hyperlipidemia, Gene Polymorphysm, *Prakriti*, Body constitution

PREVALENCE OF NUTRITIONAL STATUS IN SCHOOL-GOING CHILDREN OF P/ PERUKKUWATTAN/AL MINHAI MUSLIM MAHA VIDYALAYA: A SURVEY

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Prevalence of excessive body weight and obesity among children is increasing in many countries, even in Sri Lanka. It is believed that one of the two most important reasons for this increase is insufficient physical activity of children and Socio-economic status and other factors also influence the nutritional status of the childhood and adolescence. Studies are needed to test the relevance of the anthropometric criteria for health and well-being, particularly in developing countries. For to study the objectives, a cross-sectional study was conducted on 331 male and female students from grade 1 to grade 13 of P/Perukkuwattan/Al Minhaj Muslim Maha Vidyalaya. A questionnaire along with the Socio-economic status, dietary history and physical activities was provided to the students and students are subjected to anthropometric measurements. The collected data has been analyzed and summarized. The results showed that, out of the 331 students, 79 (24%) are underweight, 175 (53%) are normal weight, 38 (11%) are overweight and 39 (12%) are obese. Out of 331 students 89(27%) students are short (stunted), 242(73%) are of normal height and no one (0%) is tall. Out of 331 students, 106 (32%) are from low-income families, within them 27(25%) are underweight, 57(54%) are normal weight, 08(8%) are overweight and 14(13%) are obese. Out of 331 students, 292 (88%) are physically active, among them 149(51%) are Normal Weight. Out of 331 students, 39 (12%) are physically inactive, among them 05(13%) are Overweight and 04(10%) are Obese. It was concluded that, the prevalence of nutritional status of normal weight and normal height for age was high among School going children of P/ Perukkuwattan/Al Minhaj Muslim Maha Vidyalaya. Prevalence of high Physical activity associated with normal Boody Mass Index. A significant amount of overweight and obesity resulted which should be monitored to avoid future health consequences.

Keywords: Nutritional status, Physical activity, Socio economic status, School going children.

**EVOLUTION OF ACUPUNCTURE AND *VIDUM PILISSUM* CHIKITSA BASED ON
PRE-HISTORIC ERA OF SRI LANKA: A REVIEW**

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The well-accepted opinion regarding the origin of Acupuncture is in China but, according to the pre-historical evidence in Sri Lanka, the first acupuncturist has been evaluated in *Beli lena*. From the period of about 37,000 years ago, the pre-historic archaeological records which are more complete, extensive, and most reliable have been confirmed in the time frame covered by four caves excavated and investigated in the lowland, wet-zone of Sri Lanka. The caves are *Fa Hien Lena*, *Batadomba Lena*, *Beli Lena* and *Alu Lena*. The Balangoda man who is the settler in *Beli Lena*, created hand crafted geometric microlithic tools in various shapes and found pointed needles of quartz, flint, bone, chert and of other materials, up to 4 cm long was the first acupuncturists obviously used for acupuncture purpose. The aim and objective of the study was to review on the pre-historic origin of acupuncture and later practiced as *Vidum pilissum* in Sri Lankan traditional medicine. In Sri Lanka, acupuncture was practiced in a much broader spectrum not only on humans, but also on animals. Such practices as acupressure, acupuncture, burning, tattooing, and cauterizing have been noted in ancient Ola leaf books, which were described as *Nila vidum chikitsa* in the traditional medical system. Based on the findings, acupuncture first originated in Sri Lanka, probably as early as 37,000 years ago and later spread along the elephant-laden spice route, together with the medicinal herbs, poisons and spices to Europe through Persia and also to North Africa. It explains the reason of Australian - Italian, Tyrolean Iceman was treated with acupuncture 5200 years ago. Traversing the reverse of the silk route, with the cross-fertilization of commerce, cultures and knowledge, acupuncture then spread to China from Europe, where it flourished for the past 3000 years and even became a national heritage of China.

Keywords: Acupuncture, *Beli Lena*, needles, Balangoda man, *Nila vidum pilissum*

**HEPATOPROTECTIVE ACTIVITY OF HEPATOTONICS (*MUQAWWIYAT E JIGAR*)
MENTIONED IN UNANI MEDICINE: A SCIENTIFIC REVIEW**

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The liver (*Jigar/Kabid*) is one of the vital organs (*Aza e Ra'eesa*), greatly accountable for the maintenance of homeostasis of the human body. Metabolism and detoxification are the major functions of the Liver. It has a tremendous detoxification capacity; hence, it is vulnerable to getting injured by a wide range of biological and chemical agents. Worldwide morbidity and mortality have pointedly increased on account of an increase in the prevalence of numerous liver diseases. Major health issues resulting in millions of deaths globally include viral hepatitis, alcoholic and non-alcoholic fatty liver disease, liver fibrosis, cirrhosis, hepatocellular carcinoma, and drug-induced liver injury. Despite great headways in Modern medicine, treatment modalities for general liver disease are insufficient. The Unani system of medicine has given the greatest concern to treat various liver diseases to attain homeostasis of the body. Numerous single drugs (*Mufrad Dawa*) have been used to strengthen the liver in various liver ailments. The study mainly focused on compiling the Hepatotonics (*Muqawwwiyat e Jigar*), which are proven for their hepatoprotective effect by scientific research studies. Several Unani classical texts, and search engines such as PubMed, Semantic, Google Scholar, and Science Direct were reviewed to gain information. 10 valuable Hepatotonics have been chosen for the study with satisfying evidence of their potential hepatoprotective activity. It is revealed that there are enough *Muqawwwiyat e Jigar* drugs to treat liver ailments effectively. However, it is necessary to enlighten their therapeutic effects on liver ailments through further clinical studies in the future.

Keywords: Hepatoprotective, Liver, *Jigar or Kabid*, Hepatotonics, *Muqawwwiyat e Jigar*

THE IMPORTANCE OF HEALTHY SLEEP AND THE IMPACTS OF INSOMNIA ON HEALTH AND WELL-BEING: A SYSTEMIC REVIEW

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Sleep, often considered a passive activity, is far from being insignificant in its importance. In a fast-paced world dominated by technology and responsibilities, the value of a good night's sleep cannot be overstated. Beyond merely feeling rested, quality sleep plays a pivotal role in maintaining physical, mental, and emotional well-being. Insomnia, a common sleep disorder characterized by difficulty falling asleep or staying asleep, has significant and multifaceted impacts on health. The study aims to identify insomnia's impact on general well-being, cognitive function, and quality of life, and present it alongside with benefits of healthy sleep extracted from scholarly articles. A thorough systematic review was carried out in the databases PubMed and ScienceDirect. The keywords "Health Impacts of Insomnia" and "Health Impacts of Sleep" were employed to select studies from 2013 to 2023. Additionally, a manual search was conducted implementing the reference lists of included articles to gather additional data. Under the search keyword "Health impacts of insomnia across the literature," 224 pieces were discovered in PubMed and 227 articles in ScienceDirect. The theme "health impacts of sleep" yielded 1374 articles in PubMed and 836 listings on ScienceDirect. By searching reference lists, eleven more articles were discovered. All of the articles were manually sorted again depending on the relevancy of the present paper, and duplicates were deleted. Finally, a total of 127 publications were chosen for the present study. This systemic review explores various dimensions of insomnia's effects on physical, mental, and emotional welfare, highlighting its links to chronic conditions, cognitive function, and overall quality of life mechanisms underlying these impacts and considering potential interventions for managing and mitigating the consequences of insomnia. Understanding the benefits of good sleep can have far-reaching implications that extend beyond individual health to impact various aspects of society, including productivity, safety, education, and overall well-being.

Keywords: Sleep, Insomnia, Health, Impact

HPTLC FINGERPRINTING OF *TRIPHALA* CONTAINING POLYHERBAL EYE DROP AND COMPARATIVE EVALUATION OF ANTIMICROBIAL EFFICACY

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Eye drops are one of the most popular, convenient, and efficacious ocular drug delivery procedures compared with oral route of administration representing the treatment of choice for plenty of ocular diseases. The present study was focused on HPTLC fingerprinting of *Triphala* containing polyherbal eye drop and comparative evaluation of antimicrobial efficacy. The formula encompasses *Terminalia chebula* Retz., *Terminalia bellirica* (Gaertn.) Roxb., *Phyllanthus embelica* L, *Coscinium fenestratum* (Goetgh.) Colebr, *Glycyrrhiza glabra* L, *Curcuma longa* L. *Pterocarpus santalinus* L.f. and bee honey. It is indicated for conjunctivitis (*Ratha*), early-stage of cataracts (*Suda*), etc. The eye drop was prepared according to the standard manufacturing procedures and assessed the physicochemical and phytochemical parameters. Dichloromethane fractions of the eye drop were used to develop the TLC and HPTLC fingerprints equivalent to gallic acid and tannic acid under the Toluene: Ethyl acetate: formic acid 2:5:1.5 solvent system. In-vitro antimicrobial efficacy was evaluated comparatively with chloramphenicol and distilled water against the *Staphylococcus aureus* (ATCC 25923). Nutrient agar was used and the standard procedures were followed with three replicates. The diameter of the clear zone was evaluated. The organoleptic parameters of the eye drop were a yellowish-brown colour, characteristic odour, sweet taste, and aqueous appearance. Phytochemical screening showed the presence of tannin, saponins, flavonoids etc. and the foaming index was insignificant. pH was 3.2 and TLC ultraviolet detection visualized under λ 254 nm and λ 366 nm showed several spots. R_f values of the HPTLC fingerprints were 0.06, 0.10, 0.59, 0.75, 0.77. Antimicrobial efficacy was significant compared to negative control and insignificant for chloramphenicol. The present study confirms its efficacy as an antimicrobial agent and these findings will have scientific validity for further research studies.

Keywords: HPTLC fingerprinting, Antimicrobial activity, Eye drop

TEN GOURDS FOR HEALTH GUARD

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On the basis of its usage, the *Dravya* is divided into two main categories known as Foods and Medicines. According to the above classification, foods are responsible for maintain of the health while medicines are useful to cure the diseases. This study was aimed to analyze the importance of the selected 10 gourds which are belonging to the Cucurbitaceae family. Those are: Ash gourd - *Benincasa hispida* (Thunb.) Cogn, Bitter gourd - *Momordica charantia* L, Bottle gourd - *Lagenaria siceraria* (Molina.) Standl, Calabash gourd - *Lagenaria vulgaris* Ser, Ivy gourd - *Coccinia grandis* L, Pointed gourd - *Trichosanthes dioica* Roxb, Ridge gourd - *Luffa acutangula* Roxb, Snake gourd - *Trichosanthes anguina* L, Spiny gourd - *Momordica dioica* Roxb and Sponge gourd - *Luffa egyptiaca* Mill. All these plants are commonly used vegetables which contain high level of medicinal potency. According to the Ayurveda literatures, the above plants are act as appetizers, digestive fire and power enhancers, purgatives, blood purifiers, anti-pyretic, anti-anemic, cardio-tonic, anti-toxic and aphrodisiac. And also, these are responsible in the balancing of body humors as well as blood. Improper digestion is a main cause for all the diseases. The properties such as enhancing of the appetite, digestive fire, digestive power and purgation play major role to correct and maintain the food digestion of the body. Further, these are indicated in fever, obesity, diabetes mellitus, worm infections, heart diseases, cough, bronchial asthma, dysuria, infertility, anemia, hemorrhoids and skin diseases. Most of them are wholesome in each and every condition of the body except while taking mineral drugs. Moreover, clinical significance of the effectiveness of these gourds on non-communicable diseases have been scientifically proven. Hence, proper consume of these 10 gourds is useful in the management of the healthiness as well as to cure the diseases.

Keywords: Cucurbitaceae, Healthy vegetables, Non-communicable diseases, Gourd, Mineral drugs

EMPOWERING AYURVEDIC INNOVATIONS: AN INTELLECTUAL PROPERTY PERSPECTIVE ON GLOBAL RECOGNITION AND INNOVATION-LED ECONOMIC GROWTH

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Global population growth and the pandemic's profound impact on medical security and productivity, innovation emerges as a critical imperative. While the private sector, particularly in biotechnology, now stands alongside public entities in traditional treatments, the adoption of herbal medicines, phytonutrients, and nutraceuticals is on the rise. Yet, concerns about safety and limited monitoring pose significant hurdles to universal acceptance. This study delves into the intricate relationship between intellectual property rights (IPRs) and traditional herbal medical practices across Asia and Europe. Initially focused on safeguarding mechanical and artistic innovations have evolved to encompass living entities, extending to encompass herbal medicinal practices. This shift necessitates innovative strategies to accommodate the growing reliance on rigorous research, development, and substantial investments. Central to this study is a comprehensive exploration of Ayurveda's landscape, including Sri Lanka, India, and analogous systems in Europe. This investigation illuminates the multifaceted interplay between IPRs and the reservoir of indigenous knowledge. Despite Ayurveda's increasing global recognition, persistent concerns about the safety and efficacy of its treatments persist. Provisions under the World Intellectual Property Organisation (WIPO) have sparked interest in harnessing the commercial potential of Ayurvedic traditional wisdom. However, prevailing patent laws pose challenges to patenting Ayurvedic medicinal formulations, impeding scientific researchers' validation efforts. To address this, the study ardently advocates for pragmatic amendments to foster an environment conducive to patent activities spanning pharmaceutical, nutraceutical, and cosmeceutical products rooted in Ayurveda. These reforms not only elevate Ayurveda's global reputation but also pave the way for innovation-led economic growth, bridging traditional wisdom with modern progress. In light of the study's aim to suggest amendments to patent laws or intellectual property rights, the title has been revised to aptly reflect the research's core focus on enhancing Ayurvedic innovations, promoting global recognition, and fostering innovation-led economic growth through strategic improvements in intellectual property frameworks.

Keywords: Ayurveda, Medicine, Intellectual Property Rights

THERAPEUTIC POTENTIAL OF *NEELAJ* (*Indigofera tinctoria* LINN.) IN SRI LANKAN INDIGENOUS MEDICINE: A SCIENTIFIC REVIEW

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Neelaj (*Indigofera tinctoria* Linn.) is a native species of India. It is a small erect shrub of the Fabaceae family that extensively grows in several parts of Sri Lanka. It has been used internally and externally in traditional medicine for a wide range of ailments such as hepatosplenomegaly, epilepsy, hydrophobia, bronchial asthma, whooping cough, palpitation, renal calculi, poisonous bites, bruises, skin ailments, haemorrhoids, wounds, burns, and scalds. In recent years, scientists have shown more interest in *Neelaj* due to its medicinal, nutritional, and cosmetic values. This review gathers the information available in the literature regarding the therapeutic potential of *Neelaj* in the field of ethnophytochemistry. All the available information on *Indigofera tinctoria* Linn. was compiled from electronic databases such as Google Scholar, PubMed, Research Gate, Scopus, and library search. It revealed that there were more than 20 different types of actions Antihyperglycemic, Antidyslipidaemic, Antimicrobial, Antioxidant, Cytotoxic, Anti-inflammatory, Hepatoprotective, Anticonvulsive, Immuno protective, Antinociceptive, Anthelmintic, Nephroprotective, and Nutritive were proved by phytochemical and animal models studies. In conclusion, *Indigofera tinctoria* is an important underutilized herbal which has emerged as a good source of scientific literature for the treatment of various ailments. Thus, in the future, higher demand could be anticipated for various products of this shrub.

Keywords: *Indigofera tinctoria*, *Nil averiya*, Pharmacology, Phytochemistry, Traditional medicine

**OBSERVATIONAL STUDY ON AYURVEDA MANAGEMENT FOR *GUDHRASI VATA*
W.S.R. SCIATICA**

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Sciatica is a common nerve root disorder characterized with lower back pain radiating through unilateral or bilateral lower limb along the buttocks. This condition is pathophysiologically important due to the frequently reported number of cases. According to a study which have been carried on 1999, the frequency of sciatica in the general population ranges from 14% to 45%. Research was conducted as an Observational study with the objectives of finding the most accurate treatment plan to *Gudhrasi vata* and to clinically assess the efficacy of the treatment. A 42 years old female patient with severe lower back pain radiating through bilateral lower limbs in posterior aspect was selected for the case study with bilateral positive Straight Leg Raising Leg which had developed gradually after a Lumbar Puncture test done in 2017. Treatment was planned for 14 days along with internal and external management methods. First five days patient was treated internally with *Kashaya* (decoction), *Guli* (pills) and *Churna* (powder) with an expectation to execute a generalized *Shodana karma*. External treatment was followed with *Thaila abhyanga*, *Nadi sweda*, *Thaila pichu* and *Pattu* for those five days. After a break for one day, the second phase of the treatment was started in order to provide *Shamana* action internally, along with *Kati vasti*, *Thaila pichu* and *Pattu* externally. Finally, patient was given three *Anuvasana vvasti* to complete the treatment. Patient was Positive in Straight Leg Raising Test as 30⁰ (right side) and 40⁰ (left side) on admission, on discharge she was negative in Straight Leg Raising Test as she could rise her bilateral lower limbs up to 80 degrees. This reveals that Ayurveda treatment for *Gudhrasi vata* is effective and accruable as mentioned in ancient authentic Ayurveda texts. A large scale clinical study is proposed to be carried out in the future in order to confirm the conclusion.

Keywords: *Gudhrasi vata*, Sciatica, Ayurveda

EVALUATION OF ANTI-INFLAMMATORY ACTIVITY OF MODIFIED TOPICAL DOSAGE FORM BASED ON AYURVEDA FORMULATION ‘ANODA KOLA ALEPAYA’

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‘*Anoda kola alepaya*’ is a traditional Ayurveda formulation which is composed of leaves of *Abutilon indicum*, rhizomes of *Curcuma longa*, seeds of *Oryza sativa* and *Cocos nucifera* (coconut milk). The *Alepaya* is used to treat wounds and blisters on skin. The main objective of this research was to evaluate anti-inflammatory activity of modified topical dosage form based on Ayurveda formulation ‘*Anoda kola alepaya*’, using *in-vitro* methods. ‘*Anoda kola alepaya*’ was prepared according to the Ayurveda Pharmacopoeia of Sri Lanka. Aqueous extracts of leaves of *Abutilon indicum*, rhizomes of *Curcuma longa*, seeds of *Oryza sativa* and *Cocos nucifera* (coconut milk) were prepared using the traditional decoction method. Anti-inflammatory activity of ‘*Anoda k ola alepaya*’ and its ingredients were evaluated individually using egg albumin denaturation assay. The reference drug used was diclofenac sodium. A cream was prepared, incorporating freeze-dried plant extracts and physical observations were made for a period of three months at 8°C, 25°C and 40°C. Formulated cream was evaluated for physical appearance, pH, spreadability, centrifuge testing and freeze thaw test. Anti-inflammatory activity of prepared cream was compared against the commercially available diclofenac sodium gel. Statistical analysis was performed, using SPSS version 26. ‘*Anoda kola alepaya*’ and its ingredients demonstrated significant anti-inflammatory effects ($p < 0.001$) except extracts of *Oryza sativa* and *Cocs nucifera*. Diclofenac sodium, demonstrated an IC₅₀ value of 529.4 mcg/ml, while ‘*Anoda kola alepaya*’ exhibited IC₅₀ value of 318.7 mcg/ml. Individual ingredients extracted from *Abutilon indicum* and *Curcuma longa*, had IC₅₀ values of 460.4 mcg/ml and 672 mcg/ml respectively. Commercially available diclofenac sodium gel and the formulated cream have exhibited IC₅₀ values of 535.5 mcg/ml and 351.4 mcg/ml respectively. Formulated cream was stable throughout three months at 8°C, 25°C and 40°C. Formulated cream using the ingredients of ‘*Anoda kola alepaya*’ has exhibited potent anti-inflammatory activity.

Keywords: *Abutilon indicum*, Anti-inflammatory, *Curcuma longa*, *Cocos nucifera*, *Oryza sativa*

PSYCHOLOGICAL EVALUATION OF INSOMNIA TREATED WITH *SHIRODHARA* TREATMENT, CALCULATED WITH ATHENS INSOMNIA SCALE

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Insomnia is a common sleep deprivation disorder characterized by the inability to fall asleep and continue a quality sleep despite having the optimal environment and enough time. It is one of the ten sleep-wake disorders like narcolepsy, circadian rhythm sleep-wake disorder, restless legs syndrome, and hypersomnolence disorder. Insomnia can be caused by a variety of reasons such as stress, anxiety, and medical conditions: asthma, neurological disorders, chronic diseases, medications, and lifestyle factors: excessive consumption of caffeine, irregular sleep schedule, and poor sleep hygiene. Environmental factors: noise, light, and an uncomfortable sleeping environment, nature of the work: shift working, age and hormonal changes: pregnancy, menopause. Treatments for insomnia can vary depending on the underlying causes and the severity. *Shiro dhara* is a *Keraliya panchakarma* treatment where warm oil, medicated milk, or decoctions are used to pour on the forehead while the medication and the duration are uniquely dependent on factors like the patient's constitutions and severity of the disease. The objective of the research was to evaluate the psychological improvement of the insomnia condition treated with *Shirodhara* treatment. A 41-year-old male patient who presented with a complaint of deprived sleep for nearly 4 months was selected. *Shiro dhara* Treatment was carried out for 7 days using selected *Saththawadhi* oil. Athens insomnia scale was used to assess the severity of insomnia before and after the treatment protocol. Calculated results revealed a significant improvement by reducing the score from 21 to 7 and there were no complications during follow-ups. More research can be suggested with a larger sample of patients with added scientific investigations.

Keywords: Insomnia, *Shirodhara*, Athens insomnia scale, *Saththawadhi* oil

REVIEW OF MEDICINAL PLANTS WITH ANTICANCER PROPERTIES COMMONLY ROOTED IN TRADITIONAL HOME GARDENS IN SRI LANKA

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Cancer is a significant public health and economic issue and a leading cause of death worldwide, accounting for nearly 10 million deaths in 2020, or almost one in six deaths, 29 million cases by 2040 are expected. The most common cancers are breast, lung, colon, rectum, and prostate. According to the Sri Lanka cancer registry, 31848 new cancer cases were found in 2019. Plant-derived agents have played a vital role in the treatment of cancer. As many publications reported over 3000 species that possess anticancer properties, most Sri Lankans do not know the value of most plants with anticancer properties, even if it is frequently available around them. The article aims to inform medical professionals, cancer patients, and the public about plants with anticancer properties commonly available in traditional Sri Lankan home gardens. The review was completed after research on information seeking in web scientific journals such as PubMed, Lancet, MDPI, Plant biotechnology persa, IJRAP, Saudi pharmaceutical journal, frontiers in Pharmacology, etc., and summarized the current scientific information regarding the 25 medicinal plants that possess anticancer properties commonly available in traditional home gardens in Sri Lanka. The review found that some plants contain phytochemicals like chloromangiferamide, quercetin, hopenone-I, oleanolic acid, ursolic acid, camptospermenone A, catechin, etc., which have cytotoxic, antiproliferative activities which are effective for various types of cancers including HCC, breast, cervical, endometrium, colon and prostate cancer.

Keywords: Cancer, Medicinal plants, Anticancer properties, Traditional medicine, Ayurveda

**PILONIDAL ABSCESS MANAGEMENT THROUGH AYURVEDA PARA-SURGICAL
PROTOCOL: *KSHARA SUTRA* WITH *PANCHA VALKALA* DECOCTION AND
ROGAN -E -KASH PASTE**

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The pilonidal abscess is an infected, painful condition that occurs at the base of the coccyx or in the cleft between the buttocks. It can be caused by the infection that occurs in the Pilonidal sinus, or a pilonidal cyst. Pilonidal abscess or pilonidal cyst can be caused due to hair penetrating, inactive lifestyle, pressure and friction, obesity, congenital factors, or genetics. It is comparable to *Salyajanya nadi vrana* in Ayurveda and the use of *Kshara* (caustic alkali) and *Ksharasutra* (Seton) are advised by Acharya Susruta. This study was conducted to evaluate the recovery of pilonidal abscess through the application of the selected Ayurvedic treatment protocol. A 19-year-old female patient was selected at the *Shalya* clinic at Yakkala Wickramarachchi Ayurveda Hospital, presented with the complaint of severe pricking pain in the cleft between the buttocks with a swollen pus-filled mass protruding outside. The condition was associated with a high fever since the previous night of the hospital visit and has been progressing for 12 days. The history revealed its recurrency since 8 months, which had been managed with sit baths with warm salt water. After the consultation and examination, she was subjected to the para-surgical procedure - *Kshara Sutra* application and the wound was treated with *Pancha valkala* decoction and *Rogan -e-ikash* paste as external applications for 9 days (3 clinic visits). During the period, the pain scale was rated down from 10 to 0 (zero), Yellowish thick discharge was completely eradicated. Redness, swelling, and heat were reduced totally, and the length, width, and depth of the wound were reduced leaving a scar. Consented clinical photographs and ultrasound scans captured the recovery evidence. There were no complications or recurrences reported throughout the 6 months follow-ups. Results have led to the conclusion that the applied protocol has successfully cured the pilonidal abscess.

Keywords: Pilonidal abscess, *Kshara sutra*, *Pancha valkala*, Pilonidal cyst

DEVELOPMENT OF *TRIPHALA* BASED REJUVENATING SYRUP

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Generally, herbal syrups are prepared using infusions or decoctions concentrated with sugar solutions. Syrups are more palatable and convenient in comparison to other dosage forms especially used in pediatric and geriatric care. Present study was conducted to develop a syrup using *Triphala* (*Terminalia chebula*, *Terminalia bellirica* and *Phyllanthus emblica*) as a polyherbal formulation. The syrup was developed with the decoction prepared with *Triphala* in the ratio of 1: 2: 4 which is mentioned under *Triphala Rasayana* that provides rejuvenating effect. The decoction was prepared according to the traditional method and concentrated into a syrup with required amount of sugar according to the *Paribhasha* of *Sharbath (Sharkara)*. Organoleptic properties and major physicochemical characteristics including ash content, brix value (TSS) and pH were assessed for the herbal syrup. The ethyl acetate fraction of the syrup was evaluated for its phytochemical parameters and chromatographic profile. Solvent system for the chromatography consisted toluene, ethyl acetate and formic acid in the ratio of 2: 5: 1.5. Developed herbal syrup was reddish brown in colour, viscous in texture with characteristic odor and astringent-sweet taste. Obtained results for Total ash, brix value (TSS) and pH were 048±0.04%, 79% and 3.14 respectively. Phytochemical screening of the ethyl acetate fraction of the syrup revealed the presence of carbohydrates, reducing sugars, phenols, flavonoids, tannins, alkaloids and saponins. Chromatographic profile showed four (04) peaks for ethyl acetate fraction of the syrup, under the wave length of 254nm and one (01) peak under the wave length of 366nm. It is concluded that the results obtained from phytochemical screening, physicochemical evaluation and chromatographic profile can be used as standardization parameters for the developed rejuvenating syrup based on *Triphala*.

Keywords: Rejuvenation, *Sharkara*, Brix, Chromatography

EFFICACY OF *LAKSHADI LEPAYA* AND *MADHUYASHTI THAILA* IN FACILITATING HEALING AND FUNCTIONAL RECOVERY OF DISTAL RADIUS FRACTURE: A CASE STUDY

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This study investigates the efficacy of traditional Ayurveda treatment in managing closed compound fracture of the distal radius, focusing on clinical improvement and quality of life enhancement. A 50-year-old female with a distal radius fracture sought Ayurveda treatment in traditional orthopedic clinic in Borella Ayurveda teaching hospital after three days post-trauma. The treatment involved manual nonunion bone alignment, followed by a four-week immobilization period using bamboo splints. Concurrently, *Madhuyashti* oil and *Lakshadilepaya* with bee honey were applied. Clinical assessment parameters included under Ayurveda criteria of *Sandi shula* (pain), *Sandi shotha* (swelling), *Sparsha asahyathwa* (tenderness), *Sandi hanthi* (impairment of functions), and *Vikruthitha* (visible and palpable deformity) by a prepared scoring system along with the line of treatment. Motor and sensory functions, as well as quality of life, were evaluated using the quality of life of the International Osteoporosis Foundation (QLIOF) questionnaire. Remarkable improvements were observed in clinical features, with scores shifting from initial presentation to the three-month follow-up. Upper arm and grip power were improved from grade 1 to 5. Wilcoxon signed rank test analysis demonstrated a significant ($p=0.00169$) difference between pre-treatment (score of 12) and post-treatment (score of 60) QLIOF scores, indicating enhanced quality of life. Furthermore, Ayurveda pharmacodynamics analysis of key formula ingredients supported the treatment's success in promoting fracture healing. This study highlights the potential of traditional and Ayurveda orthopedic treatments in managing distal radius fractures, resulting in substantial clinical improvements and enhanced quality of life. The findings underscore the holistic approach of Ayurveda in addressing fracture healing and recovery.

Keywords: *Lakshadi lepaya*, *Madhuyashti thaila*, Distal radius fracture

INVESTIGATION ON POTENTIAL ANTIOXIDANT ACTIVITY AND CYTOTOXIC PROPERTIES OF *Tribulus terrestris* (HEEN NERENCHI) PLANT EXTRACTS

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Heen nerenchi is a plant that has been used for centuries in traditional medicine mainly in Ayurveda system of medicine. It is also known as puncture vine or caltrop. It is widespread and has attracted interest because of its potential health advantages. This study's primary goal was to investigate the antioxidant activity and cytotoxic properties of *Tribulus terrestris* extracts in an effort to determine the plant's potential as a natural source of antioxidants. The cytotoxicity of the crude extracts obtained from the *Tribulus terrestris* was assessed using plant's shoot and root against brine shrimps and determine the antioxidant activity against DPPH (2,2'-diphenyl-1-picrylhydrazyl). To extract the bioactive substances from the plant material, solvents with different polarities were used. The hexane, ethyl acetate and methanol extracts of *Tribulus terrestris* root, assessed for cytotoxicity property, revealed 35.50%, 26.67% and 60% cell death (mortality) respectively while *Tribulus terrestris* shoot showed 20%, 53.33% and 26.67%. The lowest DPPH free radical scavenging activity (IC₅₀ =20.5 mg l⁻¹) was found in the root- EtOAc extract, while IC₅₀ of 15.94 mg l⁻¹ was found in the shoot- EtOAc extract indicating that the shoot extract has the strongest antioxidant activity. The extracts of *Tribulus terrestris* are a promising source for isolation of bioactive compounds since it possesses significant antioxidant activity and less cytotoxic properties. Thus, it can be concluded that *Tribulus terrestris* is suitable and it can be used in the treatment of various diseases without significant side effects. Further the studies can be done to reveal the α -amylase inhibitory activity, antifungal and antibacterial properties and lipase inhibitory activity in any of the crude extracts of *Tribulus terrestris* tested.

Keywords: *Heen nerenchi*, *Tribulus terrestris*, Antioxidant activity, Cytotoxicity

**PREVALENCE AND AGE DISTRIBUTION OF UTERINE FIBROIDS IN WOMEN
ATTENDING GYNECOLOGY CLINICS: A RETROSPECTIVE STUDY**

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Uterine fibroids, the most common solid benign tumors in women of reproductive age, significantly impact women's health and quality of life by characterized by dysmenorrhea, lower back ache and heavy menstrual bleeding and secondary symptoms like constipation, urgency of urination. It significantly hampers the general health and quality of life in women causing great mental agony. This condition can be co-relating as *Garbhashagata arbuda* in Ayurveda classics. This study aimed to determine the prevalence and age-wise distribution of uterine fibroid cases among patients attending gynecology clinics at Bandaranayaka Memorial Ayurveda Research Institute and Wickramarachchi Ayurveda Teaching Hospital. Utilizing a retrospective design, data from electronic medical records of 7,685 patients who visited the clinics between June 2021 and June 2023 were analyzed. Prevalence rates and age distribution was assessed using percentages and age categories. Among the total patients, 260 cases of uterine fibroids were identified, indicating a prevalence of 3.38%. The analysis of age distribution revealed a higher percentage of uterine fibroids in the 41 to 50-year range. Specifically, 8.46% of patients were aged 20-30, 21.53% were aged 31-40, 52.69% were aged 41-50, 13.84% were aged 51-60, 3.07% were aged 61-70, and 0.38% were aged 71-80. These findings shed light on the prevalence and age distribution of uterine fibroids in women attending gynecology clinics, providing valuable insights for clinical decision-making and patient care. Further research and interventions are warranted to address the impact of uterine fibroids on women's health and well-being.

Keywords: Uterine fibroids, Prevalence, Age distribution, Gynecology clinics, Retrospective study

STANDARDIZATION OF POLYHERBAL DECOCTION USED IN ALLERGIC RHINITIS

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Decoction is a liquid dosage form which used commonly in Ayurveda and Traditional medicinal system of Sri Lanka. *Tamalakyadi* decoction is a poly herbal formulation used for the treatment of allergic rhinitis, Asthma and cough conditions. Standardization and quality control are essential procedures to ensure the safety and efficacy of quality herbal preparations. Due to the absence of scientific findings on standardization of *Tamalakyadi* decoction, this study was designed to analysed standard parameters of *Tamalakyadi* decoction to confirm purity and quality. This decoction is mentioned in Sarasankshepaya and contains 12 plant ingredients. Raw materials were standardized according the World Health Organization guidelines and three batches of decoctions were prepared as per standard procedures. Prepared decoctions were evaluated for organoleptic, physico-chemical, phytochemical and chromatographic parameters. Results of the raw material standardization were comparable with the values mentioned in Ayurveda pharmacopeia of India and Sri Lanka. Values of heavy metals analysis and microbiological analysis of 12 plant materials showed that the results are within the limits according to World Health Organization guidelines. Organoleptic evaluation of the decoction revealed that it was bitter in taste, dark brown in colour and had characteristic odour. The specific gravity of the decoction found to be 1.056 for all 3 batches and mean pH was 4.6 (1% solution). TLC fingerprint profile was developed for the dichloromethane fraction of *Tamalakyadi* decoction using dichloromethane, ethyl acetate and cyclohexane in a ratio of 3:0.5:1.5 v/v. The plate was visualized under UV radiation (both 254 nm and 366 nm). HPTLC profile was observed bearing R_f values of 0.12, 0.32, 0.43, 0.59, 0.70, and 0.93 (at 245 nm). This standardization study helps to authenticate and evaluate the quality and purity of the raw materials of *Tamalakyadi* decoction and developed HPTLC fingerprint pattern and other quality parameters can be used as standard references for quality control of *Tamalakyadi* decoction.

Keywords: *Tamalakyadi* decoction, quality control, Standardization

STUDY ON TRADITIONAL PRACTICES INFLUENCE THE HEALTH CONDITION OF CHILDREN AMONG TAMIL, MUSLIM AND SINHALESE CULTURES IN BATTICALOA

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Traditional practices are commonly present within society, especially those concerned with infant care. Every social grouping in the world has its own cultural practices and beliefs that guide its members on how they should live or behave. Some of these practices might be harmful, and thus health professionals are required to substitute these practices with safe and healthy ones. The goal of this study is to identify the traditional practices that promote the health of children. We conducted a community-based descriptive method to find out the traditional childcare practices with a sample of 60 participants recruited from Batticaloa District. Participants were mostly mothers and grandmothers. Most of the respondents were over 60 years old (31.67%) and lived in an extended family, and the majority (59.55%) had 1-3 children. The highest education was obtained in grades 6–11 (25%). The majority of the women were housewives (59.63%). Specifically, horoscope prediction, naming, cradling, ear piercing and wearing *Panchayut* are followed by Tamil and Sinhalese people. And specifically, *Hathna* and *Akkika* are followed by Muslim-cultured people. The study concluded that several common indigenous child care practices exist in the Batticaloa region. These practices differed according to cultures. All people in all cultures agreed that these traditional practices were effective for their children. And they disagreed with the opinion that traditional practices were harmful to the children in any situation. Different kinds of traditional practices were found in different cultures, and some practices were unique to some cultures. Comparatively, the highest number of practices were found in Tamil-cultured people than in other cultures.

Keywords: Traditional practice, infant care, child, culture, indigenous beliefs

**A SURVEY ON ETHNO MEDICINAL FLOWERS USED IN RAKTAPRADARA
(MENORRHAGIA) IN MATARA DISTRICT**

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Sri Lanka is a biodiverse country endowed by nature which has rich gifted plant resources. In traditional medicine various plant parts are used. However, few known scientific studies have been conducted to collect scattered knowledge on medicinal uses of flowers. Present study was conducted to identify the usage of medicinal flowers in *Raktapradara roga*. Acharya Charaka has mentioned it one of the *Upadrava* of all *Yoni vyapad* defined as a complaint of heavy cyclical menstrual bleeding occurring over several consecutive cycles. It is estimated that approximately 30% of women complain about menorrhagia in the world. Data was collected from 18 traditional and Ayurveda physicians. The ethno medicinal informations were collected through interviews, questionnaires, and traditional authentic books. According to data 80% of them use *Pushpa* Ayurveda in treating *Raktapradara*. Twelve medicinal flowers were identified as commonly used for treating *Raktapradara*. The most important flower species according to their value are *Musa paradisiaca* (*Kadali*) - 80%, *Cocus nucifera* (*Narikela*) - 73.3%, *Saraca asoka* - 73.3%, *Nelumbo nucifera* (*padma*) - 72.2%, *Woodfordia fruticosa* (*Dataki*) - 60%, *Bauhinia variegata* (*Kanchanara*) - 27.8%, *Hibiscus Rosa sinensis* (*Japa*) - 40%. A special traditional decoction (*Kashaya*) called *Malkashaya* has been used 72.2% in their treatments. *Rakta stambhana* property (94.1%), *Pitta shamaka* (76.5%) *Guna* becomes an important role to prevent excessive blood flow. Medicinal flowers that are mainly *Kashaya* (Astringent) *Tikta* (Bitter) *Laghu* and *Ruksha guna* with *Sheeta veerya* helps to coagulation of blood (*Shonitaspana*) and improving quality (*Rakta shodhana*). Detailed chemical and pharmacological investigations are necessary to verify the ethno medicinal claims on these flowers.

Keywords: *Raktapradara*, *Yoni vyapad*, *Rakta stambhana*

**PHARMACOLOGICAL ACTIONS OF *BHANGRA* (*Eclipta alba*) IN THE
MANAGEMENT OF *AMRAZ E JIGAR* (LIVER DISEASES): A REVIEW**

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Eclipta alba known as *Bhangra* in Unani system of Medicine is a commonly grown weed. Despite of its use as a hair growth promotor, it possesses enormous pharmacological actions. Thus, it has been used by Unani physicians in the management of Hepatitis, fatty liver and skin diseases. Fatty liver and obesity are more prevailing condition in Sri Lanka, especially among adolescence. Hence, this study was carried out with the aim of gathering the research findings of pharmacological actions of *Bhangra* in relation with management of Liver diseases. This study was done based on a systematic literature review of Unani classical literature and research publications. Research publications from 2012 to 2022 entitled on pharmacological actions of *Eclipta alba* were filtered by search engines such as PubMed and Mendeley. Relevant articles were selected and scrutinized. Totally 65 research publications were evaluated for this review and among them 48 studies were identified as directly relevant to the management of Liver diseases. It revealed that the entire plant of *Bhangra* possesses hepato-protective, anti-hepatotoxic, anti-inflammatory, anticancer and antioxidant activities. Unani texts have explored *Bhangra* as *Musaffi e khoon*, *Muhallil e varm*, *Muqawi e Jigar*, *Muwallid e safra*, and *Kassuriyah*. These results validate the therapeutic actions of *Bhangra* in the management of *Amraz e jigar* as mentioned in Unani classical texts, for which modern scientific studies are evidences. Thus, this commonly available herb could be incorporated into compound formulations based on classical Unani theories. However, further clinical studies are needed to validate the therapeutic actions of *Bhangra* mentioned in Unani classical texts in management of *Amraz e Jigar*.

Keywords: *Amraz e Jigar*, *Bhangra*, *Eclipta alba*, Liver diseases

**THERAPUTIC EFFECT OF *Glycyrrhiza glabra* ON LEARNING AND MEMORY:
A REVIEW**

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Glycyrrhiza glabra Linn. (Licorice, *Yashtimadhu* in Sanskrit; Family: Fabaceae) is a popular Indian medicinal plant mentioned as a *Medhya Rasayana* in Ayurvedic literatures and *Nighantu*. Recent researches have also shown its positive effect as a memory enhancer, neuroprotectant, and attenuating neuroinflammation. In Ayurveda, *Medhya rasayana* comprises a major category of nootropic herbs that are indicated for all mental disorders. *Yashtimadhu* is one of *Medhya* drugs mentioned to enhance mental abilities, concentration, cognitive function and intelligence. The objective of this paper is to review the literature regarding its traditional uses, its impact on the *Dosha*, and the scientific evidence supporting its therapeutic action on learning and memory. Review of different Ayurveda literatures as a primary source of data along with the literature review as secondary data from reputed journal papers and other e-resources documenting the pharmacological properties of *Yashtimadhu* (*Glycyrrhiza glabra* Linn.) was done. Research studies have clearly demonstrated that the various constituents of *Glycyrrhiza glabra* exhibit a variety of therapeutic effects. *Medhya rasayana* comprises a major category of nootropic herbs that are indicated for all mental disorders. *Yashtimadhu*, being one of the potent *Medhya* drugs of which fine powder of dried root is used internally with milk for therapeutic purpose as *Medhya*. This review study reveals the therapeutic action of *Glycyrrhiza glabra* on learning and working memory. The results are very encouraging and indicates this herb in multiple systemic disorders. Clinical studies should be conducted more extensively to confirm these results and reveal other potential therapeutic effects.

Keywords: *Amraz e Jigar, Bhangra, Eclipta alba*, Liver diseases

**A REVIEW ON ANTIBACTERIAL POTENTIAL OF *Euphorbia hirta* LINN.
MEDICINAL PLANT EXTRACT IN COMBATING ANTIBIOTIC RESISTANCE**

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Euphorbia hirta is an annual herbal plant that belongs to the family Euphorbiaceae. It contains a variety of secondary metabolites namely flavonoids, alkaloids, tannins, terpenoids, saponins and phenolic compounds with a therapeutic potential against bacterial infections. Antibiotic resistance occurs when bacteria develop the ability to resist the effects of antibiotics, rendering these drugs less effective or entirely ineffective in treating bacterial infections. The study was carried out to review about the antibacterial activity of *Euphorbia hirta* that could lead to identify its potential to act against antibiotic resistance. Data were gathered from various authentic sources such as plant science books and different electronic databases of Google Scholar, PubMed and Science Direct. *Euphorbia hirta* extracts have shown antibacterial activity against a wide range of bacterial strains, including both Gram-positive and Gram-negative bacteria. The ethanolic extract of *Euphorbia hirta* inhibited the growth of the *Escherichia coli*, *Staphylococcus aureus*, *Pseudomonas aeruginosa* and *Bacillus subtilis* and aqueous and chloroform leaf extracts of *Euphorbia hirta* possess an antibacterial activity against *Klebsiella pneumoniae*. *Euphorbia hirta* extracts can inhibit the growth of various bacterial species. Phytochemical constituents of this plant extracts can disrupt bacterial cell membranes, interfere with cellular processes and inhibit bacterial enzymes ultimately leading to bacterial growth inhibition. The plant extracts have shown inhibitory effects against bacteria that are resistant to commonly used conventional antibiotics. The synergistic effects of combining *Euphorbia hirta* extracts with conventional antibiotics enhance the antimicrobial activity and potentially overcome resistance mechanisms. Although *Euphorbia hirta* has promising potential in the treatment of multidrug-resistant bacterial infection still more research is required to isolate bioactive compounds responsible for mechanisms of action against the bacteria to develop plant-derived novel antibiotics. However further toxicological, preclinical and clinical studies are needed to validate its efficacy, safety and potential to act against drug-resistant bacterial infections.

Keywords: Antibacterial potential, Antibiotic resistance, *Euphorbia hirta*

LITERATURE REVIEW ON *PANCHA PADARTHA* OF MEDICINES USED IN THE TRADITIONAL MEDICAL SYSTEM FOR CANCER

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Sri Lanka established its Traditional medical system based on a set of prescriptions that were passed down from generation to generation over a three-thousand-year period. Traditional medications can be taken internally or externally to treat a variety of illnesses and to prevent lethal diseases like cancer. For the prevention of cancer, a range of herbal-based preparations and lifestyle modification techniques were listed in the authentic texts of traditional medical systems. The objective of the current study is to review the literature information on *Pancha padartha* in traditional medicine drugs for cancer. Twelve traditional medicinal texts, seven manuscripts, and Ola leaves from the Bandaranaike Memorial Ayurveda Research Institute library were used for selecting the anti-cancer formulas. 92 prescriptions from authentic traditional classics and 120 prescriptions from traditional Ola leaves were collected. Data were analyzed using descriptive statistical methods. 65.6% of 67 substances included in identified medicinal recipes were included in *Tikta rasa*. 70.1% contained *Lagu guna*. 67.1% contained *Ushna virya*. 61.1% contained thorn quality. *Katu vipaka*. When analyzing the *Pancha padartha* of cancer treatments used in traditional medicine, it is clear that the medicinal components are formulated by certain *Rasa*, *Guna*, *Virya*, and *Vipaka*.

Keywords: Traditional Medical system, *Pancha padartha*, Cancer

ROLE OF AYURVEDIC MANAGEMENT IN VATA ASTHILA W.S.R. TO BENIGN PROSTATIC HYPERPLASIA: A CASE STUDY

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Benign prostatic hyperplasia (BPH) is a common urological disease in elderly men and is characterized by a non- malignant enlargement of the prostate resulting from excessive cellular growth of both the glandular and the stromal elements of the gland. BPH could be correlated with *Vataashtila* according to *Susruta Samhitha*, an *Ayurvedic* classic. BPH is rising at an alarming rate, particularly in middle to low income countries. Hence, there is a definite need to explore and evaluate a minimally invasive and cost effective *Ayurvedic* approach to the management of BPH. The main purpose of *Ayurvedic* medicine is not only to relieve symptoms but also to break the pathology and improve the quality of life of patients. In this study, two well diagnosed BPH patients with the symptoms of increased frequency of urination, urgency, incomplete emptying, intermittency, weak stream, straining, and nocturia were treated with *Narayana Thaila* and *Dashamula Kashaya Vasti*, followed by *Hingu Thriguna Thaila Abyanga* and *Dashsamula Kashaya Nadi Sweda* for 21 consecutive days with internal medicines. Patients were assessed based on the International Prostate System Score (IPSS) and other objective parameters. After the completion of treatment, significant relief of symptoms was observed. This case study highlights the fact that it is possible to treat a case of benign prostatic hyperplasia with *Ayurvedic* treatments in a cost-effective and minimally invasive way.

Keywords: *Vataashtila*, benign prostate hyperplasia, *Vasti*, *Ayurvedic* Medicines

STUDY ON BEHAVIOURAL RISK FACTORS ON *SHUKRAKSHAYA* (OLIGOSPERMIA)

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Oligospermia is defined as sperm concentration of less than 15 million sperm per millilitre. It can be correlated with *Shukrakshaya* or *Ksheena shukra* according to Ayurveda. This study was aimed to identify on behavioural risk factors on *Shukrakshaya* (oligospermia). Literature searches were conducted in the following databases: Google Scholar, ResearchGate, Healthline and PubMed. A combination of the following keywords was used: "Oligospermia", "*Shukrakshaya*", "*Ksheenashukra*", "Male Subfertility", "Behavioural Risk factors". Overheating testicles, addiction to drugs, alcohol and smoking, mental stress, mechanical trauma to testis and using mobile phones are proven behavioural risk factors. *Vata*, *Pitta kopa* (vitiated *Vata* and *Pitta dosha*), *Dhatu kshaya* (depletion of body tissues) and *Shukravaha sroto dusti* (vitiated semen carrying channels) *Vihara* (behaviours) are considered by Ayurveda under *Apathya ahara* (unwholesome foods) and *Apathya vihara* (unwholesome behaviours) for this condition. Men of couples seeking subfertility treatment at Out Patient Department *Stree roga* (Gynaecology) clinic of National Ayurveda Teaching Hospital, Colombo, Sri Lanka were recruited for the study. The sample size was 80 and sampling method was Consecutive consenting sample. The mean age of the study sample is 36.75 ± 5.63 . Most of the respondents were working associate with prolonged sitting which was 23.5% of the sample. The half of the respondents were with Oligospermia who were having the sperm concentration of less than 15 million sperm per millilitre based on their recent Seminal Fluid Analysis (SFA) investigation reports. Findings show that there is no significant relationship of the Oligospermia patients with the behavioural factors related to them following the $X^2 (1, N=80) = 0.197, P=0.073$. It shows that there is no relationship between Oligospermia patients and with their behavioural factors presenting the P value is higher than 0.05. It is a need to do more study with large samples to confirm the outcome of the study.

Keywords: Behavioural risk factors, *Ksheenashukra*, Male subfertility, Oligospermia, *Shukrakshaya*

ARTIFICIAL REGENERATION OF *Pamburus missionis* (WIGHT): A NATIVE MEDICINAL PLANT

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Pamburus missionis (Wight) Swingle (*Atalantia missionis* Oliver) of Rutaceae family is a dry evergreen tree having small sub-globose berry (typically the shape of a loose-skinned orange) distributed in India and Sri Lanka. In India, it is found in the Eastern Ghats, tropical dry evergreen forest, deciduous forests in hills, and in the coastal regions of Andhra Pradesh, Kerala and Tamil Nadu. It is called '*Kuruntu*' or '*Kattu Naranthi*' in Tamil and is used in traditional medicine. Traditionally, the fruit essential oil is used in the treatment of chronic rheumatism and paralysis and the leaves for the treatment of swellings, fractures, piles and fistula. Further, the leaves have antibacterial, antifungal and antiarthritic activities. However, it is an unfamiliar species among the regional Botanists. It was during my field visits I have noticed this species in different habitats including Reserve Forests in Tamil Nadu and in the Eastern Ghats of Andhra Pradesh. When checked with literature, I came to understand that no data is available regarding fruit and seed characteristics, and germination of this species except a few publications on its botany and medicinal uses. Therefore, I undertook the present study on artificial regeneration during 2021. Fallen ripe fruits were collected on 25/8/2021 and transported to the laboratory. Fruit and seed characteristics were studied using 300 fruits. Seeds were extracted manually next day and initial moisture content was estimated by oven drying method as per ISTA (1985). Simple statistical methods were used for analyzing the data. Germination study was carried out at room temperatures and humidity under open nursery conditions. Four replicates of 100 fresh seeds each were sown by dibbling method following completely randomized design on 26/8/2021 evening in raised nursery bed prepared using garden soil. Enough watering was done daily only once except rainy days. Emergence of epicotyl was considered as germination criteria and counting was continued for 45 days. Results showed that the immature fruit is green, ripening to orange-yellow, 2.5 cm in diameter, 4–5-celled, containing 1 to 6 seeds (depending upon the fruit size) embedded in a gummy fluid. Among the 300 fruits studied, eight percent (24 fruits) were empty and the remaining yielded 450 seeds; of the 450, 26 seeds were unsound (6%) and 424 seeds were sound. Though the number of seeds per fruit varies from 1 to 6, the frequency is 1. The fresh seed had 33.39% moisture content and 82% germination. Seed germination was hypogeal, commenced after 11 days of sowing and culminated on 22 DAS. The high seed moisture content (34%) at the time of fruit fall and rapid loss of viability within a short period indicates recalcitrant seed storage behaviour of *Pamburus missionis* and hence the study concludes that seeds must be sown soon after collection for producing seedlings.

Keywords: *Pamburus missionis*, fruit characteristics, germination, viability

**ROLE OF AYURVEDIC AND TRADITIONAL MANAGEMENT OF *KHANJA*
(PYRIFORMIS SYNDROME): A CASE STUDY**

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Khanja is a disease that contracts the tendons of thighs manifested by *Vata dosha* localized in the waist with functional deficit. It greatly impacts the quality of life of the patients and becomes lame according to Ayurveda. The study has been focused to manage the *Khanja* disease based on the treatment principles mentioned in Ayurveda and Traditional medicine. A thirty-two-year-old female patient diagnosed as *Khanja*; presented with shooting pain (*Shoola*), stiffness (*Sthabdata*) of the hip joint and restricted movement in the right lower limb since 2 years was reported to the In Patient Department, Department of *Kayachikitsa*, National Ayurveda Teaching Hospital, Borella was selected to the study. The treatment period was twenty eight days. The intensity of the pain was assessed by visual analogue scale (VAS) while stiffness and restricted pain was assessed using the mcgill pain questionnaire scale before and after treatment regimen. During the treatment, the patient was advised to take 120 ml of *Simhasya panchamuli kashaya*, 500 mg *Tryodashanga guggulu* two times per day after meals and 250 mg *Kuchila vati nocte* after meals as internal treatments along with *Vara koladi paththuwa* were administered as external treatments for initial consecutive fourteen days. *Maha narayana taila matra vasti* followed by *Vara koladi paththuwa* carried out for next fourteen days. After completion of the treatment; it has observed that 80% of pain (*Shoola*) and 90% of stiffness (*Sthabdata*) were relief while the restricted movement of the right lower limb was completely cured. The anti-inflammatory and analgesic action of *Vara koladi paththuwa* showed the significant relief of pain. In view of the above; it can be concluded that the therapeutical protocol is effective in the management of the disease of *Khanja* and further clinical studies with larger samples are needed for generalized it findings.

Key words: *Khanja*, Ayurveda, Traditional, *Matra vasti*, *Vara koladi ppaththuwa*

**AN ANALYSIS OF THE AWARENESS OF ADOLESCENT PREGNANCY AMONG
ADVANCED LEVEL SCHOOL CHILDREN IN SELECTED GIRLS' SCHOOLS IN
WESTERN PROVINCE, SRI LANKA**

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The Annual Health Bulletin (2019) stated, the teenage pregnancies (16-19 age) were increased from 13.8% (2018) to 17.1% (2019). Analyze effective methods for prevent adolescent pregnancy by determining the impacts of Peer Influence, Socio economic status, knowledge of sexually transmitted diseases and knowledge of safety measures of pregnancy towards awareness maternal healthcare education related to adolescent pregnancy were objectives of this ethically approved study. Adolescent girls (16-19 years) in Advance Level science classes [N1 = 34,328 (Colombo: 14,835, Gampaha: 11,882, Kalutara: 7,611)] of National girls schools [N2 = 72 (Colombo:37, Gampaha: 17, Kalutara: 18)] in Western Province are the aimed population. The Sample (Andreessen table; 5% margin error) was collected by validated questionnaire according to Proportionate Stratified Sampling Method [n1 = 378 (Colombo: 163, Gampaha: 131, Kalutara: 84); n2 = 4 (Colombo: 2, Gampaha: 1, Kalutara: 1)]. As per the results, most of participants were Sinhala, Buddhists, unmarried, unemployed and few had experiences of violence. And few participant's mothers and siblings had adolescent pregnancies and few of them live with their single mothers. Students live in moderate to low socio-economy with moderate to high peer influence. and they had moderate to low knowledge of safety measures of pregnancy, moderate to high knowledge of sexually transmitted diseases and moderate to high awareness of healthcare education related to adolescent pregnancy. And there were significant positive impacts towards awareness of healthcare education related to adolescent pregnancy from knowledge of sexually transmitted diseases, knowledge of safety measures of pregnancy and peer influence. And there was no significant impact from socio-economic status to awareness of healthcare education related to adolescent pregnancy. The results were confirmed by the pilot study of adolescent pregnant ladies. Therefore, this study is certified that the awareness of healthcare education can be developed through knowledge of sexually transmitted diseases, knowledge of safety measures of pregnancy by the support of peer influence for prevent adolescent pregnancy from Sri Lanka.

Keywords: Adolescent Pregnancy, Peer Influence, Sexually Transmitted Diseases, Socio economic status, Safety measures of pregnancy

IN-VITRO EVALUATION OF THE ANTIFUNGAL EFFECT OF *KADALI KSHARA* CREAM AGAINST THE LABORATORY SPECIMEN OF *Candida albicans*

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Ayurveda medicine has a long history of therapeutic concepts that have been practiced for thousands of years. It is a timely necessity to prove these valuable concepts with scientific perspectives in the modern era. This study aimed to evaluate the antifungal effect of *Kadali kshara* cream, which contains 30% (w/w) *Kadali kshara* as the active ingredient. *Kadali kshara* pure powder, *Kadali kshara* aqueous solution, and *Kadali kshara* cream were tested for their antifungal activity against the laboratory specimens of *Candida albicans* using the disc diffusion method and antifungal susceptibility test (AFST). 2.5mg/mL of Fluconazole solution and distilled water were used as the positive and negative controllers respectively. The results were expressed as the mean±SD of inhibition zone diameter of cultures of *Candida albicans* specimens. Inhibitory zone diameter of *Kadali kshara* pure powder, *Kadali kshara* aqueous solution were 29.0±1.414 mm and 16.5±1.121 mm respectively in comparison to that of Fluconazole solution (19.0±1.41) and distilled water (0.00±0.00). The *Kadali kshara* cream showed 9.0±1.414 mm of inhibitory zone diameter. It could be concluded that *Kadali kshara* pure powder, *Kadali kshara* aqueous solution, and *Kadali kshara* cream showed considerable antifungal effects against laboratory specimens of *Candida albicans* suggesting further studies for clinical application.

Keywords: *Candida albicans*, *Kadali kshara*, AFST, Fluconazole

**A REVIEW OF *VYOSHADI GUGGULU*; AN AYURVEDA FORMULAE USED IN
MEDHO DUSHTI (DYSLIPIDEMIA)**

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Dyslipidemia is a major risk factor of cardiovascular diseases. Its correlates with *Medho dushti* in the view of Ayurveda. Currently, natural and synthetic hypolipidemic drugs are available in the market. Which are very expensive and have some side effects. Hence, the world is looking towards Ayurvedic therapeutic measures for this health issue. *Vyoshadi guggulu* is an herbal formula in Ashtanga Hridaya Samhita used in the management of *Medho dushti*. The study has been focused finding out the pharmacodynamics and pharmacokinetic potentials of *Vyoshadi guggulu*. The data has been collected from Ayurvedic authentic texts, dissertations, google scholar and research gate scholarly articles, etc. It comprises ten ingredients, including *Tikulu*, (*Zingiber officinale*, *Piper nigrum*, *Piper longum*), *Tripala* (*Phyllanthus emblica*, *Terminalia chebula*, *Terminalia belerica*), *Suddha guggulu* (*Commiphora wightii*), *Mustha* (*Cyperus rotundus*), *Chithraka* (*Plumbago zeylanika*) and *Vidanga* (*Embelia ribes*). *Guggulu* has provided an equal amount compared to other ingredients and findings revealed that it has anti-inflammatory, anti-septic, anti-bacterial, astringent, hypolipidemic activities, enhancing thyroid functions and weight reduction. *Vyosha (Trikatu)* has the potential to reduce *Vata* and *Kapha dosha* in the body, support digestion and healthy metabolism. The majority of the ingredients have *Katu rasa* (95%), *Laghu* and *Ruksha guna* (90%), *Ushna veerya* (85%) and *Katu vipaka* (50%). These properties support to removal of obstructions and cleaning of minute channels in the body by reducing *Kapha dosha*, *Medas dhatu*, *Ama* condition enhancing digestion and absorption. Based on the above facts the formula of *Vyoshadi guggulu* consisted with effective pharmacodynamics and pharmacokinetic properties which can positively respond to the *Medo dushti* which caused due to *Atisantarpanaja* causes and also support to increase the High Density Lipoprotein level and prevent the obesity and metabolic disorders.

Keywords: *Vyoshadi Guggulu*, *Medhodushti*, Ayurveda

PRAKRITI-BASED GAIT ASSESSMENT AS A PREDICTOR IN ABNORMAL WALKING PATTERNS IN AGEING

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'*Gati*' refers to the distinct pattern of walking of an individual or 'gait' as one of the body parameters which needs to be examined under '*Ayu lakshana*'. The gait can be abnormal with ageing as a result of senile neuromuscular degeneration and other geriatric conditions. There are many such gaits described in ancient Ayurvedic textbooks and in modern medical science too. Normal walking patterns are described under the *Prakriti* classification and other abnormal gaits are described in pathological conditions with similes of animals' walk. The objective of this study is to demonstrate the importance of introducing a *Prakriti*-Based Gait Assessment (PBGA) as a predictor in abnormal walking patterns in ageing. This a literature-based conceptual study that highlights the importance of developing a PBGA. The information are collected from classical books and journal articles related to Ayurvedic knowledge and modern findings of gait analysis. Gait assessment is a noninvasive method of detection having a great value in identifying certain medical conditions and determining possible treatment options. It includes measuring balance, gait velocity, cadence, step length, step height and asymmetry or variability of gait rhythm. PBGA is based on *Prakriti* description with specific gait analysis according to the inherited *Prakriti* that is to be converted into modern medical terms. PBGA can have basically three types according to the predominance of *Dosha* as *Vata* (V+), *Pitta* (P+), *Kapha* (K+). Since the walking is a sensorimotor that relies on a complex, simultaneous interaction of the motor system, sensory control, and cognitive functions it can be codified within the *Prakriti* based analysis. Therefore, PBGA is a diagnostic assessment of senile gait disorders with distinct analysis of pathological and physiological changes of aging according to the *Prakriti*. In such context, PBGA can be introduced as an Ayurveda-specific predictor for qualitative abnormalities of locomotion in old age.

Keywords: *Prakriti*, *Gati*, Gait assessment, Abnormal walking patterns, Ageing

**A PRELIMINARY STUDY TO EVALUATE THE EFFECT AND EFFICACY OF
GUGGULADI VATAKA IN THE MANAGEMENT OF OVERWEIGHT AND OBESITY**

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Overweight and obesity constitute complex, chronic adiposity-based conditions that silently yet contribute to a range of severe health problems influenced by modernization of society. The aftereffects of this range from increased risk of premature mortality to the onset of chronic ailments that compromise overall quality of life. In the Ayurveda text, *Piyusarnava* reported about *Gugguladi vataka* was used by the wise person to manage *sthaulya*. However, while this remedy has been historically associated with obesity management, its effects and efficacy have not been subjected to scientific evaluation. This study was to determine the effect and efficacy of *Gugguladi vataka* in the management of overweight and obesity. Ethical approval was obtained from the Ethics Review Committee prior to the commencement of the study. 30 patients were selected for the study, and they were divided into two as trial and control groups. (Group A and Group B) The patients of the group A were treated with *Gugguladi vataka* along with a dietary management during the period of 28 days. Patients of group B were instructed only to follow the dietary management. All the patients were subjected to evaluate weight, Body Mass Index (BMI), mid-arm circumference (MAC), mid-thigh circumference (MTC), waist and hip circumference, total cholesterol, triglyceride, LDL and HDL before and after treatment. The data analysis revealed that significant differences of group A observed in weight, BMI, MAC, MTC, waist and hip circumference, total cholesterol, and triglyceride. However, the treatment did not yield substantial changes in LDL and HDL levels, as indicated by the minimal variation observed their pre- and post - treatment levels (Paired t-test, $p < 0.05$). Conversely, the Parameters of group B did not show significant difference when compared to group A. In conclusion, the *Gugguladi vataka* along with dietary management appears to be a visible recommendation for the effective management of overweight and obesity.

Keywords: Overweight, Obesity, BMI, *Gugguladi vataka*, Dietary management

ROLE OF *TRIPHALA* DECOCTION AS AN EXTERNAL TREATMENT FOR BLEEDING FISSURES IN PALMOPLANTAR PSORIASIS

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Within Tamil Siddha literature, Siddhars have uncovered a wealth of herbs and minerals with the potential to treat a diverse array of diseases. Through the formulation of various herbo-mineral combinations, they harnessed these resources. The astringent properties of *Triphala* decoction have proven effective in addressing ulcerations related to Diabetic Mellitus as well as hyper pigmented fissured bleeding lesions associated with 'Palmoplantar Psoriasis,' when applied externally. This observational case study aimed to evaluate the effects of utilizing the astringent qualities of *Triphala* decoction as an external medicament for 'Palmoplantar Psoriasis' in the field of Siddha Dermatology. A (Male and female) patients diagnosed with Palmoplantar Psoriasis presenting with bleeding fissures were enrolled in the study after obtaining written consent. Clinical assessments were conducted based on a standardized scoring system (Please mention the name of the scoring scale), with symptoms and signs recorded. *Triphala* decoction was prepared following the guidelines specified in Siddha medicine, utilizing equal quantities of *Kadukkai* (*Terminalia chebula*), *Nellikai* (*Phyllanthus embelica*), and *Thaandrikkai* (*Terminalia bellerica*). Over a period of 30 days, the affected skin lesions were cleansed using purified *Triphala* decoction and then gently wiped with a pure cotton cloth (twice) a day. At the end of the treatment, all clinical features were recorded and analyzed. It was observed that bleeding was entirely resolved over the course of the one-month treatment regimen, with no observed adverse reactions. Consequently, it can be inferred that the pharmacological potential of *Triphala* decoction, encompassing attributes such as (mainly the phenolic compounds of tannin, gallic acid,) and antimicrobial effects (by entering the cell wall up to the internal membrane & interference with the metabolism of cells resulting destruction, antioxidant property by the presence of more hydroxyl groups can be easily oxidized , astringent is characterized by more contraction of bodily tissues) can be harnessed as an external treatment for bleeding fissures in palmoplantar psoriasis. To validate and generalize these findings, further clinical research with a larger sample size is imperative.

Keywords: *Triphala* decoction, palmoplantar psoriasis, symptomatic-based diagnosis.

A CLINICAL STUDY ON THE EFFICACY OF *AGNI KARMA* IN THE MANAGEMENT OF *KADARA* (CORN)

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Kadara is a *Kshudra roga* (minor disease) mentioned in Ayurveda. *Kadara* can be correlated with corn based on clinical features. Corn is a firm thickening of the skin's outer layer, often with a solid core. It is believed that mechanical pressures cause tissue trauma that triggers this condition. This trauma leads to the release of substances that promote inflammation and the growth factors contributing to the problem. It commonly impacts the soles affecting the quality of life. Acharya Sushruta recommended using *Agni karma* (cauterization) as a treatment for *Kadara*. The study's objective is to evaluate the efficacy of *Agni karma* in the management of *Kadara*. This study was done as a randomized selected cohort study. Based on the outlined approved criteria for selection, the chosen individuals who visited the surgery clinic of D.B. Welagedara Ayurveda Hospital, Kurunegala, Sri Lanka were categorized into two sets (Group A and Group B), each comprising 30 patients. Patients of Group A, the treatment group were treated with *Agni karma* treatment for one month with an interval of 5 days in 5 sittings. Group B, the control group was treated with the herbal paste usually used in the surgery clinic of D.B. Welagedara Ayurveda Hospital, Kurunegala, Sri Lanka for one month with daily application of the paste and kept it for more than 12 hours on the corn. Pain, tenderness and quality of life have been assessed for one month. According to the statistical analysis, group A was showing better results than group B. Overall effectiveness of treatment was highly significant in group A. The study revealed that *Agni karma* is more effective in managing *Kadara* than the herbal paste.

Keywords: *Agni karma*, *Kadara*, Corns

**IMPACT OF PATTERNS AND PRACTICES OF CONSUMPTION ACCORDING TO
AYURVEDA AND SRI LANKAN TRADITIONAL MEDICINE TO NUTRITIONAL
WELL-BEING AMONG THE SCHOOL CHILDREN IN SELECTED SCHOOL**

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World Health Organization (WHO) explains dietary patterns and practices as a major health determinant to maintain the nutritional status. Ayurveda and Sri Lankan traditional medicine (SLTM) are also valuing the importance of dietary patterns to maintain health. Modern science also proves the benefits of some food consumption methods mentioned in Ayurveda and SLTM. WHO recommends the Body Mass Index (BMI) as a biomarker of nutritional assessment. Hence, identifying the impact of healthy food consumption practices per Ayurveda and SLTM to nutritional wellbeing is important to deciding of lifestyle modifications in emerging health consequences. Thus, this cross-sectional study conducted among the consented 147 of volunteer students of 14- 15 years age group in either sex who were not having any known genetic, familial disorders or under any medication for chronic illnesses, from a selected school in Kaluthara District. They were subjected to an interview by administering a questionnaire consisting dietary patterns and practices of food consumption mentioned in Vriddatraya, Bhava Prakasha and Sarartha Samgrahaya. Their adherence to the recommended dietary practices per Ayurveda and SLTM has been calculated into a percentage per person using MS Excel and SPSS. Individual adherence above 50% is considered as individuals practicing the recommended dietary behaviors. BMI of each participant has been measured and compared with the respective result of questionnaire analyzed to obtain their adherence to the recommended dietary practices. By this, prevalence of being underweight was recorded as 22.45% and 57.75% of them were not practicing recommended food practices. Obesity and overweight were recorded as 36.05% of whole sample and 75.47% of them were not practicing recommended food practices. In both groups of underweight and overweight or obese, adhering to recommended dietary practices are below 52%. Normal BMI was recorded in 41.5% and all of them are practicing recommended dietary practices more than to 60% of adherence. The study concludes that considerable influence of practicing recommended dietary patterns and practices as per Ayurveda and SLTM to maintain the normal BMI. Further, studies with a wider scale of population are important to find needed lifestyle modifications per Ayurveda and SLTM to having maintained BMI leading to improvement of health status and prevent the emerging health consequences resultant of unbalanced nutritional status.

Keywords: Ayurveda, BMI, Dietary practices, Nutritional status

COMPARISON OF CHEMICAL CHARACTERISTICS OF DIFFERENT COMPOSITIONS OF *TRIPHALA* POWDER IN VARIOUS AYURVEDA AUTHENTIC TEXTS

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Triphala constitutes a time-honored polyherbal formulation deeply rooted in both Ayurvedic and Sri Lankan Traditional Medical practices. Various combinations of this formulation are documented in diverse Ayurveda Authentic Texts. The present study endeavors to compare the chemical characteristics of distinct compositions of *Triphala* powder as stipulated in various Ayurveda Authentic Texts. The fruits of *Harithaki* (*Terminalia chebula*)-TC, *Vibhithaki* (*Terminalia bellirica*)-TB, and *Amalaki* (*Phyllanthus emblica*)-PE were procured from the local market and authenticated. The ingredients were cleaned, washed and desiccated. The resultant dried materials were finely pulverized, yielding five samples, S₁ (1:1:1), S₂ (1:2:3), S₃ (1:2:4), S₄ (1:2:2) for the powders of TC:TB:PE respectively and S₅ - 1:2:4 for the fruits of TC:TB:PE, in accordance with the specified compositions documented in authentic Ayurvedic texts. Ethanol extracts were meticulously prepared from 5.0g of each sample, using Soxhlet apparatus. A comparative analysis was conducted with the High-Performance Thin-Layer Chromatography (HPTLC) of the samples against the standard solutions of Gallic acid (GA) and Tannic acid (TA) at concentrations of 2 mg/ml. The mobile phase composition was Toluene: Ethyl acetate: Formic acid (2:5:1.5). The HPTLC profiles revealed the presence of nine distinct peaks in all samples, characterized by a range of R_f values spanning from 0.01 to 0.88. The R_f values corresponding to GA and TA were identified as 0.88 and 0.73 respectively. The consistent comparability of R_f values among all samples and standards was observed under UV illumination at wavelengths of 254nm and 366nm. Antioxidant activity was detected in all five samples and subsequently evaluated using the 2,2-Diphenyl-1-picrylhydrazyl (DPPH) assay. Based on the comprehensive evaluations conducted, the chemical characteristics of different compositions of *Triphala* powder were found to be similar. It is recommended that future research could be done on bioactivity studies to assess the therapeutic efficacy of different compositions of *Triphala* powder based on Ayurveda Authentic Texts.

Keywords: *Triphala* powder, Compositions, Chemical characteristics, Ayurveda Authentic texts, HPTLC

AYURVEDA MANAGEMENT OF POLYCYSTIC OVARIAN SYNDROME (PCOS) WITH SUBFERTILITY: A CASE REPORT

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Polycystic ovarian syndrome (PCOS) is the most common endocrine disorder in women of reproductive age that characterized clinically with hyper androgenism, ovulatory dysfunction and abnormal ovarian morphology. Women with PCOS commonly have risk of menstrual irregularities, infertility, obesity, hirsutism, impaired glucose tolerance, insulin resistance, Type 2 diabetes mellitus, cardiovascular problems and dyslipidemia. In Ayurveda *Pushpaghni jatiharini* described by Acharya Kashyapa has got much resemblance with PCOS. The present study was carried out for evaluate the Ayurveda Management of Polycystic Ovarian Syndrome (PCOS) with Subfertility. In this case report, a 27-year-old female patient was presented to Bhagya Suwa Arana Ayurveda Medical Center in Sri Lanka with complaints of irregular menstruation and severe dysmenorrhea condition with polycystic ovarian syndrome and subfertility from 3 years. The Ultrasonography findings indicated PCOS with no mature follicles. She was treated with *shodhana* and *Shamana* Ayurvedic treatments for 4 months. *Triphala kashaya*, *Pippalimula churna*, *Shatavari churna*, *Chandraprabha vati*, *Kaishora guggulu*, *Gokshuradi guggulu*, were administered orally while managing *Pathya* and *Apathy* of *Ahara* and *Viharana*. There was a gradual improvement of dysmenorrhea and irregular menstruation during treatment period. At the end of the treatments, the patient was totally cured from polycystic ovarian syndrome and was conceived without any adverse effects and delivered a healthy baby. Based on this study further clinical trials to accomplished.

Keywords: Subfertility, Polycystic Ovarian Syndrome, *Pushpaghni jatiharini*, Ayurveda

**COMPARATIVE STUDY OF PHYSICOCHEMICAL PARAMETERS ON DIFFERENT
KADALI KSHARA SAMPLES FROM *Musa paradisiaca* PLANT**

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Diabetes is a common non-epidemiological disorder that has lots of complications in the kidney, liver, heart, and nervous system. Therefore, to ensure the protection against microvascular and macrovascular complications, early and intensive control of diabetes is essential. Hence, glycaemic control is one of the crucial factors. In order to manage a disease, Ayurveda recommends *Pathayapathya* specifically for each disease. Hence, this study aims to prepare a user-friendly cereal food supplement from *Pathya ahara* indicated for diabetes mellitus. The literature was gathered using authentic textbooks and the formula was formed based on the availability, taste, convenience, and pharmacological properties of the food such as *Katu. Tikta, Kashaya rasa, Laghu, Ruksha guna, Ushna veerya, Katu vipaka* and *Kapha vata hara*. Finally, the dosage form was decided and the prepared food was subjected to the quality control parameters such as moisture content, pH values, Ash value etc. and the glycaemic index, and nutritional values were assessed. According to the results, it was found that moisture content 5.1% total ash value 1.75% water soluble ash 0.1% pH value 7. Glycemic indexes (GI) for Barley, Green gram, Horse gram, Millet, and Chickpeas were 20-22, 22, 51, 52.7, 28-33 respectively. Nutritional facts in a serving package contain protein 63.14g, Fat 4.10g, carbohydrate 244.17g, fiber 16.03g, calcium 0.81g, phosphors 1.06g, iron 21.97g. Most of the ingredients contained the *Ushna veerya, Katu Vipaka, Kashaya rasa*, and *Ruksha guna* pharmacological properties. Therefore, to increase the palatability old bee honey was supplemented which will enhance the quality of the food. The evidence showed that the prepared food would be helpful in controlling the glycaemic index while enhancing the medicinal values of the meal for diabetes mellitus. Before marketing the product, detailed physiochemical and phytochemical analysis, pre-clinical and clinical trials need to be evaluated.

Keywords: Diabetes mellitus, *Pathya apathya*, Glycemic index, Serial food supplement

THERAPEUTIC POTENCY OF *ROGHAN E KHAS* WITH SPECIAL REFERENCE TO SKIN AND JOINT DISEASES: A REVIEW

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Roghan e Khas is one of the very effective herbo-mineral preparation, widely used by herbal medical practitioners in India as well as Sri Lanka. It has been included in the Ayurveda Pharmacopoeia – Unani (Volume I) Department of Ayurveda, Sri Lanka and the Pharmacopoeia of Hospital of Intergrated Medicine Government Press, Madras. *Roghan e Khas* is used to treat wide range of skin diseases and joint diseases and also it is used to treat wounds, abscesses, contusions, warts too. Although it has long been used with high efficacy to treat all these skin and joint diseases, its effects have not been properly studied or investigated. Therefore, the purpose of this review study is to examine role of *Roghan e Khas* in order to enlighten the scientific value of its versatile medicinal effects with special reference to pharmacological actions of its ingredients and to confirm that its traditional use is consistent with research findings. In this study, Unani classical text books, Pharmacopoeas, recently published scientific journals, review articles and electronic data base were thoughtfully scrutinized and examined for therapeutic effect of *Roghan e Khas* emphasizing on its wide range of application. It contains ingredients possessing of various therapeutic properties such as *Muhallil* (resolvent), *Musakkin* (analgesic), *Da'af e Ta'afun* (antiseptic), and *Mundamil e Qurooh* (wound healing). Further, Anti-inflammatory, Analgesic, Antioxidant, Anti-Microbial and Wound healing activity of the ingredients have been proven by scientific studies. The result shows that the efficacy of this unique herbo-mineral ointment is attributed its ingredients and this formula supposed to have been designed to treat skin and joint diseases.

Keywords: *Roghan e Khas*, therepeutic effects, skin disease, joint disease

**EVALUATION OF ANTIMICROBIAL ACTIVITY OF SIDDHA HERBO-MINERAL
DRUG *NEELANJANA MAI* AGAINST SOME HUMAN EYE PATHOGENS**

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Antimicrobial agents are essentially important in reducing the global burden of infectious diseases. *Neelanjana mai* is a classical siddha herbo-mineral combination which is indicated for eye disease in the sastric siddha text ‘Siddha Vaidhya Thirattu’. In this study, we evaluated the antimicrobial potency of this drug on 3 bacterial like *Staphylococcus aureus*, *Pseudomonas aeruginosa*, *Chlamydia trachomatis* and 3 fungal species like *Candida albicans*, *Aspergillus niger*, *Fusarium oxysporum* using Agar disk-diffusion method. The observed results showed potential antibacterial potency of NM against the bacterial strains tested, *Staphylococcus aureus*, *Pseudomonas aeruginosa* and *C.trachomatis* similar to the std control used for the study. Also, anti-fungal activity results revealed that against the 3 fungal strains. *C.albicans*, *A.niger* and *F.oxysporum* showed the effective anti-fungal effect with higher zone of inhibition

Keywords: Siddha, Neelanjana mai, Antifungal, Antibacterial, Eye pathogens

MANAGEMENT OF PREGNANCY-INDUCED HYPERTENSION (*GARBHAJANYA VISHAMAYATA*) WITH AYURVEDA APPROACH: CASE SERIES

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Pregnancy-induced hypertension (PIH) termed “Garbhajanya Vishamayata” in Ayurveda is a critical health issue that develops in pregnant women after 20 weeks of gestation. 5-10% of all pregnancies are complicated by this disorder. According to Ayurveda, the management of hypertension is done by *Shamana Chikitsa* and *Shodhana Chikitsa*. Using the convenience sampling method 4 pregnant women between 30 to 41 years of age who were in their third trimester and suffering from PIH were selected from the antenatal clinic of the Gampaha MOH division, at Kalagedihena, Sri Lanka with the objective of determining the effects of the selected Ayurveda protocols. With their consent, treatments were applied as a combination of personalized *Aushadha* (medicine), *Aahara* (food), and *Vihara* (regime). They were advised to follow *Hitakara Garbhiniparicharya* (wholesome diet and regime) and to avoid *Ahitakara Aahara Vihara* (unwholesome food and regimen). *Mutra karaka* (diuretic) with *Heennerenchi Kirikshaya* was given half *Pata* (120 ml) to be consumed in the morning and the evening. Their allopathic medicine intake was reduced gradually within the first 2 weeks under supervision. The first subject (30 years old) was treated 6 weeks up to her delivery from 34 weeks of gestation. Her blood pressure (BP) gradually reduced, from 145/95 mmHg down to 125/70 mmHg. The second subject (41 years old) was treated for 2 months from 32 weeks of gestation. Her BP reduced from 130/90 mmHg down to 119/70 mmHg. In the third subject, (37 years old), BP reduced from 140/90 mmHg to 130/ 80 mmHg, and in the fourth subject (40 years old), BP reduced from 145/95 mmHg down to 110/85 mmHg. Results have revealed a significant reduction in BP levels. Pharmacological actions of medicines along with wholesome food and lifestyle have affected the reduction of PIH. All the subjects remained within the healthy BP range until their delivery leading to the conclusion that the Ayurveda approaches applied have provided a significant positive impact on managing PIH.

Keywords: Pregnancy-induced hypertension, Ayurvedic treatment regimens, *Garbhajanya Vishamayata*

**SIDDHA MANAGEMENT OF FEMALE INFERTILITY
(MAGAVINMAI – PENN MALADU): CASE SERIES**

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Infertility is the inability of a person to reproduce by natural means. In Siddha system of medicine, the term used for Infertility is *Magavinmai* and Female infertility is *Penn maladu*. Sage Yugi (*Yugi muni*) have explained four types of *Maladu* those are *Suththa maladu*, *Kadhali maladu*, *Kaaga maladu* and *Kanma maladu*. Sage Yugi explained female infertility (*Penn maladu*) characteristics of the discharge of menstrual blood are reddish in colour or yellowish-black or bluish pus-like discharge which appears as small clots or the colour of menstrual blood resembles the colour of stool and urine in diseased condition. In this case series five (5) female patients who were anxious to conceive of regular and satisfactory marital relationships seeking Siddha line of treatment were observed. From detailed history involvement of vitiated *Vali* and *Azhal* and stressful mind were noticed. These patients were treated with a classical Oil bath using *Arakku thailam* and followed by *Agasthiyar kuzhambu* for classical purgation procedure were then advised Internal medicines *Malaivembathi Thailam*, *Arumuga Chenduram* along with *Thirikadugu choornam*, and *Thiripala Choornam*. With the above-mentioned medications patient was approached with a Urine Pregnancy test and was found to be positive. *Magaperu Sanjeevi* kit medicines were administered to the patient and discharged.

Keywords: *Penn maladu*, Infertility, *Arakku thailam*, Pregnancy

COMPARATIVE STUDY ON THE EFFICACY OF *SARJARASA MALAHARA* AND *ROGHAN-E-KHAS* IN THE MANAGEMENT OF *PARIKARTIKA* (FISSURE IN ANO)

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Parikartika stands out as an ailment affecting the ano rectal region. It is a prevalent issue observed in the present era, caused due to improper lifestyle and unhealthy dietary habits. This condition can be correlated with fissures in ano based on clinical features. *Parikartika* can be defined as a distressing longitudinal tear in the anal canal, positioned distal to the dentate line. This condition is marked by intense pain and a burning sensation while passing stool, followed by slight bright red bleeding and occasional itching. The objective of the study was to compare the efficacy of *Sarjarasa malahara* and *Roghan-e-khas* in managing *Parikartika* (fissure in ano) as local applications. In the present study, 60 patients who visited the surgery clinic of D.B. Welagedara Ayurveda Hospital, Kurunegala, Sri Lanka, were randomly divided into two groups. Patients of Group A, the intervention group, were treated with *Sarjarasa mmalahara* application with internal medications, and Group B, the control group, with *Roghan-e-khas* application with the same internal medications for 28 days daily and studied the wound healing process and subsiding of the clinical features; pain, spasms, constipation, and burning sensation for the whole period of 28 days daily. After the completion of treatment, the wound healing process and subsiding of pain, spasms, constipation, and burning sensation were more significant in the intervention group. As per the above study, the treatment modality used in the intervention group, *Sarjarasa malahara*, was more effective for managing *Parikartika* as a local application.

Keywords: *Sarjarasa Malahara*, *Roghan-e-khas*, *Parikartika*, Fissure in ano

PLANTS USED AS ANTICANCER PROPERTIES FROM NEPAL HIMALAYA

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Cancer is abnormal growth of cells. Search for plants having anticancer properties is one step forward to minimize the risk of increasing number of death due to cancer. This study is mainly based on literature review. The main aim of this research is to bridge the information gap between botanist and clinical experimenter and to develop anticancer drugs. This paper includes clinically successful plants having anticancer properties along with clinically unacknowledged plants. Altogether, 112 species belong to 103 genera and 61 families are reported. *Ipomoea* and *vitex* were found important genera using three species in each, followed by *Allium*, *Citrus*, *Curcuma*, *Gossypium* and *Ziziphus*, two species in each. This study also reveals that the leaf was found using in higher number of species (29 species) followed by whole plants (15 species), Root and rhizome (14 species) seeds (12 species) and fruit in 11 species. The most important chemical compounds from familiar species are discussed. The further research belongs to anticancer properties on many wild plants seems still unknown or the knowledge is limited within indigenous people. So, further study on each species is most needed in the future.

Keywords: Anti-cancer, compounds, plants, Nepal Himalaya

EFFECT OF SIDDHA FORMULAE ON ICHTHYOSIS IN CHILDREN: THE CASE SERIES

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The Siddha system of medicine, a traditional holistic Indian medical practice, is gaining recognition in the modern scientific era. Ichthyoses represent a diverse group of genetic dermatologic scaling disorders characterized by dry, thickened, hyperkeratotic skin with erythroderma and plaques resulting from abnormal epidermal turnover. Predominantly affecting children, this condition lacks a definitive cure due to its genetic basis. This series of case studies aimed to assess the impact of external and internal Siddha formulae on children with ichthyosis who sought treatment at the National Institute of Siddha, Chennai, India. Five cases of ichthyosis in children aged between 3 - 12 years, regardless of gender, were enrolled in this observational study with parental consent. A comprehensive evaluation of all signs and symptoms was assessed both before and after treatment, and the findings were recorded in a designated proforma. Over a 4-week treatment period, an external paste applied twice daily, and internal Siddha medicine was administered orally before and after meals. The Visual Index for Ichthyosis Severity (VIIS) and the Ichthyosis Area Severity Index (IASI) was used to assess the efficacy of the treatment regimen. It was observed that significant improvements in Visual Index for Ichthyosis Severity (VIIS) and the Ichthyosis Area Severity Index (IASI) of these children. Hence, it can be concluded that clinical trials with larger samples should be planned to generalize its efficacy.

Keywords: Ichthyosis, Siddha Medicine, Case report

SYSTEMATIC REVIEW OF NUTRITIONAL VALUE AND HEALTH BENEFITS OF DATE PALM (*Phoenix dactylifera* L.) BASED ON PROPHETIC MEDICINE AND ISLAMIC RECOURSES

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Phoenix dactylifera L. also known as date palm, is well known for its nutritive value around the world and consumed in Arabian Peninsula as an essential diet. Various types of dates are found mainly *Khodry*, *Khalas*, *Ruthana*, *Sukkary*, *Sefri*, *Segae*, *Ajwa*, *Hilali* and *Munifi*. In addition to be a good energy source, dates comprise many micronutrients, therefore, it has recommended in prophetic medicine for health and prevention of disease. The aim of this study has to identify the medicinal importance of date palm and to evaluate their value based on modern science and Islamic traditional medicine. The review was carried out based on Holy Quran, Al hadith. Data were collected by using novel research articles with the help of PubMed and Google Scholar. Date flesh is found to be low in fat and protein but rich in sugars, mainly fructose and glucose. It is a high source of energy, as 100g of flesh can provide an average of 314kcal. 10 minerals were reported, the major being selenium, copper, potassium, and magnesium. Vitamin B-complex and C are the major vitamins. Its fruits, seeds and pollen have antioxidant, antidiabetic, anticancer, antimicrobial, antyperlipidemic, hepatoprotective, nephroprotective, neuroprotective, gastrointestinal, and sexual improvement properties, labor, and delivery relaxation. Also increases estrogen, testosterone, and hemoglobin levels. Prophet Muhammad (peace be upon him) said that the best assets is date palm, it cures several disorders. The health benefit of *Ajwa* dates has been documented in hadith as Saud (R.A) narrated that I heard Allah's Apostle saying, "If somebody takes seven *Ajwa* dates in the morning, neither magic nor poison will hurt him that day". So, the present study highlights how traditional Islamic medicine has been integrated into modern medicine and emphasizes the conversion of traditional Islamic ideas into pharmaceutical principles and products.

Keywords: *Phoenix dactylifera* L, Al - Quran, Al hadith, Traditional medicine, Nutrition

**PHARMACODYNAMIC EVALUATION OF *KATPHALADI KWATH* IN THE
MANAGEMENT OF *KAPHAJA HRID ROGA* ACCORDING TO CHARAK SAMHITA: A
CRITICAL REVIEW**

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Cardiovascular diseases constitute a substantial proportion, approximately 25%, of the total mortality in India. Ayurveda, the traditional Indian system of medicine, identifies clinical resemblances between cardiovascular diseases and *Hrid roga*, with specific reference to myocardial infarction aligning with *Kaphaja hrid roga*. This critical review endeavours to assess the pharmacodynamics potential of *Katphaladi kwatha*, a traditional *Ayurvedic* formulation described in the *Charak Samhita*. *Katphaladi kwatha* comprises eight ingredients: *Myrica sapida*, *Inula racemosa*, *Pistacia integerrima*, *Zingiber Officinale*, *Piper nigrum*, *Piper longum*, *Carum carvi*, and *Alhagi Camelorum*. Data were collected from authentic *Ayurvedic texts*, peer-reviewed research articles, and scientific journals for comprehensive analysis. The constituents of *Katphaladi kwatha* are characterized by *Tikta rasa* (bitter taste), *Laghu* (light), *Ruksha guna* (dryness), *Ushna veerya* (heat-producing potency), and *Katu vipaka* (pungent metabolic taste). These constituents primarily exert *Kapha* and *Vata nashaka* (pacifying *Kapha* and *Vata dosha*) effects, with *Karshana* (scraping) and *Lekhana* (liquefying) properties. These attributes are strategically employed for the dissolution of *Dhamani prachitya* (Atheroma) and the prevention of atherosclerosis, ultimately mitigating *Strotoavarodha* (arterial obstruction) and ameliorating *Hridayashoola* or *Hridaroga* (cardiac discomfort or heart diseases). The *Agni Deepana* properties of these herbal components contribute to the maintenance of *Samyaka Dhatu Parinama* (proper tissue transformation), thereby enhancing overall nutrition and immunity. Additionally, the anti-inflammatory properties of these ingredients alleviate inflammatory processes, while their antibacterial activity serves as a preventive measure against secondary infections and disease recurrence. In conclusion, *Katphaladi kwatha* exhibits promising potential in the management of *Kaphaja hrid roga*, as per the principles outlined in *Charak Samhita*. Hence the data recommend the initiation of a well-designed clinical trial to scientifically evaluate the efficacy of this herbal formulation in the clinical management of this condition.

Keywords: *Kaphaja hrid roga*, *Charak Samhita*, *Katphaladi kwath*

UNLOCKING THE TOURISM POTENTIAL: A CASE STUDY OF *GAL OYA* NATIONAL PARK AND SURROUNDING SUBURB AREA IN SRI LANKA

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Tourism is a rapidly growing industry worldwide, and developing countries like Sri Lanka rely heavily on tourism to boost their national income. Recognizing the potential of scattered tourist attractions and the significance of eco-tourism, this study delves into the promotion of Gal Oya National Park and its Suburb Area as a thriving tourism development site. Gal Oya National Park, spanning 25,900 hectares and serving as the main catchment area for Sri Lanka's largest reservoir, holds ecological and cultural importance. The Suburb Area, encompassing Dighavapi, Ratugala Vedda village, and Kalmunai beach, boasts historical, archaeological, and aesthetic significance. The objectives of this research are threefold: to assess the existing situation of Gal Oya National Park and Suburb Area, understand stakeholder perceptions towards promoting the region, and identify opportunities and challenges in realizing its tourism potential. Using qualitative research methods and semi-structured interviews, data were collected from respondents. The study reveals four key challenges hindering the promotion of Gal Oya National Park and Suburb Area as a tourism development site: lack of awareness, limited government involvement, inadequate infrastructure facilities, and a scarcity of human resources. To overcome these challenges and capitalize on the region's unique offerings, the research offers strategic recommendations. Drawing inspiration from various literature sources, this study advocates for sustainable tourism practices. By harmonizing ecological conservation goals with socio-economic development, the research proposes a framework to unlock the ecotourism potential of Gal Oya National Park and Suburb Area. In conclusion, this case study sheds light on the role of tourism in national park planning, emphasizing its significance in economic growth and regional development. By fostering a balance between conservation and sustainable tourism, Sri Lanka can unlock the full tourism potential of Gal Oya National Park and Surrounding Suburb Area, contributing to its socio-economic advancement.

Keywords: eco-tourism, Gal Oya National Park, Suburb Area, sustainable tourism, stakeholder perceptions.

A COMPARATIVE STUDY OF *Trachyspermum ammi* AND *Apium graveolens* SEEDS WITH SPECIAL REFERENCE TO THE UNANI SYSTEM OF MEDICINE

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Tukhm-e-Ajwain (*Trachyspermum ammi* seed) commonly known as Bishop's weed seed which belongs to the family Apiaceae is a highly valued medicinally important seed spice. It is widely used as a single drug or as an ingredient in compound formulations for the management of various ailments. But it is often confused with *Tukhm-e-Karafs* (seed of *Apium graveolens*, commonly known as celery seed), which is more or less similar in appearance. This study aims to explore the existence of similarities and differences between these two plant seeds. The data was gathered from authentic textbooks, research articles and electronic data bases like Pubmed and Google Scholar. Morphological characteristics, *Mizaj* (temperament), *Keemiyavi tajzia* (chemical constituents), *Afa'al* (actions), and *Istemalat* (therapeutic uses) of both seeds were compared with special reference to Unani system of medicine. The review result showed similarities in the morphological characteristic since both seeds are more or less similar in size, taste and smell acts as the striking feature in the identification of two plant seeds. In the sectional view, though both are hexagonal in structure, *Tukhm-e-Ajwain* shows the presence of prominent trichomes whereas *Tukhm-e-Karafs* has reduced or devoid of trichomes. Mizaj of *Tukhm-e-Ajwain* and *Tukhm-e-Karafs* are respectively hot and dry 30 and hot and dry 20. The main actions of *Tukhm-e-Ajwain* are *Kasurriya* (carminative) and *Mushtahi* (appetizer) while *Tukhm-e-Karafs* are *daf-e-amraz-e-balghami* (anti-phlegmatic) and *mufattit-e-hasat* (lithontriptic). There are differences identified in *Keemiyavi tajzia* and *Istemalat*. Hence, it can be concluded that the two seeds are different and to do chemically analyse with morphological characters of both plants to differentiate.

Keywords: *Mizaj*, Morphology, *Tukhm-e-Ajwain*, *Tukhm-e-Karafs*

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Abstracts
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EVALUATING THE EFFICACY OF ONLINE LEARNING AMONG THE STUDENTS OF THE INSTITUTE OF INDIGENOUS MEDICINE DURING AND AFTER THE COVID-19 PANDEMIC: A SURVEY

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Online learning system has reached its peak after the outbreak of COVID-19 all over the world. The Institute of Indigenous Medicine which is now called as the Faculty of Indigenous Medicine, also adopted this system for learning, teaching and assessment purposes. This system is totally a new experience. There were many issues encountered by the students. The objective of this survey was to evaluate the pros and cons of online learning among the students of the Faculty of Indigenous Medicine to modify the learning/teaching strategies. It's a quantitative descriptive survey with the a simple random sampling method. An online questionnaire was prepared and circulated via WhatsApp accounts of the students of Faculty of Indigenous Medicine from second professional, third professional, level four and up to level five students of Unani and Ayurveda. Then the collected data were analyzed and interpreted. 221 responses were received and analysis was done using the Microsoft Excel. The results revealed that the challenges in this system were such as coverage issues, health issues, inability to collect learning materials, etc. 73.1% of the students responded that they had coverage issues on accessing to the online learning. In contrast to this, the results also revealed the opportunities such as saving of time for travelling, increasing digital fluency, etc. On the other hand, the results revealed that 89.4% of the students did not need to be in the classroom physically. Thus, this survey reveals that the online learning system has its own advantages and disadvantages. As this survey was done in a small sample size, recommend to further scrutinize the online learning system for the betterment of the students.

Keywords: Assessment, COVID-19, Digital Fluency, Online, Questionnaire

IN VITRO STUDY TO FIND THE EFFECT OF *Desmodium triflorum* ON BLEEDING TIME

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Natural herbs are popular in current society due to fewer side effects. *Desmodium triflorum* (*Heen undupiyaliya*), is such a valuable plant, and crushed leaves are applied on minor wounds to prevent bleeding by villagers. Anyway, the scientific investigations carried out on medicinal plants are fewer. Thus, the current study was launched in the Faculty of Indigenous Medicine to fill the gap to a certain extent and to find out the effect of *Desmodium triflorum* leaves on bleeding time. The students of the faculty were considered as the target group due to easy handling and narrow age limit. Bleeding time was tested with the less invasive Duke method. As the control, normal bleeding time of the selected group (n=16) was obtained. The same group was used for the test also, to overcome issues such as age gap, sex gap, and health differences. In the test, the pricked site was applied with pure crushed leaves (25 mg) of *Desmodium triflorum*. Then, at every 30 seconds, the site was screened for bleeding with the blotting paper (after removing the plant materials). The bleeding time was obtained at the time of stoppage of bleeding. The average bleeding time of control and test was 71.50 and 39.50 seconds respectively and the difference was statically significant ($P < 0.05$) under the paired test. It is obvious that the bleeding time has an effect from the crushed plant materials. Bleeding time is controlled mainly by the constriction of blood vessels and formation of platelet plugs in the wound area. The reduction of bleeding time by the plant could be due to its phytochemicals such as tannin, flavonoids which have an astringent effect that reduce the blood flow to the area. Further, Anti prostaglandin property of phytochemicals reduces vasodilation. Thus, the study will be a platform for scientists to conduct more investigations on the plant and develop a novel drug for wound bleeding.

Keywords: *Desmodium triflorum*, Phytochemicals, Astringent, anti-prostaglandin, Bleeding time

**CASE STUDY ON ASSESSING THE GRASPING CAPACITY AND QUALITY OF LIFE
OF AN INDIVIDUAL WITH MALUNION FRACTURE MANAGED BY
MANIPULATIVE REDUCTION AND TRADITIONAL ORTHOPEDIC MEDICINE**

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Traditional medicine has been practiced for centuries, offering alternative approaches to support fracture healing and promote overall well-being. Fractures are common musculoskeletal injuries that require timely and effective healing to restore normal functions and mobility. The present study aimed to assess the regaining grasping capacity and quality of life of the individual during the observational period. A 56-year-old female who had distal radius fractures on both arms with a history of railway accident had been treated with allopathic treatments for 04 months, complaining of stiffness with pain, swelling and loss of function at both wrist joints. X-ray reports showed malunion of both distal radius fractures. The case was managed at the geriatric clinic, Kesbewa Community Medical Division, Colombo. Before applying the splints, during every visit, internal medicine such as *Eranda saptaka kashaya*, *Yogaraja guggulu*. was prescribed with external application of traditional *Kedum bidum taila* and *Godapara adi pattuwa* aiming the *Vata shamana*. For up to 03 months, symptoms and functions were assessed by a scoring system with the quality of life assessment through the International Osteoporosis Foundation, Wrist Fracture Questionnaire. Over twelve weeks of consistent treatments, the patient was observed once a week and reported a significant reduction in muscle stiffness (R-72% & L-87%) and improved range of movement (R-67% & L-76%) with reduced pain (R-68% & L-76%) and swelling (R-80% & L-87%) in the bilateral wrist joints. She regained partial grasping capacity on the left side compared to the right. The X-ray (anteroposterior and lateral views) showed complete healing of the fracture. The differences in the quality of life scores were analyzed and it revealed a significant ($p = 0.03$) difference between the pre-treatment and post-treatment quality of life scores. The study highlighted that traditional orthopedic medicine can successfully manage post-fracture complications and support the healing process.

Keywords: Traditional medicine, Range of movement, Post-fracture complications, *Vata shamana*

**IN VITRO STUDY TO FIND THE EFFECT OF *Achyranthes aspera* (APAMARGA)
ON BLEEDING TIME**

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Natural herbs are more popular due to fewer side effects. The plant *Apamarga* (*Achyranthes aspera*), is such and crushed leaves are applied on minor wounds to prevent bleeding, by villagers. Anyway, the scientific investigations carried out on medicinal plants are fewer. Hence, the current study was launched in the Faculty of Indigenous Medicine to fill the gap to a certain extent and to find out the effect *Apamarga* leaves on bleeding time. After getting the ethical approval the students of the faculty were considered as the target group due to easy handling and narrow age limit. Bleeding time was tested with the less invasive Duke method. As the control, normal bleeding time of the selected group (n=16) was obtained. The same group was used for the test also. In the test, the pricked site was applied with pure crushed leaves (25 mg) of *Apamarga*. Then, at every 30 seconds, the site was screened for bleeding with the blotting paper (after removing the plant materials). The bleeding time was obtained at the time of stoppage of bleeding. The average bleeding time of control and test was 63.75 and 37.50 seconds respectively and the difference was statically significant ($P < 0.05$) under the paired t test. It is obvious that the bleeding time has an effect from the crushed plant materials. Bleeding time is controlled mainly by the formation of platelet plugs and constrict of blood vessels. The reduction of bleeding time by the plant could be due to its phytochemicals such as tannin, phenolic protein complexes which have astringent effect that makes the area dry. Thus, the study will be a platform to conduct investigations on the plant and develop natural drugs for wound bleeding.

Keywords: *Achyranthes aspera*, Phytochemicals, Astringent, Bleeding time

PHARMACOGNOSTIC ANALYSIS OF *Zingiber officinale* IN DIFFERENT GEOGRAPHICAL ZONES OF SRI LANKA

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Zingiber officinale (Family - Zingiberaceae) is a native medicinal plant that has a wide range of therapeutic and pharmacological uses. *Zingiber officinale* (ginger) is primarily grown in wet and intermediate zones in Sri Lanka and is regarded as a readily available economic crop. Local ginger (small ginger) and Chinese ginger (large ginger) are the two most common ginger cultivars grown in Sri Lanka. These two ginger cultivars are quite similar morphologically, although there are some differences in terms of rhizome size. These morphological variations are always subject to change depending on the environment in which they are grown. A pharmacognostic examination of ginger cultivars growing in Sri Lanka has only been the subject of a few research. The objective of the current study was to conduct a pharmacognostic analysis of *Zingiber officinale* in various regions of Sri Lanka. The physico-chemical and cold maceration was conducted with methanol and extracts were subjected to normal phase Thin Layer Chromatography (TLC) using with Chloroform: methanol: hexane: ethyl acetate; 9: 1: 9: 1 as mobile phase. Some R_f values in the HPTLC profiles shown same peak might mean those samples have the similar chemical composition in all selected geographical zones. In present study provided valuable information on the quality and potency of ginger grown in different geographical zones in Sri Lanka. Further research is needed to explore the implications of these variations on the therapeutic efficacy and safety of ginger and to promote its sustainable cultivation and trade in Sri Lanka. Environmental and genetic factors may contribute to the differences in the macroscopic features, physicochemical parameters, and active chemical constituents of ginger from different zones.

Keywords: *Zingiber officinale*, TLC/HPTLC, Powder microscopy, Methanol extract

STANDARDIZATION OF *JAWARISH-E-KAMOONI* PREPARED USING LOCALLY AVAILABLE DRUGS WITH SPECIAL REFERENCE TO ORGANOLEPTIC, PHYSIOCHEMICAL AND PHYTOCHEMICAL STUDIES

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Unani System of Medicine has been used for thousands of years for various disorders. There are unique combinations of Unani *Murakkab Dawa* (Poly-herbal formulations) developed using locally available herbs. Meanwhile, there is also an increasing trend towards the traditional form of poly-herbal formulations. At present, highly effective *Jawarish-e-Kamooni*, a *Murakkab Dawa* used in digestive disorders are gaining popularity among Unani physicians. To cater this increasing demand, these medicines are prepared in Sri Lanka with locally available drugs and by substituting unavailable drugs in terms of Unani Concept. There is a need to standardize the preparation of *Jawarish-e-Kamooni* in order to ensure the quality, safety and efficacy. For this study, authentic ingredients were bought from the local market and real substitutes were selected. *Jawarish-e-Kamooni* is prepared in the Unani Pharmacy, Faculty of Indigenous Medicine, University of Colombo. Instead of preparing *Jawarish*, ingredients were powdered and mixed and sugar also finely powdered and packed separately and instructed to mix these powders while testing in Laboratory. The organoleptic characters of single ingredients and *Jawarish-e-Kamooni* were studied to establish a standard organoleptic description. Basic Morphological, organoleptic studies, Physio-chemical, Phytochemical and TLC analysis were performed. The morphological characters of individual ingredients and organoleptic properties of *Jawarish-e-Kamooni* are unique. The study findings indicated that the total ash was 12.8 ± 0.3 %, water soluble ash value was 4.1 ± 0.3 %, acid insoluble ash was less than 0.2%. Several phytochemical analysis revealed the presence of tannins, phenols, flavonoids, terpenoids, and saponins etc. Further, TLC profile has also given a unique pattern for *Jawarish-e-Kamooni*. It was concluded that the results of Phytochemical and TLC analysis can be used as reference standard for the standardization of *Jawarish-e-Kamooni*.

Keywords: Standardization, Digestive disorders, Organoleptic, Phytochemicals, Badal

DEVELOPMENT AND ANALYSIS OF A TOPICAL ANTI-INFLAMMATORY GEL USING THE TRADITIONAL MEDICINAL PREPARATION OF *NAVAHANDI TELKIRA*

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Navahandi (*Rhipsalis baccifera*), a member of the Cactaceae family is an epiphytic plant with many slender, pendant branched stems. In Ayurveda, it is indicated for bruises, rheumatism, and bone fractures, and its milky sap for warts. *Navahandi telkira* is a special traditional medicinal preparation made using squeezed fresh juice of grinded mixture of *Navahandi* and scraped coconut in equal quantities following the procedure of *Bhaanu paaka taila* (the mixture is concentrated under the sunlight). This *Telkira* was effectively used in *Kadum bidum* (orthopedic) treatments and it is said to be used specifically in inflammatory conditions. This research aimed to analyze the anti-inflammatory action of *Navahandi telkira* using Nitric Oxide (NO) Assay and Human Red Blood Cell (HRBC) Membrane Stabilization Assay (Heat-induced), to analyze phytochemicals, to develop a topical gel and to test gel formulations for different characteristics. The two assays were conducted in comparison to standards; Gallic acid for NO Assay and Aspirin for HRBC Membrane Stabilization Assay (Heat-induced). The tests proved the anti-inflammatory action of *Navahandi telkira* in different concentration series compared to the standards. In NO assay, *Telkira* showed an increased percentage of NO scavenging than the standard in some concentrations. The HRBC assay also showed the anti-inflammatory action going alongside with the standard. It was proven that the preparation consisted of phytochemicals such as reducing sugars, proteins, alkaloids, flavonoids, phenols, tannins, saponins, and fats and oils in different degrees of intensities. Furthermore, with these proven test results for anti-inflammation, the preparation was developed into a topical anti-inflammatory gel using some formulations, and its characteristics such as organoleptic features, homogeneity, and pH measurements were tested compared to a basic gel. As a recommendation, further modifications on the formulations of this traditional medicinal preparation of *Navahandi telkira* are needed to be performed and its efficacy should be tested with appropriate clinical studies.

Keywords: *Navahandi telkira*, Anti-inflammatory, Assay, Phytochemicals, Topical gel

QUANTIFICATION OF TOTAL PHENOLIC, FLAVONOID CONTENTS AND EVALUATION OF THE ANTIOXIDANT ACTIVITY OF AKSHI RASAYANAYA

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Akshi rasayanaya which is also known as *Triphala rasayanaya* (*Aralu, Bulu, Nelli*) is a polyherbal formula mentioned in Ayurvedic treatments. It consists of three plant ingredients including, *Terminalia chebula* (*Aralu*) *Terminalia bellirica* (*Bulu*), and *Phyllanthus emblica* (*Nelli*). AR is widely used in Sri Lanka as well as in the Indian traditional medical system and it is considered an effective drug that has lesser side effects compared to modern drugs for *Urdhavachathurgatha* diseases. The present study was undertaken to determine the total phenolic content (TPC), total flavonoid content (TFC), and antioxidant activity. The TPC and TFC were determined using Folin ciocalteu and Aluminium chloride methods respectively. The DPPH free radical scavenging activity and Iron reducing power assay were used to determine the antioxidant activity. The TPC and TFC were 0.0977 ± 0.0036 mg GAE/g and 0.0098 ± 0.0008 mg QE/g. The radical scavenging activity was lesser compared to L-ascorbic acid in both assays but indicates 22.27-68.01% antioxidant potential from the DPPH free radical scavenging assay while from the Iron reducing power assay, it shows 0.06 – 0.17 absorbance values. This may be one of the mechanisms of amelioration of diseases. Therefore, it can be concluded that the aqueous extract of the *Akshi rasayanaya* shows a significant amount of antioxidant activity. Also, the results justify the use of *Akshi rasayanaya* in the treatment of various *Urdhavachathurgatha* diseases in the Traditional System of Medicine. Further omics-based research studies should be conducted to find the advanced mechanisms of this medicine.

Keywords: *Akshi rasayanaya*, Antioxidant, Flavonoid content, Phenolic content, *Triphala rasayanaya*

**RECENT ADVANCES IN PHARMACOLOGICAL STUDIES OF PIYAZ (*Allium cepa* L.)
IN THE MANAGEMENT OF AMRAZ E JILD (SKIN DISEASES): A REVIEW**

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Amraz e Jild (Skin conditions) are among the most prevalent health issues in the world and come with a heavy financial burden. The term "burden of skin disease" refers to a multifaceted concept that includes the psychological, social, and economic effects of skin disease on patients, their families, and society at large. *Piyaz* (*Allium cepa* L.) that is commonly known as onion is a culinary and medicinal spice belonging to the family Liliaceae. It is grown all throughout the world and is quite significant economically. Even though its' bulb and seeds have been used in traditional medicine for wide range of ailments related to respiratory, gastrointestinal, genitor-urinary, cardio vascular, endocrine and skin disorders, in recent years there has been an interest in *Piyaz* due to its medicinal value in the management of *Amraz e Jild*. Traditionally, the paste of raw onion or the roasted onion alone or in combination with *Haldi* (*Curcuma longa*), with mustard oil and with leaves of *Neem* (*Azadirachta indica*) has been widely used in the management of different skin ailments such as alopecia, itchy rashes, fungal infection, boils, wounds, scars and keloids etc. The aim of this review was to gather the information available in the electronic databases of Google scholar, PubMed, Research gate, Scopus and library search regarding recent advances in pharmacological properties of *Allium cepa* L. in the management of skin diseases. Totally 90 studies were evaluated for this review and among them 40 studies were identified as directly relevant in the management of skin diseases. It revealed that *Piyaz* consists of sulphur, organic sulphides, flavonoid quercetin, saponins, glycosides, alkaloids, vitamin C, B6, folic acid, fiber, fat, carbohydrates, magnesium, calcium and potassium. It possesses potent anti-microbial, anti-inflammatory, anti-oxidant, analgesic and immune protective properties which are very important in the management of several skin diseases. As a conclusion *Piyaz* is an important plant which has emerged as a good source of scientific literature for the treatment of *Amraz e Jild* and it can be a relied alternative to the conventional treatment. Hence, further well-controlled clinical studies and pharmacological approaches are needed to establish the use of *Allium cepa* for different skin diseases.

Keywords: *Allium cepa*, *Amraz e Jild*, Pharmacological properties, *Piyaz*, Sulphur

**EVOLUTION OF INTELLECTUAL QUOTIENT OF A PERSON ACCORDING TO
THEIR *DEHA PRAKRITI***

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The aim of Ayurveda is not only physical health but also the al and spiritual health. In this way, *Prakriti* is a basic procedure to examine the patient. *Prakriti* is a body constitution that is responsible for body functions, behaviours, morphology and physiology. It differs for every individual. Intelligent Quotient is widely used to measure the cognitive ability of an individual. Because it is deeply involved in educational, social, and professional success or failure. However, it is also a disgruntled measure to access creativity and emotional intelligence. *Prakriti pariksha* is a unique measure in the system of Ayurveda to advert the proper diet, suitable regime, and profession according to body constitution and intelligence. The study aimed to evaluate intellectual capacity according to different body constitutions. Healthy students of Bt/Paddirupu National School were selected randomly irrespective of their sex, religion, and socioeconomic condition. *Prakriti* assessment of students was done by filling out the *Prakriti* assessment questionnaire at first. Then Intelligent Quotient of students was drawn out by giving an Intelligent Quotient examination paper which includes suitable questions. Obtained data were analyzed by percentage of score to measure the Intelligent Quotient level. After that, the Intelligent Quotient levels will be analyzed according to their *Deha prakriti*. The test result significantly showed that different bodyconstitutionsn have different intellectual capacities. The study shows that *Prakriti* assessment is one of the guidelines in the direction of career selection and gives new scope for future progress in this field.

Keywords: *Prakriti, Vata, Pitta, Kapha*, Intelligence Quotient

ANALYTICAL STUDY OF *TILADI KESHA RANJANA LEPA* (HERBAL MASK) USED IN THE MANAGEMENT OF PREMATURE GREYING OF HAIR

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Premature greying of hair is defined as greying of hair before the age of 20 years and hair masks remain the main modality of the treatment for the cosmetic concerns after nutritional supplementation. *Tiladi kesha ranjana lepa* is an herbal hair mask mentioned in authentic Ayurveda texts: Charaka and Ashtanga Hridaya Samhitha indicated for premature greying of hair. The drug formula consists of *Phyllanthus emblica linn*, *Sesamum indicum linn*, *Nelumbo nucifera geartn*, *Glycerrhiza glabra linn* and bee's honey. The objective of the study is to develop *Tiladi kesha ranjana lepa* as a readily available dosage form and to evaluate the selected quality assessment parameters. Data were collected from authentic Ayurveda, modern texts and related databases. The hot water extracts of *Tiladi kesha ranjana lepa* was subjected to qualitative phytochemical screening and pH determination using standard procedure. The observations were recorded accordingly, the results were tabulated and analysed. The literature survey revealed that the ingredients are prominent with *Madhura rasa*, *Guru guna*, *Sheeta virya* and *Madhura vipaka*. The *Pitta-kapha shamaka* action is prominent in the ingredients of the herbal hair mask which help to alleviate the pathogenesis of premature greying of hair. The average pH value of *Tiladi kesha ranjana lepa* was 3.80 in the room temperature which is acidic. *Tiladi kesha ranjana lepa* is a brownish colour paste with a pleasant odour and it has sweet taste. Phytochemical screening revealed the presence of secondary metabolites as Tannins, Phenols, Terpenoids, Alkaloids, Cardiac glycosides. Phytochemicals are rich in anti-oxidants which is responsible in mitigating the pathogenesis of premature hair greying. Also, the properties of phytochemicals restore the normal hair colour by boosting the melanin pigments of the hair follicles. Saponin was absent in the present screening. According to the conceptual and analytical findings *Tiladi kesha ranjana lepa* shows significant results in managing of premature greying of hair. Further advanced chemical studies and randomized control trials with large sample are suggested to validate the use of *Tiladi kesha ranjana lepa* as a user friendly and effective hair mask for premature greying of hair.

Keywords: Anti-oxidant, Herbal hair mask, *Madhura rasa*, Phytochemicals, Terpenoids

QUALITY ASSESSMENT OF A SELECTED SRI LANKAN TRADITIONAL HERBAL OIL USED IN THE MANAGEMENT OF AMETROPIA (REFRACTIVE ERRORS)

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Ametropia is a group of visual disorders caused by errors in the refractive power of the eye with a global prevalence of 28.3%. The selected Sri Lankan Traditional herbal oil is mentioned in the *Thalpatha Piliyam* book series which is indicated for Ametropia as an effective external preparation. The drug formulation consists of seven herbal compounds, including *Eclipta alba* L., *Phyllanthus emblica* L., *Alternanthera sessilis* L., *Sesamum indicum* L., *Ricinus communis* L., *Glycerrhiza glabra* L., and *Saussurea lappa* L. The objective of the study was to assess the quality of selected Sri Lankan Traditional herbal oil considering the conceptual study, assessing the organoleptic parameters, pH and the presenting phyto chemical constituents. Data were collected from authentic Ayurveda, modern and Traditional medicinal texts and related Databases. selected Sri Lankan Traditional herbal oil was prepared according to the standards of *Sneha kalpana* mentioned in Ayurveda Pharmacopoeia. The organoleptic parameters, pH and the phyto chemical constituents were assessed. The observations were recorded accordingly and the results were tabulated and analyzed by percentage. The ingredients of selected Sri Lankan Traditional herbal oil was predominant with *Madhura* rasa, *Tikta* rasa and *Laghu guna* while *Madhura vipaka* was 57.14% which helps to improve the healthiness of the vision. The majority of ingredients consist of *Tridoshashamaka*, *Chakshushya*, *Akshi prasadana*, *Daha prashamama* actions etc, which can normalize the refractive errors effectively. selected Sri Lankan Traditional herbal oil was brownish-blackish in colour with a pleasant odor. Phytochemical analysis revealed saponins, phenols, tannins, steroids, cardiac glycosides, and terpenoids. These phyto chemicals exert anti-oxidant, immunomodulatory and anti-microbial activity which have a potential in managing of eye diseases. The pH was slightly acidic with a value of 5.11 at room temperature. The present study disclosed the logical effectiveness and quality parameters of Traditional herbal oil for the first time and the detected parameters can be used for future studies. Further efficacy and safety can be validated by large sample randomized control trials which can be a remedy for managing Ametropia.

Keywords: Ametropia, Phytochemical analysis, Traditional medicine, *Chakshushya*

ANALYSIS OF PATIENTS TREATED WITH *WAJA UL MAFASIL* CONDITION AT NATIONAL AYURVEDIC TEACHING HOSPITAL, BORELLA

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Waja-ul-Mafasil is the term defines pain of the joints, one of the most prevalent joint conditions worldwide is arthritis with the prevalence of 22.9%. To analyze, *Waja ul Mafasil* treated cases at the National Ayurveda Teaching Hospital in Borella, survey analysis was needed. This analysis was conducted as retrospective observational study with the sample of 295 treated patients' oOut Patient Department Tickets through stratified sampling method. Data was analyzed with descriptive statistical method (mean, mode, median, standard deviation, skewness, standard deviation) by using through the Microsoft Excel Worksheet. In whole analysis of study, patients treated with *Waja-ul-Mafasil* (100%) condition 60% female- and 40% male. Most of the patients got treatment from the age group 50- 60 (28%) (Mode). while comparing the age group of 50-60 Females (n=50) are higher than the male (n=32). significantly more affected area was located in the knee joint (40.67%) when compared with other joint regions. In modern view 84.40% of osteoarthritis and 15.59% of rheumatoid arthritis cases were identified. Thirty- seven drugs were identified with most commonly prescribed medicine those were *Nirgundiyathi thaila*, *Safoofe surinjan*, RHB oil, *Pinda thaila*, *Sarsapathi thaila*, *Roghan e khash*, *Roghane shifa*. Common sign and symptoms were presented with bilateral knee joint pain. Significantly nine join pain types were identified, most common was knee joint pain. Furthermore, broad spectrum of analysis has been described through the quantitative data and qualitative data analysis. The Analyzed data results shows broad spectrum of *Waja ul Masfail* condition which is categorized as qualitative and quantitative data of patients treated at National Ayurveda Teaching Hospital in Borella. Significantly the analyzed data results of joint pain types of Modern medicine (Osteoarthritis and Rheumatoid Arthritis) give the knowledge to compare and contrast the Unani system of Medicine and Modern Medicine.

Keywords: *Waja ul Mafasil*, National Ayurvedic Teaching Hospital-Borella, Osteoarthritis, Rheumatoid arthritis

ROLE OF *SHRINGAVACHARANA* (BLOODLETTING) WITH MODIFIED *SHRINGA* YANTRA (COW'S HORN) ON *SHVITRA KUSHTA* (LEUKODERMA): AN OBSERVATIONAL STUDY

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Shringavacharana is an ancient therapeutic practice of letting vitiated blood from *Kushta roga* (skin disorders) using cow's horn. *Shringavacharana* is not currently practicing in Sri Lankan Ayurvedic practitioners. As a result, in order to conserve ancient knowledge and techniques, the current study was designed to develop a novel *Shringa yantra* utilizing Sri Lankan Cow's horn (*Bos indicus*) and study the role of *Shringavacharana* on *Shvitra kushta* (Leukoderma). Cow horns were obtained in Kurunegala, north-western province, Sri Lanka and developed the *Shringa yantra* in accordance with the standards mentioned in Authentic. The observational study was carried out at Out Patient Department, Ayurveda Teaching Hospital Borella. A 55-year-old female patient diagnosed as *Shvitra kushta* (Leukoderma) with 6-months history was enrolled to the study. Prior to the commencement of the trial, Full Blood Count, Bleeding Time, Clotting Time, and Thyroxin Stimulated Hormone were tested, and clinical features were recorded before and after treatment in a prepared proforma. *Snehana* (Oleation) with *Guduchchadi* oil and *Swedana* with *Nikadi pottani* (Fomentation) were administered before to the *Shringavacharana*. Modified *Sringa yantra* was applied once a week for eight settings during a two-month period following the *Prachhana karma*. The length of the lesions was reduced by 0.22%, while the width was reduced by 0.04%. The patch's size was reduced by 0.23%. It can be concluded that *Shringavacharana* has therapeutic potential in the management of *Shvitra kushta*, and the protocol should be clinically evaluated with a larger sample size to generalize its findings.

Keywords: *Shringavacharana*, *Shringa yantra*, *Shvitra kushta*

**PHYTOCHEMICAL INVESTIGATION AND PHYSICOCHEMICAL EVALUATION OF
THE LEAVES OF *Atalantia ceylanica***

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Sri Lanka is a tropical country with variety of significant and unstudied medicinal plants spread across various climatic zones. Among all, *Atalantia ceylanica* has been identified as one of the widely used medicinal plant with numerous medicinal values especially related to respiratory system. It is a perennial woody shrub, commonly known as *Yakinaran* in Sinhala and belongs to family Rutaceae. It is mainly distributed in dry regions of India, Vietnam and Sri Lanka. After reviewing the literature, powdered dried leaves of *Atalantia ceylanica* were evaluated for phytochemical constituents, physico-chemical parameters, and chromatographic. The plant was collected from Meegoda, Sri Lanka, and authenticated by the National Herbarium of Peradeniya Sri Lanka. Phytochemical investigation was revealed the presence of carbohydrates, reducing sugars, fixed oils and fats, phenols, tannins, flavonoids, proteins, saponins, triterpenoids, and alkaloids. Obtained values for loss on drying, total ash, water soluble ash, acid insoluble ash and pH value are 7.66% \pm 0.37, 4.66% \pm 0.11, 2.86% \pm 0.02, 0.17% \pm 0.02 and 7.52 respectively. Extractive values of methanol, hexane and water are 4.19% \pm 0.02, 2.08% \pm 0.04 and 8.85% \pm 0.07. The chromatographic profile of the methanol extract of leaves of *A. ceylanica* was developed by using toluene: ethyl acetate in a ratio of 9:1 v/v. HPTLC scanner detected 4 peaks, under the wave length of 256 nm, while eliciting 5 peaks for the wave length of 366 nm. The detected three R_f values (0.85, 0.72, and 0.64) at 256 nm and 366 nm were overlapped with each other. The values obtained from phytochemical screening, physicochemical evaluation and chromatographic profile of the leaves of *Atalantia ceylanica* can be used as standard reference for the correct identity which maintains the quality, purity and the strength of the plant.

Keywords: *Atalantia ceylanica*, Phytochemical, Physicochemical, Chromatographic profile

PHARMACOGNOSTIC ANALYSIS OF *Aegle marmelos* IN DIFFERENT GEOGRAPHICAL ZONES OF SRI LANKA

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Aegle marmelos (Rutaceae) is a medicinal plant used for Ayurvedic medical treatments. Parts of this plant are used for different treatments. This study is focused on pharmacognostic characteristics of the leaves, stem barks and the root barks of the *Aegle marmelos* found in six geographical locations in Sri Lanka, namely Colombo, Kurunegala, Kegalle, Galle, Matale and Puttalam. According to this study moisture values of the selected parts were in the range of 7% to 12% and ash values were in the range of 5% to 10%. pH values of the selected parts were varied from 5-8. Microscopic view of the root bark and stem bark were observed and tracheid and xylem vessels were detected. Cold macerations were conducted for the dried powders with methanol and extracts were used for Thin Layer Chromatography (TLC). Toluene: Ethyl acetate: Formic acid: Methanol (3:3:0.8:0.2) solvent system was used as mobile phase for the leaves. For stem bark and root bark extracts, Toluene: Ethyl acetate: Chloroform: Hexane: Methanol (2:2:1:4:1) system was used as the mobile phase. TLC outcomes were developed by High Performance Thin Layer Chromatography (HPTLC) technique. The best wavelength to visualize the separated TLC/HPTLC profile of the parts of *Aegle marmelos* was 366 nm. A common compound was detected in leaves, stem bark and root bark having a R_f around 0.22, and two common compounds were detected in stem bark and root bark having a R_f around 0.55 and 0.22. It was detected that the concentrations of the similar compounds vary with plant part as well with the plant origin. These results showed that there are influences with geographical and environmental factors for the chemical characteristics of this plant. These findings can be used for the identification and authentication of *Aegle marmelos* plant parts that are used for medicinal purposes and herbal product manufacture.

Keywords: *Aegle marmelos*, Pharmacognostic characters, TLC/HPTLC profile, Methanol extract

**LITERATURE REVIEW ON IMMUNOMODULATORY EFFECT OF *ASGAND*
(*Withania somnifera*)**

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In the Unani system of Medicine, medicinal plants have been used to increase the *Tabeeyat* (inherent power or resistant power of the body for diseases) that performs the physiological functions of the body to maintain the state of health and restore the disease condition. *Asgand* (*Withania somnifera*) is one of the important herbs in Unani System of Medicine that plays vital roles in treating a wide range of diseases through its therapeutic effects such as *Muqawwie Aam* (general tonic), *Muqawwie Bah* (aphrodisiac), *Muaddil* (alterative), *Mohallile Warm* (anti-inflammatory), *Munawim* (hypnotic), *Muwallide Mani* (increases semen production) and *Muqawwi e Rahem* (uterine tonic) which collectively support to strengthen the *Tabeeyat*. Recent research studies show that a wide range of therapeutic properties of *Withania somnifera* including immunomodulatory activities are attributed to its active ingredients such as alkaloids, steroidal lactone, and steroidal saponins. This study therefore reviewed Unani classical texts, textbooks of pharmacology, research articles and electronic database for the therapeutic effects of *Asgand* with particular emphasis on its *Tabeeyat* boosting properties and immunomodulatory activities. The unique concept of *Tabeeyat* and the immunomodulatory effects of *Asgand* were thoroughly studied to exploit the modern aspect of immunomodulation to understand the concept of *Tabeeyat* through a scientific view. The *Tabeeyat* boosting and immunomodulatory activities of *Asgand* provide an encouraging correlation between its traditional uses and modern therapeutic uses. This approach of study presents interesting perspectives on the use of medicinal plants to prevent illnesses and promotion of health in the future.

Keywords: *Asgand*, Immunomodulation, *Tabeeyat*, *Withania somnifera*

DEVELOPMENT AND EVALUATION OF PHYSIO – CHEMICAL PARAMETERS OF HERBAL COSMETIC FORMULAE ON ABNORMAL PIGMENTATION

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Abnormal skin pigmentations are a major cosmetic problem among teenagers. At present, the cosmetic industry is paying more attention to natural compounds of plant origin with lower adverse effects. The present study, aimed to develop the cosmetic herbal formulae and evaluate its physicochemical and phytochemicals comprising *Terminalia chebula* (Retz), *Terminalia bellerica* (Gaertn), *Phyllanthus emblica* Linn, *Rubia cordifolia* Linn, *Curcuma longa* Trim, and *Sesamum indicum* Linn. All the plant material was collected from the western province, of Sri Lanka. The herbal paste and the herbal ointment were developed according to the standards at the Department of *Dravya guna vignana*, Faculty of Indigenous Medicine, University of Colombo. The physicochemical parameters and phytochemical compositions of both the paste and ointment were evaluated. The novel herbal paste had a brown color, sandalwood odor, a pH value of 5-6, and a moisture content of 39.6%. The total ash value was 7.3%, and the water-soluble ash value was 8.6%. The phytochemical analysis of the herbal paste revealed the presence of alkaloids, tannins, and saponins. However, the herbal ointment exhibited a dark brown color, a sesame oil odor, a P^H value of 5-6, and a moisture content of 98.4%. The total ash value was 3.3%, while the water-soluble ash value was 4.2%. The analysis of the herbal ointment detected alkaloids and tannins but found an absence of saponins. Both the herbal paste and ointment demonstrated acceptable properties for application on the skin. However, it is important to conduct a clinical study on a larger scale to determine the effectiveness of the herbal pate in treating abnormal skin pigmentation.

Keywords: Herbal ointment and paste, Physicochemical properties

COLLECTION OF EFFECTIVE RECIPES FOR *KEETA VISHA* IN AYURVEDA AND TRADITIONAL MEDICINE AND PREPARATION OF EFFECTIVE APPLICATIONS

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The use of herbal remedies and exceptional techniques for *Keeta visha* (insect bites) has been prevalent in Ayurveda and traditional medicine for centuries. Even though the symptoms, treatment modalities related to *Keeta visha* are available in Ayurveda and traditional authentic texts, there is a significant gap in availability of a reliable medicament supported by scientific evidence in Sri Lankan market. The adverse reactions of *Keeta visha* may cause critical life-threatening condition thus, the availability of a prepared drug is timely needed. This research aimed to collect formulae and develop effective formulae for *Keeta visha*. The formulation process consisted of comprehensive review of the literature to identify herbs and recipes having properties related to *Keeta visha* from authentic texts. There were 282 total in number. The most prominent preparation was pasting form and there were 179 pastes mentioned in both Traditional Medicine and Ayurveda. The maximum number of recipes were found from *Khanda Vaidya Grantha*. The types of drugs used in recipes were herbal, mineral, animal based and the maximum percentage (82.45%) was herbal based. The study revealed the pharmacodynamics properties and the percentages of mostly used ingredients in recipes as *Tikta* (bitter) (33.33%), *Katu* (pungent) (21.51%) and *Kashaya* (astringent) (23.66%) in taste, *Ushna* (hot) (62.5%) in *Veerya* (potency), *Katu* (62.5%) in *Vipaka*. The selected formula; *Champaka agada* underwent testing to evaluate the phytochemical components it contains. *Champaka agada* was having 8 ingredients which were herbal and animal based. The prominent properties of the ingredients were *Tikta rasa*, *Ushna veerya* and *Madhura* (sweet) *vipaka*. It was positive for phytochemical evaluation of alkaloids, tannins, phenols and carbohydrates. Almost most of the ingredients encountered the vishaghna action. Thus, the present study showed that the ingredients of *Champaka agada* possessed significant effect against *Keeta visha* in comparison to other collected recipes and is suitable for clinical trials.

Keywords: *Keeta visha*, *Champaka agada*, Tradicinal Medicine

**STANDARDIZATION OF THE COMMERCIAL CASSAVA NOODLES PREPARATION
FROM MANIOC (*Manihot esculenta*) PLANT**

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Manioc (*Manihot esculenta*) serves as a crucial staple food, offering a viable solution to the global food challenge. An array of value-added food products, such as manioc chips, manioc flour, and animal feed, underscore its versatility. Remarkably, manioc lacks gluten protein and possesses adhesive properties, enabling the creation of diverse wheat flour-based products. By this study we were planned to standardize cassava noodles preparation, evaluating their physicochemical parameters, cooking quality (cooking loss, rate of water absorption), and mechanical textural properties in comparison to wheat noodles and instant wheat noodles. Also, this study was aimed to study the cyanide level of cassava noodles and study the gluten protein level of cassava noodles. Hardness, Chewiness, Adhesiveness, Cohesiveness, Springiness and Gumminess was analyzed by the stranded methods as physiochemical parameters. Cyanide level was assessed by CML-18 method and SLS ISO 201415 - 4:2018 was used to analyze the gluten protein. Although cassava noodles exhibited a relatively high cooking loss of 17.47% and substantial water uptake of 153%, their texture profile analysis revealed approximately 80% similarity with wheat noodles, except for cohesiveness and gumminess. Cassava noodles demonstrated lower cohesiveness, gumminess, and chewiness compared to wheat noodles. The similar springiness values (2.12 for cassava noodles, 2.69 for wheat noodles, 2.41 for commercial wheat noodles), indicating their approximately similar in elasticity. This finding holds promise for the potential integration of cassava noodles into wheat-based product development. The analyses confirmed the absence of Gluten and Cyanide in the cassava noodles, ensuring their safety for consumption. In conclusion, this research validates the safety and textural qualities of cassava noodles, positioning them as a valuable addition to the food industry. The gluten-free nature and versatility of manioc present an effective approach to addressing dietary restrictions and diverse culinary preferences. With considerable similarity to wheat noodles in both appearance and textural properties, cassava noodles open up exciting possibilities for innovative and sustainable food product expansion.

Keywords: Manioc noodles, Standardization, Texture profile analysis, Cyanide level, Gluten level

**STUDY OF THE CONCEPT OF *DAUHRIDAYA* IN AYURVEDA AND A SURVEY ON
IT'S FACTUAL ASPECT**

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Pregnancy, a transformative period in a woman's life, is accompanied by a myriad of physical and emotional changes. Among the many intriguing phenomena that occur during this transformative journey, pregnancy cravings stand out as a common and shared experience among expectant mothers. Most cultures accept this concept and try to fulfill the pregnancy cravings. Therefore, this study was conducted to find out the factual aspect of pregnancy cravings. First, a literature review was done to collect available information and with the approval of the Ethical Review Committee, a survey was conducted with 97 women. In Ayurveda, these phenomena are known as *Dauhridaya* and it may have impacts on babies' character and non-fulfillment of these longings may lead to congenital anomalies in the baby. According to modern aspects, these craving does not cause any harm, but it will give comfort and satisfaction to the mother. They define it as some nutritional requirement of the fetus. Additionally, *Dauhridaya* concept was found in History and Buddhist Literature. In the survey, among 97 mothers 87 mothers had pregnancy cravings during their pregnancy period. Most of them were food cravings like sweets, fruits, rice and curry and *Daane* etc. These cravings were not only based on eating. It includes satisfying other senses like bathing in a lake and watching waterfalls, reading books, listening to songs, visiting temples etc were had. Mothers believe that there is a connection between the *Dauhridaya* and the character of the born baby. It can be concluded that sometimes *Dauhridaya* and its effect can be differentiated according to the age, number of children, cultural differences etc. *Dauhridaya* had appeared despite the page, socio-economic level and educational level. As Acharya Sustrutha said nonfulfillment of appropriate desires regarding objects of the sense of a pregnant woman leads to the abnormality of the sense organs in the fetus. *Dauhridaya* should be fulfilled to have a healthy baby and to prevent congenital anomalies in the baby.

Keywords: *Dauhridaya*, Pregnancy cravings, Congenital anomalies

PREVALENCE OF RISK FACTORS OF STROKE IN GALLE DISTRICT, SRI LANKA: A RETROSPECTIVE HOSPITAL BASED STUDY

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Stroke is a significant cause of morbidity and mortality worldwide, including Sri Lanka. To effectively prevent and manage stroke, it is crucial to identify and understand the risk factors associated with it. This Retrospective Hospital-based study aimed to determine the prevalence of risk factors for stroke in the Galle District, Sri Lanka. In this study approved from Ethical Review Committee, Faculty of Indigenous Medicine. The study carried out of medical records of stroke patients admitted to Teaching Hospital Karapitiya in the Galle District. Bed Head Tickets were used to collect data. The study included 150 stroke patients with a mean age of 61 years. Results showed that hypertension was the most prevalent risk factor, affecting 62.7% of stroke patients. Diabetes mellitus was the second most common risk factor, found in 27.3% of the study population. Hyperlipidemia is also a prevalent risk factor affecting 50.7% of stroke patients. Smoking and alcohol consumption were also prevalent among 30.2% and 33.3% of stroke patients respectively. Obesity was observed in 20.7% of cases. This Retrospective Hospital-based study highlights a high prevalence of major risk factors for stroke in the Galle District, Sri Lanka. The findings emphasize the urgent need for targeted interventions and public health campaigns to raise awareness and promote lifestyle modifications to reduce the burden of stroke in the local population. Further prospective studies are warranted to validate these findings and explore additional risk factors for stroke in the Sri Lankan population.

Keywords: Diabetes mellitus, Hyperlipidemia, Hypertension, Obesity, Prevalence

**STUDY ON CONSERVATION METHODS USED IN SRI LANKAN TRADITIONAL
MEDICINE: A DESCRIPTIVE STUDY**

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Sri Lankan Traditional Medicine is a centuries-old healthcare system that relies on medicinal plants, minerals, and animal-derived substances. The conservation of these valuable resources has become a pressing concern due to the increasing demand for traditional medicine. This study investigates the conservation methods employed in Sri Lankan Traditional Medicine, assesses their effectiveness in preserving medicinal biodiversity, and understands the awareness and attitudes of practitioners and the general public towards conservation. Twenty registered traditional physicians were selected as respondents, and an extensive literature review was conducted to gather information on conservation methods. Data was collected through self-administered semi-structured questionnaires, interviews, and observations. Results revealed that different conservation methods are used among practitioners in Sri Lankan Traditional Medicine. The main conservation method is the use of herbal gardens (20%), *Wedagata* (10%), handwritten manuscripts (15%), and *Weda puskolapoth* (30%), which preserves medicinal knowledge recorded on Ola leaves. *Guru-mushti* (5%) and *Weda parampara* (15%) are also used to ensure the preservation and transmission of traditional medical practices through successive generations. The study emphasizes the urgent need for effective conservation measures to preserve medicinal biodiversity in Sri Lankan Traditional Medicine. The identified conservation methods provide valuable insights for policymakers, conservationists, and practitioners to develop sustainable management practices. The research contributes to a better understanding of the conservation methods used in Sri Lankan Traditional Medicine, enabling the preservation and availability of these resources for future generations.

Keyword: Conservation Method, Sri Lankan Traditional Medicine, *Wedageta*, *Gurumushti*

A STUDY OF RELATIONSHIP BETWEEN POLYCYSTIC OVARY SYNDROME AND OBESITY: A SURVEY

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Polycystic Ovary Syndrome is one of the common endocrine disorders found in 4-8% of reproductive aged females. In Ayurveda classical texts, there're no direct correlation to Polycystic Ovary Syndrome. Comparing the clinical features of Polycystic Ovary Syndrome, we can correlate this to *Artavakṣaya*, *Granthibhuta artava Dushti*, *Pushpagni jataharini* and *Vandya yonivyapat*. Obesity is a medical condition which has excess amount of body fat that has adverse effects on health of the individual. Obesity is correlated to *Atisthaulya* in Ayurveda. According to World Health Organization criteria for Body Mass Index, if the Body Mass Index is equal or greater than 30kgm⁻², they are considered as obese. In women with PCOS, the insulin resistance and hyperandrogenism is believed to gain weight which leads to obesity. Another common idea is that Polycystic Ovary Syndrome is a genetic condition which is exacerbated by obesity. The females with Polycystic Ovary Syndrome neglect maintaining their body, which prone them to many non-communicable diseases. This research was done to find the relationship between Polycystic Ovary Syndrome and Obesity. The research was done in the Gynecology Clinics of Borella National Ayurveda Teaching Hospital, Meegoda Provincial Ayurveda Hospital and Navinna Ayurveda Hospital. After handing over an information sheet and obtaining signature to a consent form the details were collected from a sample of 150 individuals, who were newly diagnosed with Polycystic Ovary Syndrome with a dropout rate of 10%. The individuals who were under medication and engaged in other factors causing obesity were excluded. The details included the basic history taking and some physical examinations. After analyzing the collected data, 38% of the sample belonged to overweight category while 33% belonged to obese category, 27% belonged to normal category and 1% belonged to underweight category. From the results it was concluded that though there's no strong relationship between Polycystic Ovary Syndrome and obesity, more prevalence is seen in overweight category.

Keywords: Polycystic Ovary Syndrome, *Artavakṣaya*, Obesity, *Atisthaulya*

**DEVELOPMENT OF AN HERBAL BODY WASH FOR A HEALTHY SKIN AND
CONCEPTUAL EVALUATION OF ITS EFFICACY**

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Cleansing of the skin has lots of benefits along with the therapies given for many skin disorders such as acne, atopic dermatitis, eczema, etc. With the development of aesthetic dermatology, cleansing of the skin is assumed to make a significant contribution for healthy skin. Therefore, present study was focused on preparing a herbal body wash which can improve the skin condition, remove blemishes and maintain healthy skin. Plants were selected from authentic texts which are beneficial for skin disorders. The *Kushtaghna*, *Kandughna*, *Varnya*, *Vrana ropana*, *Vrana shodhana*, Anti-inflammatory and Anti-microbial properties were considered in selecting the herbal ingredients for the body wash with reference to Authentic texts and published research articles. Based on that, *Coscinium fenestratum*, *Santalum album*, *Rubia cordifolia* and *Saussurea lappa* were selected. Depending on the yield and texture, several herbs were tested for selection of the base of the body wash such as *Acacia concinna*, *Trigonella foenum-greacum* and *Linum usitatissimum* and, *Linum usitatissimum* was selected as the base. The aqueous extracts of the key ingredients were mixed with the base in different ratios. The basic standardization parameters were evaluated and efficacy of the product was studied conceptually. The final product was found to have a yellow color, a pearl luster, strong aromatic odor, 5 to 6 pH value and according to the phytochemical analysis presence of saponins, terpenes, steroid, flavonoids, alkaloids, tannins, glycosides, carbohydrates and proteins were found. Analysis of pharmacological properties further verified the *Kushtaghna*, *Kandughna*, *Twak doshanashana*, Anti-inflammatory, anti-microbial and wound healing actions of the final product. In conclusion, pharmacological properties showed that, the final product would have the ability in alleviating skin ailments and maintaining a healthy skin. However, scientific validation is needed for the confirmation of its efficacy.

Keywords: Skin, Skin disorders, Herbal body wash, Healthy skin

**COMPARATIVE QUALITY EVALUATION ON BRANDED *TRIPHALA* TABLETS IN
AYURVEDA DRUG MARKET OF SRI LANKA**

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At present, the market of all commodities has become global and standardization is essential to guarantee the quality of products. *Triphala* is a well-known poly-herbal formula consisting of pericarps of fruits of *Terminalia chebula*, *Terminalia bellirica* and *Phyllanthus emblica*. The objective of this study was to comparatively evaluate the quality of four different branded *Triphala* tablets (A, B, C, D) and one capsule (E) available in Ayurveda drug market of Sri Lanka. All the brands were purchased from Ayurveda drug market and assessed for organoleptic, physical, chemical and pharmaceutical parameters. Results revealed that loss on drying at 105°C of all brands were below 10%. Total ash values (5.4%, 5%, 3.3%, 5.7%, 4.9% respectively) were above the standard limit of 2%. Water soluble ash (0.9%, 2.4%, 1.6%, 2.7%, 1.2%) and acid insoluble ash (2.5%, 2%, 1.9%, 2%, 1%) values were assessed. Water soluble extractive values (7.35%, 13.08%, 20.03%, 11.28%, 8.18%) were higher than alcohol soluble extractive values (7.25%, 12.23%, 13.48%, 9.7%, 8.15%) in all brands. Only A and C passed the weight variation test. Friability of A, B and C were below standard limit of 1% indicating that friability is normal. Only the disintegration time of A was below the standard limit of 15 minutes. Hardness ranged from 172N to 503N. Ethanolic extracts of all were positive for tannins, flavonoids, phenols, steroids, glycosides and carbohydrates and negative for alkaloids, terpenoids and proteins. Only C was positive for saponins. Thin layer chromatogram (Toluene: Ethyl acetate: Formic acid/3:5:1) showed similar patterns for all brands. HPTLC fingerprints of all brands were similar in terms of number of peaks and their intensity, except tablet C with four additional peaks in the HPTLC. Results can be concluded that, as there is a considerable variation in physical and pharmaceutical parameters of all brands, it is urgent to maintain common standardization parameters in Ayurveda drug market.

Keywords: *Triphala*, Standardization, Physical parameters, Pharmaceutical parameters, HPTLC

**A PHARMACOGNOSTIC STUDY OF *Rothea serrata* (L.) STEANE & MABB.
GROWN IN SRI LANKA**

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The plant *Rothea serrata* (L.) Steane & Mabb. is a perennial, glorious shrub belonging to family LAMIACEAE known as "*Bharngi*" in Ayurveda Medicine. It has been mentioned in various Authentic texts in Ayurveda Medicine and is commonly used to treat diseases related to the respiratory system. This study aimed to perform the pharmacognostic study, based on macroscopical, microscopical, physicochemical, phytochemical constituents, and Thin Layer Chromatography (TLC) fingerprints of selected secondary metabolites present in the methanolic root and leaf extracts of *Rothea serrata*. Dried powder of roots and leaves was used to observe the organoleptic properties and histological characteristics were identified using free hand sectioning observed under the light microscopic magnification power *10 and *40. The methanolic root and leaves extracts were subjected to qualitative phytochemical screening and to develop TLC. Dried root powder was a bitter, fine, light brown powder that presented with >1 specific gravity. The dried leaf powder was bitter, rough, blackish green powder presented with <1 specific gravity. Tannins, phenols, terpenoids presented in both roots and leaves and the presence of alkaloids in leaves. Preliminary TLC studies done for saponins, the number of spots obtained in the methanol extract of leaf is abundant than in the methanolic extract of root and for flavonoids, the number of spots obtained in the methanolic extract of leaf was more in both solvent systems. Therefore, this study can be used for the identification and, quality assurance, of *Rothea serrata* (L.) Steane & Mabb. in herbal drug development process.

Keywords: Bharngi, Methanolic extracts, TLC, Phytochemicals

PHARMACEUTICAL STUDY OF *TRIPHALA GHRITA* WITH SPECIAL REFERENCE TO *AKSHI TARPANA*

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Visual impairment develops into a serious health issue for people of all ages. Nearsightedness or longsightedness, which impairs near and far vision respectively, affects almost 2.2 billion individuals worldwide. Due to non-communicable diseases like diabetes, cataracts, and glaucoma, the prevalence of blindness is also very high. Visual fatigue affects more than 90% of smart device users who spend more than 3 hours a day using their devices. *Triphala ghrita* is a traditional Ayurvedic preparation which is a blend of Triphala (*Haritaki* - *Terminalia chebula*, *Amalaki* - *Embllica officinalis* and *Vibhitaki* - *Terminalia bellirica*), ghee and milk, used for centuries in the treatment of various eye diseases. *Akshi tarpana* is a commonly used local eye therapy which restores and rejuvenates the eye. *Triphala ghrita* is the commonest drug used for *Akshi tarpana*. Due to its *Cakshushya* (improve the vision) and *Rasayana* (rejuvenating) properties, it is recommended for different *Netra roga*. Objective of this study is to reveal the *Akshi tarpana* effect of *Triphala ghrita* by using some analytical parameters and here, *Triphala ghrita* was prepared according to *Netra roga cikitsa* in Cakradatta and determine its effectiveness on eyes through physicochemical parameters and pharmacodynamic properties. *Triphala ghrita* is having light yellow color, smooth and ghee smell. Moisture content of *Triphala ghrita* was $0.239 \pm 0.01\%$, pH value was 7.4 ± 0.02 , Total ash value $0.322 \pm 0.01\%$, Refractive index 1.46574 ± 0.001 and the phytochemical analysis reveals that, it contains steroids, saponin, tannins, alkaloids, flavonoids, terpene, proteins, and carbohydrates. Due to less moisture content it is expected to be more stable and would be resistant to microbial development. pH value was same as tear fluid's pH (7.4 -7.6). Due to the antioxidant properties of embedded phytochemicals and Madhura rasa among the ingredients of *Triphala* is also providing *Cakshushya* effect. Therefore, *Triphala ghrita* can be recommended for *Akshi tarpana*.

Keywords: *Triphala ghrita*, *Akshi tarpana*, *Cakshushya*, *Netra roga*

ANALYTICAL STUDY OF THE RELATIONSHIP BETWEEN *DEHA PRAKRITI* MENTIONED IN AYURVEDA AND *GANA* MENTIONED IN HOROSCOPE

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Deha prakriti or body constitution decided in the uterus. There are seven types of the *prakriti* based on three *Dosha*. The aim of Astrology is to inform the individual of the course of his life on the basis of the positions of the planets and of the zodiac signs at the moment of his birth or conception. Three types of *Gana* are *Deva gana*, *Manushya gana* and *Raksha gana*. *Deha prakriti* and *Gana* determine the behavioural temperament of a person, so there should be a relationship between *Deha prakriti* and *Gana*. But to date, there have been very little researches looking at the relationship between *Deha prakriti* and *Gana*, so this study was conducted to fill that gap. The general objective of this analytical study was the relationship between *Deha prakriti* mentioned in Ayurveda and *Gana* mentioned in Horoscope. There are 345 individual participants selected by simple random sampling method. The sample was getting aged between 20-30 and data were collected using an interviewer-administered questionnaire method. Data were collected by validating *Prakritic* chart and asking *Gana* and data were analyzed by quantitatively. According to research findings 48.01% of *Vata pradhana Prakriti* in *Manushya gana* out of other six *Prakriti* types. 39.32% of *Pitta pradhana Prakriti* in *Raksha gana* and 36.67% of *Kapha pradhana prakriti* in *Deva gana*. *Vata pradhana prakriti* and *Manushya gana* have similar behavioural characteristics, such as they have mixed qualities sometime, they may be very kind, at times may be vindictive, change quickly, rough, fast speech. *Pitta pradhana prakriti* and *Raksha gana* have similar behavioural characteristics, such as stubborn, aggressive, energetic, fearless, commanding voice. *Kapha pradhana prakriti* and *Deva gana* have similar behavioural characteristics, such as humble, stable, calm, forgiving, follow rules. Finally concluded has a relationship between *Deha Prakriti* mentioned in Ayurveda and *Gana* mentioned in Horoscope.

Keywords: *Prakriti, Vāta, Pitta, Kapha, Gana, Deva, Raksha, Manushya*

PHYSICO-CHEMICAL AND PHYTOCHEMICAL STANDARDIZATION OF *HAB E TAP E BHALGAMI*: A PHARMACOPOEIAL UNANI COMPOUND FORMULATION

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Since ancient times herbal medicines have been playing a major role in Indigenous Medicines. For the last few decades, the global demand for Indigenous Medicine has been rising, due to the effectiveness and least side effects of the herbal formulations. Standardization of Unani polyherbal formulations is the need of the day for better acceptance of Unani medicine. *Hab e tap e balghami* is an Unani polyherbal formulation which comprises *Maghz e karanjwa* (*Caesalpinia bonducella*), *Filfil e daraz* (*Piper longum*), *Zeera safaid* (*Cuminum cyminum*) and *Barg e babool* (*Acacia arabica*). It can be used in the treatment of *balghami* fevers. The present study was taken up to scientifically evaluate the various physical and phyto-chemical parameters to standardize the formulation. The objective of this study is to identify the organoleptic characteristics and to conduct the physical and phytochemical analysis of *Hab e tap e balghami*. The raw materials were obtained locally and were identified and authenticated by the experts of the department of Dravyaguna Vignana and Swasthvritta Faculty of Indigenous Medicine, University of Colombo. The method mentioned in the National Formulary of Unani Medicine was followed for the preparation of the Hab. The organoleptic properties of the formulation showed greenish brown color, slightly aromatic odor, bitter taste and slightly rough texture. The study findings indicated that the loss of weight on drying was 7.01 ± 0.4 %, total ash value of 9.46 ± 0.4 %. The phytochemical analysis revealed the presence of saponins, carbohydrates, reducing sugars flavonoids, terpenoids, tannins, and phenolic compounds. The TLC fingerprint provided visual evidence of the phytochemical constituents present in *Hab e tap e balghami*. It was concluded that the standards were established for the poly herbal formulation *Hab e tap e balghami* which may be used as a reference for preparation and standardization.

Keywords: *Hab e Tap e Bhalgami*, Unani formulation, Standardization

PHARMACOGNOSTIC ANALYSIS OF *Indigofera suffruticosa* FROM DIFFERENT GEOGRAPHICAL ZONES

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Indigofera suffruticosa (Fabaceae) locally identified as *Nil aweriya*, has been used in traditional medicine to treat various ailments and the preparation of herbal products. This plant is the most important ingredient of *Neelyadi oil*, is one of the famous oils in traditional Medicine. At present, the identification and authentication of this valuable herb are very important due to the uses of adulterants for this herb in the herbal drug industry. Therefore, this study was designed to develop a High-Performance Thin Layer Chromatography (HPTLC) fingerprint profile for this plant, *Indigofera suffruticosa*. Fresh plants were collected from the four different geographical zones (Colombo, Kandy, Kurunagala and Rathnapura Districts) in Sri Lanka. Herbarium specimens were prepared for the authentication from the National Herbarium, Peradeniya, Sri Lanka. The methanol extract was prepared from the dried leaves and compare the chemical characters according to different geographical zones. Powder microscopic analysis of dried powders was analyzed. The TLC/HPTLC profiles of methanol extracts were developed by using ethyl Acetate: Toluene: Chloroform: Hexane: Methanol (2:2:1:4:1). four peaks were identified with R_f values in the range of 0.03 – 0.83 in four selected geographical zones. The compound appearing at 0.70 to 0.80 range is appeared in all four samples. This TLC/ HPTLC profile analysis would pave the way for the detection of the identification and authentication of the raw material of *Indigofera suffruticosa* during the preparation of herbal products in traditional medical system.

Keywords: *Indigofera suffruticosa*, TLC/HPTLC profile, Methanol extract, Powder microscopy analysis

ANALYTICAL STUDY OF SHODHANA PROCESS OF GUGGUL BY USING DIFFERENT LIQUID MEDIA

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Guggul is a plant exudate used in Ayurveda system of medicine which have high medicinal value. *Guggul* cannot be used directly as a medicine due to high amount of external impurities which leads to toxic effect on human body. Therefore, before using *Guggul* for medicinal purpose, it should be purified properly. In Ayurveda this purification process is known as *Shodhana*. Purification of *Guggul* can be done by steaming it with different liquids with the help of *Dolapaka yanthra* (Steaming apparatus). Aim of this study was to find out the most appropriate liquid which can be used for purification of *Guggul*. Here *Guggul* was purified with water, juice of *Nirgundi* leaves (*Vitex negundo*), Juice of *Wasa* leaves (*Adatoda vasica*) and the decoction of *Triphala* (*Terminalia chebula*, *Terminalia bellirica*, *Phyllanthus emblica*) by using *Dolapaka* method. After purifying, organoleptic, physicochemical, phytochemicals characteristic of different *Shoditha guggul* were comparatively evaluated. Total Ash value and moisture content were low in *Guggul* purified by *Triphala* decoction (Total Ash value - 7.25%, Moisture content- 2.66%). High concentration of phytochemicals was present in *Guggul* purified by *Triphala* decoction and also there was no visible fungal growing three months after the purification process in *Guggul* purified by *Thripala* decoction than other types of *Shoditha guggul*. This preliminary study showed some evidences on proved *Triphala* decoction as the most appropriate liquid for purification of *Guggul* and should conduct further analysis to prove it.

Keywords: *Guggul*, *Dolapakayanthara*, *Shodhana*, *Thiphala* decoction

**A SCIENTIFIC REVIEW ON IMMUNE ENHANCING PROPERTIES OF ASAL US SOOS
(*Glycyrrhiza glabra* LINN.)**

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The word "immune suppression" refers to a condition in which the immune response is permanently or temporarily dysfunctional as a result of insults to the immune system and increases vulnerability to disease. The prevalence of immune suppression is currently rising worldwide due to a variety of factors, including stress, bad lifestyle choices, smoking, alcohol use, and prolonged use of specific medicines. The Unani systems of medicine states that, *Quwwat e Mudabbirae lil Badan* is the supreme power of the body which regulates whole body and mind by controlling other sub *Quwa* (powers) such as *Quwate Nafsani* (psychic power), *Quwate Haiwani* (vital power) and *Quwate Tabayyi* (natural power). In Unani medicine *Quwwat e Mudabbirae lil Badan* is a term equivalent to immunity. Though there are several drugs mentioned in Unani classical texts to strengthen the supreme power, *Glycyrrhiza glabra* Linn. known as *Asal us Soos* in Unani medicine is one of the valuable medicines that help to strengthen immunity. The aim of this review was to explore the information available in the literature regarding immune enhancing properties of *Asal us Soos* in the field of Unani medicine and ethnobotany. All the available information on *Asal us Soos* was compiled from Unani classical texts, Google scholar, PubMed, Medline, Scopus, etc. The literature search revealed that there were more than 50 research articles on immune enhancing properties of *Asal us Soos* root and root extract which were proved by phytopharmacological and animal modal studies. As a conclusion, *Asal us Soos* is an important medicinal herb which has emerged as a good source of scientific literature for the treatment of diseases which are caused by immune suppression and it can be a relied alternative to the conventional treatment.

Keywords: *Asal us soos*, *Glycyrrhiza glabra* Linn, Immune enhancing, Immune suppression, *Quwwate Mudabbirae lil Badan*

COMPARATIVE ANALYSIS OF *Carum carvi* AND *Nigella sativa* FOR KRISHNA JIRAKA FOUND IN AYURVEDA RECIPES: A SYSTEMATIC REVIEW

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Ayurveda Pharmacology is an unparalleled approach to healing that employs natural substances to restore equilibrium to the body. It is tailored to each individual, rendering the treatment both safe and effective. Among the authentic texts, *Krishna jiraka* is utilized in the management of diseases of Gastrointestinal, Nerves, Respiratory, and Reproductive Systems. *Carum carvi* and *Nigella sativa* are used for *Krishna jiraka*, depending on the availability among the localities of Sri Lanka and India. Despite evidence for their biological activities and chemical composition, no scientific validation has been done on either seed used in treatment. This attempt is to verify their usage by analyzing their phytochemicals and pharmacological actions. An electronic database search performed through PubMed, ScienceDirect, and Google Scholar with search terms *Krishna jiraka* or *Nigella sativa* or *Carum carvi* returned 177 relevant articles (published between 2000 and 2023). For this study, 138 were excluded due to lack of access to the original article or non-relevance. Both plants are not categorized under the same family and are morphologically different. Among the analyzed articles on *Nigella sativa*, Thymoquinone was prominently found, followed by Carvacrol and Nigellone. They were shown to manifest the ability to attenuate inflammation and oxidative stress and to promote immunity, and energy metabolism, which aids in protection against metabolic, digestive, respiratory, renal, reproductive, and neurological disorders. Articles on *Carum carvi* have shown Carvone prominently, followed by Limonene, Dihydrocarveol, Citronellol, Cuminaldehyde, Eugenol, and Thymol. These have shown antioxidant, antimicrobial, anti-diabetic, apoptotic, and cytotoxic properties. In conclusion, these findings suggest that *Nigella sativa* shows similar pharmacological actions per the authentic texts compared to *Carum carvi* upon their usage. Since some common properties are evident, *Carum carvi* or *Nigella sativa* can be applied for *Krishna jiraka*. However, comparative pre-clinical and clinical studies are needed for further confirmation.

Keywords: *Carum carvi*, Comparative analysis, *Krishna jiraka*, *Nigella sativa*

COMPILE A COLLECTION OF DIFFERENT FORMULAE FOR *DARUNAKA*

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Hair is the crown of the beauty. There are four main scalp problems are mentioned in Ayurveda authentic texts as *Khalithya*, *Phalithya*, *Indraluptha* and *Darunaka*. According to modern concepts, *Darunaka* can be co-related with dandruff which has a high prevalence in current society and affect the people physically as well as mentally. This study was aimed at reviewing treatment modalities along with the analysis of pharmacological properties of its ingredients and therapeutic contribution to *Darunaka*. *Ayurveda* and Traditional authentic texts and published articles were used for the study. According to Ayurveda concepts *Darunaka* is caused by vitiated *kapha* and *vata*. Itching (*Kandu*), falling of hairs (*Kesha chyuthi*), loss of tactile sensation, dryness (*Raukshykruth*), causing minute cracks of the skin are the features of *Darunaka*. There were 39 different external preparations for *Darunaka* in Vuhatraya, Laghutraya, Yogarathnakara, Chikithsa Samgraha in Ayurveda and 21 volumes of *Thalpathe Piliyam* and 100 volumes of *Khanda Vaidya Grantha* in Traditional authentic books. Out of 39 Formulae 16(41%) were taila, 21(54%) were lepa and 2(5%) were *Sheka*. The highest number of formulae contained herbal ingredients only with a value of 24(61%). Herbal and animal products containing formulae were 10(26%). Herbal and mineral ingredients containing formula were 4(10%). Only one formula containing herbal, mineral and animal parts. Out of all the herbal ingredients the mostly contain *Tikta*, *Madura* and *Katu rasa*, *Laghu* and *Ruksha guna* and *Ushna virya*. In Mineral ingredients mostly contain *Kashaya rasa*, *Laghu guna*, *Ushna virya*. Animal ingredients, mostly contain *Madhura rasa* and *Ushna virya*. *Thikta*, *Katu* and *Kashaya rasa* are having *Kapha shamaka* action. *Madhura rasa* is *Vata shamaka*. *Laghu* and *Ruksha guna* pacify the *Kapha dosha*. *Ushna veerya* pacify the both *Kapha* and *Vata dosha*. These properties pacify vitiated doshas of *Darunaka* therefore these formulae can develop as Cosmetics products to prevent *Darunaka* condition.

Keywords: *Darunaka*, Dandruff, Hair care

ROLE OF TRADITIONAL *MELLUM* (WILTED HERBAL FORMULAE) ON *SIRAJA GRANTHI*: A CASE STUDY

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Siraja granthi is a clinical condition described in Ayurveda and it can be correlated with varicose veins caused by injury or weakness of the veins valve. "*Yatiyana Samarawickrama Weda Parampara*" is a medical tradition in Matara District, Southern Province, Sri Lanka, that has successfully treated *Siraja granthi* with its own special herbal Mellum (wilted herbal formula) composed of *Mal pepol mal* (*Carica papaya* L), *Amu kaha* (*Curcuma longa*), *Welpenela* (*Cardiospermum halicacabum*), and *Tila taila* (sesame oil). Hence, an observational study was conducted to evaluate the role of Traditional herbal formulation in the management of *Siraja granthi*. A 67-year-old male patient with *Siraja granthi* with a 20-year history presented to the Out Patient Department, Ayurveda teaching hospital, Borella was purposively enrolled to the study. The treatment was 30 days, and all the signs and symptoms were recorded in a proforma. A Venous Doppler ultrasound test for the right leg was performed before and after the treatments to assess the effect of the treatment. The Venous Clinical Severity Score (VCSS) was used to evaluate the treatment effectiveness. It was observed that 11.7% of varicose veins decreased according to the Venous Doppler Ultrasound Test. It could be attributed to the anti-inflammatory, antioxidant, and anti-coagulant properties of herbal formula along with *Katu*, *Tikta rasa*, *Laghu*, *Ruksha*, *Ushna guna*, *Ushna veerya*, and *Katu vipaka* which are suggested to pacify *Vata dosha* and *Pitta dosha*. These properties may alleviate muscle stiffness, leg heaviness, and pain associated with *Siraja granthi*. It can be concluded that traditional herbal Mellum appears to be effective in managing *Siraja Granthi*. The study provides some preliminary evidence, further research, and scientific validation are necessary to establish the effectiveness and safety of traditional herbal remedies in treating *Siraja granthi*.

Keywords: *Siraja granthi*, Varicose veins, Sri Lankan traditional herbal formula

PREVALENCE OF COGNITIVE STATUS AMONG AGEING: A COMPREHENSIVE STUDY

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Cognitive status in the context of ageing means the age-related declines in brain structures that contribute to changes in thinking abilities. The present study has been focused to identify the frequency of cognitive impairments and mental health status among older individuals living in the village of Akurugoda located in the Matara district of the Southern province in Sri Lanka. The study used primary data drawn from a purposive sample of a hundred and seventy elders aged between 55 – 70 years. The research is adopted as a descriptive cross-sectional study through an interviewer-administered questionnaire and using MMSE (Mini Mental Status Examination). The data revealed that a higher percentage of older individuals showed borderline and abnormal cognitive functions compared to those with normal cognitive abilities. Remarkably, 54.7% of the elders fell into the borderline and abnormal categories, while 22% of the elders exhibited complete cognitive impairments, furthermore, the study found that the age group of 65 – 70 years was most affected by cognition declines making up the majority at 37.5%. Notably, short term verbal memory was found to be severely impaired with 95% of older adults exhibiting abnormal results upon further analysis. It became evident that cognitive status is significantly influenced by age, gender, drugs use, existing medical conditions, addictions, occupation, education, dietary habits, mental constitution and environment. In view of the above it can be concluded that the higher number of individuals found as borderline and abnormal with complete cognitive impairments. Recognizing the contributing factors can guide the development of tailored interventions to promote cognitive health among older adults.

Keywords: Cognitive impairment, Ageing, Mental Health Status, Old age

A STUDY ON THE CORRELATION OF FOOD TASTES WITH THE MENTAL DISORDERS OF CHILDREN

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Mental disorders are remarkable disease category that is mostly common among all age groups. The most common mental disorders in pediatrics are autism spectrum disorder (ASD), attention deficit hyperactivity disorder (ADHD), Slow learners, anxiety disorders, and Depression. According to the Ayurveda concepts, some of the food tastes are associated with mental disorders. Therefore, the main aim of this study was to identify the association between food tastes in mental disorders in children and to find out the specific food categories associated with mental disorders in children. After getting ethical approval, considering the inclusion and exclusion criteria, 50 children were included in the survey study from the National Ayurveda Teaching Hospital, Colombo, and the Daddys Lanka Autism Center, Colombo. Data were collected on Children's food taste preferences and the food patterns of their mothers in the pre-natal period separately. According to the findings, it has been shown that the taste of *Madhura rasa* (37%), *Katu rasa* (14%), and *Lavana rasa* (28%) preferences are significantly associated with mental disorders in children. According to the Ayurveda concepts, overuse of salt taste (*Lavana rasa*) leads to interruption to the functioning of Sensory organs (*Indriyas*) and causes confusion (*Moha*). Overuse of spicy taste (*Katu rasa*), causes confusion (*Moha*), the quality of darkness and ignorance (*Tamo*), and dizziness (*Bhrama*). Overuse of bitter taste (*Tikta rasa*) causes confusion (*Moha*) and dizziness (*Bhrama*) Most of the food tastes (*rasa*) mentioned in the authentic text approximately match with the findings. However, most of the identified specific foods associated with mental disorders are junk foods, instant foods, and artificial foods. Research findings have shown that most of children were highly addicted to junk foods, instant and artificial food items. Therefore, there may be a direct association between consumed food tastes and with brain development of children.

Keywords: Mental disorder, *Rasa*, Autism, ADHD, Food taste

**DEVELOPMENT AND STANDARDIZATION OF A MODIFIED DOSAGE FORM OF
GUDA VATIKA; AN HERBAL LOZENGE IN THE TREATMENT OF COUGH**

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As the global community grapples with the long-lasting effects of the COVID pandemic, including health concerns and post-recovery challenges, it has become evident that throat-related issues have reached a significant level of prevalence. Despite various restrictions and precautions, cough-related conditions remain a significant health challenge. The present study was focused on developing a convenient dosage form using a traditional formula as a supportive treatment for throat-related health conditions. The authentic form of the formula; '*Guda vatika*' was transformed to a lozenge according to the standard manufacturing procedures. The formula encompasses *Guda* (Jaggery), *Shunti* (dry ginger), *Haritaki* (*Terminalia chebula*) *Musta* (*Cyperus rotundus*) and *Vibhitaki* (*Terminalia belerica*) which were basically used in the practice of Ayurveda for the treatment of throat related concerns. The standardization parameters for the novel dosage form were established. Evidence-base effects of the individual ingredients of the formula were analysed in relation to the upper respiratory tract. The organoleptic parameters of the lozenge were dark brown colour, gingerly smell, sweet taste and astringent taste and smooth texture. Loss on drying at 105°C (1.5%), disintegration time (9 minutes 37 seconds), friability (5%), uniformity of weight (6.8g) and pH value (4.7) were established as physico-chemical parameters. The established values of the parameters were within the standard ranges indicated for *Vati kalpana*. As per the literature review, this formula supports the pacification of doshas related to cough and the ingredients showed anti-tussive, anti-inflammatory, anti-spasmodic properties in *in-vitro* and *in-vivo* studies. Further, these ingredients exert a contrary activity against the pathophysiology of cough through its' antiallergic activity, anti-cholinergic activity, and free radical scavenging activities. However, in order to improve the effectiveness and efficacy of the herbal lozenge the study should be supported with the light of new knowledge and more investigations with clinical trials.

Keywords; Cough, Lozenges, Modified, *Guda vatika*, Throat-related issues

PHARMACOGNOSTICAL AND PHYSICO-CHEMICAL EVALUATION OF ARDRAKA SATVA: SOLID AQUEOUS EXTRACT OF RHIZOME OF *Zingiber officinale* PLANT

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Satva are water-soluble extracts of plants which are predominantly starchy in nature. The preparation method of *Satva* is known as *Satva kalpana*, mentioned in Ayurveda pharmaceutics. *Ardraka satva* is the water-soluble extract of *Zingiber officinale* rhizome with significant therapeutic credentials. This study was designed to determine the pharmacognostical, physico-chemical, phytochemical and HPTLC studies of *Ardraka satva* due to the lack of scientific findings on this preparation. Pharmacognostical characters and quality control parameters such as ash values, extractive values and qualitative phytochemical analysis were performed according to World Health Organization guidelines for the *Ardraka satva* prepared from local ginger variety and Chinese ginger variety. Analysis of TLC and HPTLC fingerprint patterns of these 2 varieties were also conducted by using Ethyl acetate: Methanol: Cyclohexane: Dichloromethane in 0.2:0.5:2.5:2.8 ratio as the solvent system. Results revealed that the moisture content of the Chinese ginger variety (16.73%) is higher than the local ginger variety (9.01%). The ash value of the Chinese ginger variety (0.47%) is higher than the local ginger variety (0.43%). The water-soluble ash value of the Chinese ginger variety (0.40%) is higher than the local ginger variety (0.37%). Phytochemical analysis of hot water extract of 2 varieties of *Ardraka satva* revealed that the presence of starch and alkaloids only. Results of these physicochemical, phytochemical, pharmacognostical and TLC analysis can be used to detect of any adulterations for this plant and assess the quality of *Zingiber officinale satva*.

Keywords: *Ardraka satva*, *Zingiber officinale*, organoleptic evaluation, pharmacognostical analysis

**PHYSICO-CHEMICAL AND PHYTOCHEMICAL STANDARDIZATION OF
POLYHERBAL UNANI FORMULATION: *HABB E SIBR***

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Physico-chemical and phytochemical standardization is an important part of the quality control of Unani medicines in both single and compound formulations, and the therapeutic efficacy of the medicines substantially depends upon their chemical ingredients. The objectives were to conduct the phytochemical analysis of *Habb e sibr*, conduct the proximate analysis, develop the Thin Layer Chromatography (TLC), and analyse the standards for *Habb e Sibr* through their organoleptic characteristics. This formula consists of *Sibr zard*, *Post e haleela e zard*, and *Gul e banafsha*. Due to the unavailability of *Gul e banafsha*, its substitute, *Gul e niloofar*, was used. In the present study, *Habb e Sibr* has been selected to confirm its parameters according to the guidelines given in the Government Unani Pharmacopoeia, Part II, 1988. Organoleptic characteristics of the compound included the solid appearance and hard physical state of a dark brown pill with a specific smell and bitter taste. It consists of $14.4 \pm 0.5\%$ of total ash, $4.4 \pm 0.3\%$ of water-soluble ash, and acid-insoluble ash less than 0.2%. The parameters studied for quality assurance of *Habb e Sibr* include physicochemical studies and qualitative analysis of various phytochemicals that revealed the presence of tannins, phenols, flavonoids, alkaloids, saponins, and terpenoids. The TLC profile of this formulation was also performed. A dichloromethane: ethyl acetate: methanol: cyclohexane (4:2:0.2:3.8) solvent system was used as the mobile phase. These findings can be used as a guide for establishing reference standards for *Habb e Sibr*. This is the first time we have met the standard for *Habb e Sibr*. In terms of quality, future products of *Habb e Sibr* can be compared with this and carry out the quality of *Habb e Sibr*.

Keywords: *Habb e Sibr*, Standardization, Physico-chemical, Phytochemical, Unani Medicine

STUDY ON THE NUTRITIONAL STATUS OF CHILDREN IN A PRIMARY SCHOOL IN BORALESGAMUWA

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Childhood is a prominent stage of the physical, mental, and social development of a child. Normally growth depends on nutrition. Nutritional deficiencies in children are common in the present. Children in a developing country like Sri Lanka have a high percentage of nutritional deficiencies. The factor that strongly affects this is extreme poverty. In addition to this, wrong food habits, social status, skipping meals, eating unfit food, drinking untreated water, parasitic infections, etc. are also causes. Poor growth in children is associated with malnutrition. The main objective of this research study was to study the nutritional status of primary school children in the Colombo district. Other specific objectives are to identify the age-wise height and weight of children in the selected school, identify the dietary pattern of the students and identify the associated nutritional problems in children. The selected school for the study is Primary Model School, Boralesgamuwa. There are 171 students studying in the Boralesgamuwa Primary model school. After getting ethical approval, 152 students were included in the study considering the inclusion and exclusion criteria. The participants in the study are primary school children (6-10 years old). All the students who study at Boralesgamuwa Primary Model School, Children were selected irrespective of their sex, race and religion. Data were collected using questioner. Personal information on the students is obtained from parents. According to the study, most of them were underweight and under height for their age. Due to these nutritional problems of the child, various disorders are common among children. Obesity, poor vision, Blindness, loss of memory, Anemia, etc. were identified as common disorders. According to the data, it is observed that the weight gain of children gradually decreases from the younger to the older child. Because of the nutritional problem some of the students have some disorders and anemic conditions. Overall, 6- to 10-year-old school children show a decline in weight and height, and most children are underweight and height relative to their age. Therefore, most of the school children are associated malnutritional conditions due to Sri Lankan economic crisis.

Keywords: Nutritional status, Malnutrition, Height, Weight, Primary School Children

**PHYSICO-CHEMICAL AND PHYTOCHEMICAL STANDARDIZATION OF
COMPOUND UNANI FORMULATION: SAFOOF E KASIR REEH**

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Physico-chemical and phytochemical standardization is an important part of the quality control of Unani medicines in both single and compound formulations, and the therapeutic efficacy of the medicines substantially depends upon their chemical ingredients. The objectives were to conduct the phytochemical analysis of *Safoof e Kasir e Reeh*, conduct the proximate analysis, develop the Thin Layer Chromatography (TLC), and analyze the standards for *Safoof e Kasir e Reeh* through their organoleptic characteristics. According to the Ayurveda Pharmacopoeia of Sri Lanka, this formula consists of *Zeer e Sufaid* (*Cuminum cyminum*), *Ajwain* (*Trachyspermum ammi* Linn.), *Filfil e Siya* (*Piper nigrum* Linn.), and *Namak e Siya* (Black Salt). Organoleptic characteristics of the compound included the soft appearance of a brown powder with a specific smell and pungent taste. It consists of $14.8 \pm 0.6\%$ of total ash, $5.3 \pm 0.4\%$ of water-soluble ash, and acid-insoluble ash less than 0.2%. The parameters studied for quality assurance of *Safoof e Kasir e Reeh* include physicochemical studies and qualitative analysis of colourful phytochemicals that revealed the presence of tannins, phenols, flavonoids, terpenoids, saponins, carbohydrates, and reducing sugars. The TLC profile of this formulation was also performed. An ethyl acetate: methanol: cyclohexane (2.0: 0.2: 3.8) solvent system was used as the mobile phase. These findings can be used as a guide for establishing reference standards for *Safoof e Kasir e Reeh*. This is the first time we have met the standard for *Safoof e Kasir e Reeh*. In terms of quality, future products of *Safoof e Kasir e Reeh* can be compared with this and carry out the quality of *Safoof e Kasir e Reeh*.

Keywords: *Safoof e Kasir e Reeh*, Standardization, Physico-chemical, Phytochemical

**DEVELOPMENT OF TLC/HPTLC PROFILES OF *Plectranthus amboinicus* IN
DIFFERENT GEOGRAPHICAL ZONES OF SRI LANKA**

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Plectranthus amboinicus (family, Lamiaceae) is a valuable medicinal plant and native to Sri Lanka. This plant is using in traditional and Ayurveda medicine for the management of different type of ailments in Sri Lanka. The purpose of this study to the development of TLC/HPTLC parameters of *Plectranthus amboinicus* in different geographical zones of Sri Lanka. The fresh and dried raw materials of this plant are collected from the six different geographical zones (Sample were collected from areas of Colombo, Kandy, Hambantota, Anuradapura, Rathnapura, Angunukolapelessa with different change in climate of Sri Lanka) and methanol extracts of dried materials were prepared by using cold maceration method. TLC/HPTLC analysis done for the prepared samples of this plant using Methanol: Ethyl acetate: Acetone (4:3:2) as solvent system for mobile phase. The results revealed that there is a clear difference in the TLC/HPTLC profiles of the six different geographical zones. It can be concluded that there is a difference in phytochemicals in *Plectranthus amboinicus* according to different geographical and climatic variations. Therefore, this information is more valuable in the herbal drug industry to maintain the consistency and repeatability of the quality of the herbal products. Further studies should be carried out to determine the suitable geographical zones to grow this plant as mass scale economical cultivation of this plant.

Keywords: *Plectranthus amboinicus*, Methanol extracts, TLC/HPTLC profile

STUDY ON HOME REMEDIES FOR HYPERLIPIDEMIA

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Hyperlipidemia is defined as high serum cholesterol and triglycerides especially when associated with a low value of high-density lipoproteins (HDL) due to many causes; also correlated to *Medo roga*, *Sathaulya*, *Athisthauilya*, *Medo dosha* as mentioned in Ayurveda authentic texts as Caraka Samhita, Bhava prakasha, Madhava nidana, Bhaisajya Ratnavaliya, Cakradatta with similar causes. Since hyperlipidemia is a disorder that leads to many complications and major diseases, marketed medicines fighting against hyperlipidemia get in demand eventually. However, being unable to reduce the adverse effects of those medicines the public was encouraged to prefer home remedies that are natural and commonly available. This study was conducted to gather new knowledge on home remedies for hyperlipidemia from the general population. Initially, the literature review was done. Then, with the granted ethical consideration, randomly selected 264 patients attended the Out Patient Department, seeking Ayurveda medicine, from National Ayurveda Teaching Hospital Colombo 08, both males and females, aged between 30-80 years were given an open and closed-ended self-administrated questionnaire with their written consent. Collected data were analyzed with SPSS (version 16.0.0). According to the results of this study, the most commonly used home remedy is Curry leaves among identified 28 home remedies; the prevalence of hyperlipidemia is 25.38%, from the patients who attended Out Patient Department, National Ayurveda Teaching Hospital, Colombo 08; 62 preparation of home remedies were also identified. The majority had expressed their opinion towards the effect of home remedies for hyperlipidemia is high (70.56%). According to the Chi-square test, the P value is less than 0.01 so there is a significant relationship between using home remedies and hyperlipidemia. These findings are absolute predicts for a successive future of promoting home remedies in the community that can be done as primary and secondary prevention for hyperlipidemia.

Keywords: Home remedies, Hyperlipidemia, Out Patient Department, *Medo roga*

**EXPLORATORY STUDY ON UNIVERSITY STUDENTS' ATTITUDES ON
LEGALIZING CANNABIS IN SRI LANKA**

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Cannabis or hemp (*Cannabis sativa*) is a valuable medicinal plant used in Ayurveda as well as Sri Lankan Indigenous Medicine. Cannabis over its medicinal use, is the most narcotic medicinal plant which is widely misused in Sri Lanka. The study was conducted among students of the University of Colombo to explore University students' attitudes on legalizing Cannabis in Sri Lanka. Ethical approval was obtained from the ethics review committee (ERC 23/192) of the faculty of indigenous medicine, University of Colombo. Data were collected by self administered semi-structured questionnaire and interviews from 150 students of the ten faculties of the University of Colombo using purposive sampling method. Data were analyzed by the SPSS using descriptive data analyzing methods. Among the respondents 68% and 32% was female and male students respectively. The 99.3% of students were aware on the medicinal use of Cannabis. Majority of the students (19.2%) were aware about medicinal use of Cannabis through the social media. 86% of students knew that Cannabis produces narcotic effect in the body whereas 66.6% of students knew that Cannabis is prohibited in Sri Lanka. 80.7% of student were in the opinion that Cannabis tends to misuse as a narcotic drug, but 73.4% of student said the Cannabis can be cultivated as an economic crop. When asking their perception on legalizing Cannabis, 50% of students supported legalizing Cannabis whereas 28% disagreed. 59.3% of students agreed that Cannabis can be misused among school children. The study sheds light on the complex attitudes toward cannabis among university students, highlighting the importance of considering various socio-demographic factors that may influence these opinions.

Keywords: Cannabis, Legalizing, Attitudes, Sri Lankan Indigenous Medicine

DEVELOPMENT AND STANDARDIZATION OF A MEDICATED *PANCHAVALKALA* BATH BOMB

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As per the Ayurveda principles *Panchavalkala*, *Vata* (*Ficus bengalensis*), *Udumbara* (*Ficus glomerata*), *Ashwatta* (*Ficus religiosa*), *Plaksha* (*Ficus infectoria*), and *Shirish* (*Albezzia lebeck* Linn) is applied in numerous disciplines offering anti-inflammatory, analgesic, and wound healing effects. Bath bombs are commonly used for aromatic and enjoyable baths and typically contain ingredients such as citric acid, sodium bicarbonate, corn starch, Epsom salt, fragrances, essential oils, and natural colors. In this research, Ayurvedic principles related to *Snana* and *Avagaha* have been incorporated into the bath bomb formulation to create a novel product that combines the benefits of traditional wisdom with contemporary bathing experience. According to ancient texts and practices a medicated bath is proven to be effective than an ordinary water bath. Therefore, this study is aimed to offer an unique and holistic approach to a person's bath, through the development and standardization of modified *Panchavalkala* in the form of a bath bomb. Through this study, the potential anti-inflammatory, analgesic, and wound healing effects of Ayurvedic based bathing formulation is tested. Modified *Panchavalkala* bath bomb formulation demonstrate consistent in terms of stability, appearance, texture, odour, pH, effervescence time and water temperature. Laboratory test revealed the ideal pH value of about 7.7, produced proper effervescence time and water temperature. In conclusion Modified *Panchavalkala* bath bomb is a product providing a unique and an innovative approach that promotes overall wellbeing and rejuvenation of a person's body. A part from the above mention studies to establish safety and efficacy, through clinical trials it is vital to prove anti-inflammatory, analgesic, and wound healing effects.

Keywords: bath bomb, Modified *panchavalkala*, *Panchavalkala*, Medicated, Bathing

**ANALYTICAL STUDY OF DIFFERENT SAMPLE OF *KITHUL* JAGGERY
(PREPARED BY USING *Caryota urens*)**

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Kithul jaggery a unique unrefined sugar derived from the sap of the *Kithul* palm (*Caryota urens*) in Sri Lanka. It is widely distributed palm in Asia, which is recognized for its smooth cylindrical trunk, large crown-like leaves, and pendulous flowers. The general objective is to investigate the preparation methods and characteristics of *Kithul* jaggery. The specific objectives include studying the preparation methods, analyzing the physicochemical and organoleptic properties, and conducting a comparative study of Jaggery from different regions. The methodology involves collecting Jaggery from multiple locations such as Deniyaya, Galle, Rathnapura, Kurunegala, Monaragala, Badulla, Kegalla, Mathale, and Kothmale, followed by thorough physicochemical analysis. The sap extracted from the *Kithul* flower is rich in glucose, fructose, and sucrose, making it ideal for producing jaggery or treacle. Due to health benefits and its nutritional richness *Kithul* jaggery having major role as medicinal material. But in open market consumers faced problems in selecting high quality *Kithul* jaggery. All *Kithul* jaggery samples having good sweet taste, pleasant smell, solid consistency and half sphere shape. But colour is different. Highest moisture content in Mathale (14.4) and lowest in Kothmale (3.1). Badulla has the highest pH (6.68) and lowest in Kurunegala (5.66). Kegalle shows the highest total ash value (0.964) and Badulla shows lowest (0.100). Acid insoluble ash value highest in Kegalle (0.596) and lowest in Badulla (0.016). Water soluble ash is highest in Badulla (0.197) and lowest in Rathnapura (0.012). Highest sugar content in Galle (1943) and lowest in Badulla (126). Among all *Kithul* jaggery samples Kothmale variety considered as best and having least amount of foreign materials. Due to having lowest moisture content of this variety not dissolve quickly. Due to different extraction methods of *Kithul* sap the concentration of the sap can be changed. Therefore, different physicochemical parameters can be observed from different *Kithul* jaggery varieties.

Keywords: *Kithul* palm, *Kithul* sap, *Kithul* jaggery, Organoleptic, Physicochemical

STANDARDIZATION OF 'TRIFAL E SHAHTARA' PREPARED USING LOCALLY AVAILABLE DRUGS WITH SPECIAL REFERENCE TO ITS ORGANOLEPTIC, PHYSIOCHEMICAL AND PHYTOCHEMICAL CHARACTERISTICS

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'*Trifal e shahtara*' is one of the well-known and established effective murakkab dawa (Unani polyherbal formulations), in the form of semisolid dosage, that is widely used as a *musaffi e khoon* (blood purifier) in various skin diseases. Because of the therapeutic values, '*Trifal e shahtara*' is very popular among the Sri Lankan Unani physicians. At present, '*Trifal e shahtara*' is imported from India which is not sufficient enough to meet the demand in Sri Lanka and thus, it is prepared individually by Unani physicians using available substitute. *Thirai* (*Gilinus oppositifolia*) one of the traditionally used *musaffi e khoon* drugs is used as the *badal* (substitute) for *shahtara* (*Fumaria officinalis*). Further, *thirai* has been identified and established as the *badal e haqeeqi* (real substitute) for *shahtara* (*Fumaria officinalis*) in terms of Unani concept of *abdal e advia* (drugs substitution). Therefore, *thirai* is widely used in the preparation of '*Trifal e shahtara*'. In this study, '*Trifal e shahtara*' was prepared using *thirai* as substitute and attempts were made to standardize the '*Trifal e shahtara*' in order to ensure its quality, safety and efficacy through the study of organoleptic characteristics of '*Trifal e shahtara*' and its ingredients and physiochemical, phytochemical and Thin Layer Chromatography (TLC) analysis. It was found that the organoleptic characteristics, physiochemical, phytochemical properties, and TLC fingerprinting could be used as reference standard for the standardization of '*Trifal e shahtara*'.

Keywords: *Ithrifal e shahtara*, Standardization, *Badal* (substitute)

HOT SPRINGS OF SRI LANKA, AN UNDERUTILIZED NATURAL RESOURCE FOR HEALTH PROMOTION

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In Sri Lanka, several hot springs are found scattered throughout about 360 kilometers from the Ambalantota area in the South to the Trincomalee area in the East. Approximately, a total of 42 hot springs have been identified in this area. There are 28 hot springs situated in the Ampara district, nine hot springs in Trincomalee, one in the Polonnaruwa district and six hot springs in the Hambantota district. Additionally, some geological evidence supports that there might exist unidentified hot springs in those areas. The Earth's mantle geothermal heat produces a hot spring with a direct relation between their temperature and depth, known as the geothermal gradient. Water from these springs is rich in various solutes, such as Sulfur, etc. In contrast to the various published studies on hot springs, it is harder to find any Ayurveda studies on them. This gap in research resulted in this study. Here some attempts were made to collect and analyze their utility in the treatment of diseases and health promotion. For achieving the objectives of this research, Vriddhatraya and online sources were primarily referenced, in addition to the field visits to the sites of hot springs. Particularly, England, Austria, Hungary, Turkey, Germany, America and Japan regularize and sustain hot springs as an industry in health promotion. Even in Sri Lanka, people believe hot springs hold special healing properties curing skin ailments. Hot springs are well recognized for promoting physical and mental wellbeing, enhancing physical fitness, invigorating and improving overall health, purifying, rejuvenating and antiaging, relaxing, in addition to preventing of diseases. Further, some scientific evidence suggests that balneology or "curing the diseases by bathing" increases blood circulation, reduces stress and promotes sleep, relieves pain, and cures skin problems. There are many reports that hot springs may have some therapeutic effect in the treatment of various ailments such as heart disease, atopic dermatitis, ankylosing spondylitis, asthma, inflammatory arthritis, rheumatic diseases and rhinosinusitis. According to the above facts, these hot springs are an invaluable resource that very well suit to revive the health promotion in Sri Lanka, which is underutilized at present.

Keywords: Hot springs, Underutilized natural resources, Health promotion

A COMPARATIVE STUDY ON THE STANDARD PARAMETERS OF DIFFERENT MARKET SAMPLES OF A TRADITIONAL FORMULATION: *DESADUN KALKAYA*

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Desandun kalkaya is a traditional Sri Lankan herbal formulation used in the treatment of variety of pediatric disorders. It is considered to be a powerful anti-inflammatory, antipyretic, and immunomodulatory agent. Ayurveda states that medicine plays a major role in curing disease, considered to be one of the four pillars of healing (*Waidhya chathusthpadaya*). Standardization of herbal formulations is essential to ensure the safety and efficacy of these medicines, especially for use in children. This study aims to analyze the physico chemical parameters of five market samples of *Desandun kalkaya* with the standard sample which was prepared according to the standard procedures mentioned in the Ayurveda pharmacopia. The selected samples were subjected to the organoleptic features, phytochemical and physico chemical parameters. The results showed that there was significant variation in the physico-chemical parameters of the five market samples of *Desandun kalkaya* (Sample1, 2, 3, 4, 5). Total ash value of standard sample was 4.96% and others were 15.26%, 8.81%, 9.91%, 6.12%, 10.23% respectively. Moisture content of standard sample was 22% and others were 31%, 25%, 22%, 23%, 28% respectively. Phytochemical analysis revealed the presence of saponins, alkaloids, tannins, phenols in standard samples and some samples were significantly different from those findings. It was observed the two market samples and standard sample are slightly similar in their organoleptic and qualitative analysis except for three market samples. The results of this study suggest that there is significant variation in the different market samples. This variation may be due to differences in the used raw materials, manufacturing processes or the storage conditions. Further studies are needed to investigate the factors that contribute to this variation and to develop quality control standards for *Desandun kalka* products.

Keywords: *Desandun kalkaya*, Market samples, Standard sample, Phytochemical, Physicochemical

AN EVALUATION OF PHYSICOCHEMICAL AND PHYTOCHEMICAL ANALYSIS OF UNANI COMPOUND FORMULATION; SAFOOF E MUSAKKIN (LOCALLY PREPARED)

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Safoof e Musakkin is an Unani polyherbal powder formulation used to treat Neurological disorders, especially Anxiety, Headache, and Delirium. *Safoof e Musakkin* is composed of *Beekh e asrol* (*Rauwolfia serpentine*), *Kasneez khushk* (*Coriandrum sativum*), and *filfil e siyah* (*Piper nigrum*). The primary objective of this study was to standardize *Safoof e Musakkin*, based on organoleptic characters, and physicochemical and phytochemical analysis. The ingredients were obtained, washed, and dried in the shade. Then they were powdered by passing through sieve # no. 80. After that powders were mixed thoroughly according to the National Formulary of Unani Medicine. This polyherbal formulation was evaluated using physicochemical tests: Organoleptic evaluation of powder, total Ash value, Water soluble ash, Acid insoluble ash, Loss on drying at 105°C, Phytochemical evaluation, and Thin Layer Chromatography (TLC) fingerprinting. Statistical analysis used: Mean +_ SEM. Organoleptic evaluations of the *Safoof e Musakkin* revealed light brown color, characteristic odor, bitter taste, and moderately fine texture. Physicochemical parameters displayed the total ash value (12.5 +_ 0.3%), Water soluble ash (3.6 +_ 0.4%), and Acid insoluble ash less than 0.2% respectively. Phytochemical screening revealed the presence of tannins, phenols, flavonoids, terpenoids, saponins, carbohydrates, and reducing sugar. TLC fingerprinting data was also set on. It was concluded that the *Safoof e Musakkin* was standardized, and the obtained data would be used as a reference standard in the future.

Keywords: Phytochemical, Physicochemical, Standardization, *Safoof e musakkin*, Neurological disorders

**CRITICAL ANALYSIS ON FORMULAE MENTIONED IN TRADITIONAL MEDICINE
UNDER *THALPATHE PILIYAM* FOR *GALTHALUM* (CORNS)**

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A significant portion of the people in the world are experiencing corns as a frequent foot issue though the attention of the medical world was less dragged. Corns emerge due to physiological defensive response to intrinsic and extrinsic mechanical forces on the foot leading to keratotic lesions. According to Ayurveda, it is correlated with *Khadara* which categorized under the *Kshudra roga*. A hard painful knotty (*Granthi*) with raised in the middle or sunk at the sides, exudes secretions, resembles an Indian plum and develops on a person's soles due to vitiated blood and fat incidental to being pricked by a thorn. Therefore, the aim of this study was to critically analyze the formulae mentioned for *Galthalum* (corns) in Traditional Medicine under the *Thalpathe piliyam*. The literature has gathered from the 1-21 *Khanda* of *Thalpathe piliyam* at the library of the Faculty of Indigenous Medicine, University of Colombo and collected formulae were analyzed. There were 20 recipes for corns and among all ingredients of formulae, 5 (25%) were plant only recipes and *Terminalia chebula* and *Cuminum cyminum* (20%) have frequently used. There were 15 (75%) plant and mineral based recipes and out of them *Sahinda lunu* (rock salt) was the commonest used mineral (25%). Considering the grinding agents, 7 (35%) were ground with *Dodam ambul* (juice of the *Citrus sinensis*) while 2 formulae (10%) were ground by bee honey, *Ankenda pothu isama* (juice of bark of the *Acronychia pedunculata*) and *Dehi ambul* (juice of *Citrus aurantiifolia*) respectively. Though the excision of the symptomatic corn is preferred by the modern science, some patients aren't willing to follow surgical procedures. The knowledge gathered from this study can apply to develop a new herbal product to treat the *Galthalum* with Traditional system of Medicine based on *Thalpathe piliyam*.

Keywords: Corns, *Galthalum*, *Khadara*, *Thalpathe piliyam*

**AYURVEDA MANAGEMENT OF VRANA W.S.R. TO CHRONIC VENOUS ULCERS:
A CASE REPORT**

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Chronic venous ulcers may be correlated with a type of *Vrana*, contribute to a major part of the chronic ulcers occurring in the lower extremities due to poor circulation and venous insufficiency. The present study aims to explore the possible outcomes in wound care management through Ayurveda and its potential efficacy. The study was entirely done as an observational study of about 04 months of Out Patient Department and In Patient Department treatments. A 59-year-old female patient attended with complaining of a non-healing, painful and oozing skin lesion for more than 04 years in the left leg between the knee and ankle joints. The condition was diagnosed as a venous ulcer based on clinical features viz. telangiectasias, corona phlebectatica, venous dermatitis, edema and lipodermatosclerosis. On examination, it was found that intermediate features among *Dushta* and *Ruhyamana Vrana* of the wound. Treatments were initiated at the Out Patient Department level for 3 weeks, followed by In Patient Department management for 03 months. Externally *Apamarga kshara kash*, traditional *Lepa* and *Pinda taila* were applied. *Raktha shodhana* drugs such as *Panchamuli laghu draksha kashaya* etc. were administered internally as per the stage of the wound. A significant improvement in the symptoms of the wound was observed during the first 3-4 weeks. Then the wound gradually attained its clinical features of *Ruhyamana* stage during the observation period of 03 months. At the end of the observation period, the wound was more identical to the typical features of *Shuddha vrana* such as resembles the upper surface of the tongue, free from discharge, properly grown granulation tissues etc. Further, follow-up and continuous medical therapy with lifestyle management must be done to achieve its completely cured stage (*Rudha vrana*). While scientific literature on Ayurveda management of chronic wounds is limited, the present case record enlightens and gives evidence for the successful management of venous ulcers concerning Ayurveda *Vrana chikitsa* protocols.

Keywords: Ayurveda, Chronic venous ulcer, *Vrana*

**STUDY ON MENTAL HEALTH STATUS AMONG SRI LANKAN
UNDERGRADUATES IN SELECTED UNIVERSITIES**

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The frequency of mental health problems among college students has recently drawn increasing attention. As per a recent study on depression among Sri Lankan undergraduates using PHQ-9 questionnaire showed that 70% of undergraduates in a selected population experienced some form of depression ranging from mild to severe. Current study was launched in Faculty of Indigenous Medicine, University of Colombo intends to examine the state of Sri Lankan undergraduates' mental health, illuminating potential discrepancies and complementing strategies for improving mental well-being. Aim of the study is to explore the current mental health status among Sri Lankan undergraduates in selected faculties and to identify the amount of influence of their mental health status to their academic results levels. The equal number of students from the Faculty of Indigenous Medicine, University of Colombo and University of Moratuwa were considered as the target group due to ease of data collection. The study was a cross sectional study using a self-administered questionnaire containing 2 sub questionnaires as PHQ-9, and an added questionnaire among healthy Undergraduates (n=140, 20-30 years) Data analyzed using SPSS statistical analyzing method to assess their depression severity, to know about their levels of academic performances and major causes for their ongoing mental health status. According to the study, 43.6% of population showed mild depression while 20.5% showing moderate depression and 6.8% showing moderately severe depression. Some of Major causes for their ongoing mental health status was discovered as social media addiction, peer pressure, Academic levels, Relationship states, Economical status and emotional management. 70.2% of undergraduates showed average academic results levels while 7.4% showing low results levels. In the conclusion, it is clear that mental ill health has affected to academic performances of the undergraduates. This data provides academic administrators, educators and healthcare providers with insight into preventing mental illness among the population called undergraduates and improving the mental health status of students through collaborative, multidimensional and culture-sensitive competence development.

Keywords: Mental Health, Undergraduates, Sri Lanka

**A SURVEY STUDY ON THE RELATIONSHIP BETWEEN FEMALE SUBFERTILITY
AND *DEHA PRAKRITI***

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Subfertility is defined as failure to conceive one or more years of regular unprotected coitus. The Ayurveda text mentions several factors related to fertility, including the *Deha prakriti*. This research study is carried out to identify the relationship between female subfertility and *Deha prakriti*. The study was conducted in the Streeroga Prasuthithantra Professorial Unit of the National Ayurveda teaching hospital, Rajagiriya, in 2022. The study population consisted of 49 sub-fertile ladies and 49 fertile ladies as a control group and the sample was collected in the consecutive consenting sample through random sampling. For data collection, the validated questionnaire for assessment for prakriti was used. Prakriti was analyzed based on the dominating *Dosha*. Ethical approval of the study was obtained by the Ethics Review Committee of the Faculty of Indigenous Medicine (ERCIIM 22/49-A survey study on the relationship between Female subfertility and *Deha prakriti*). The majority of the study cases were between 36 to 40 years of age (51%), Sinhala (80%), normal BMI (53%), duration of subfertility 1-2 years (29%) as the course of subfertility *Vata dosha* predominance *Prakriti* (42.99%). Comparison between the two groups revealed the distribution of the *Deha prakriti* between the two groups is different but significant differentiation could not be obtained by this study. The survey, study identifies the relationship between female subfertility and the *Deha Prakriti*. Here the highest level of the *Vata* predominance of *Deha prakriti* has the risk of female subfertility and according to the statistical significance, there are no statistical significance differences.

Keywords: Female subfertility, *Deha prakriti*, Ayurveda

LITERATURE REVIEW ON *Ocimum tenuiflorum* LINN (TULSI) WITH SPECIAL REFERENCE TO AMRAZ-E-TANAFUS (RESPIRATORY DISEASES)

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The present review article explains medicinal and therapeutic uses of *Tulsi* plant in respiratory conditions in Indigenous medicine of Sri Lanka. *Tulsi* (*Ocimum tenuiflorum* Linn.) is an aromatic plant belongs to family Lamiaceae. This small herb is found throughout India. It is traditionally used for preparation of various Unani, Ayurveda, and Siddha formulations for treatment of bronchitis, influenza, and asthma. Hot concoction of *Tulsi* leaves is usually provided for immediate relief in cold, sneezing nose, cough, malaria, and dengue. This article explains the biological effectiveness of *Ocimum tenuiflorum* against diabetes mellitus, hypertension, cancers, respiratory diseases, arthritis, various microbes, and parasites. *Tulsi* extracts and its various bio-organic constituents showed expectorant, antiseptic, and antioxidant activity, and anti-atherogenic effect, anti-aging, immunomodulatory, anti-inflammatory, ant stress, anthelmintic, and hepatoprotective, radioprotective, repellent and larvicidal activity. Its active ingredients showed anti-inflammatory properties and also play a role in modulation of both cellular and humeral immunity. Plant shows healing properties in respiratory system and gastric ulcer. It relieves from stress, restore and improve body immunity and digestion. *Ocimum tenuiflorum*, contains linalool, eugenol, methyl eugenol, methyl chavicol, beta-caryophyllene and gamma-caryophyllene as major constituents. *Tulsi* oil contains high alpha-linolenic acid contents mainly eicosanoid precursor polyunsaturated fatty acids which are anti-inflammatory in nature. *Tulsi* also contains camphor, methyleugenol, limonene, myrcene, and thymol, which are known insect repellents. *Tulsi* plant contain mainly phyto-constituents and essential oil which can be used as treatment of various ailments of respiratory system but proper composition and appropriate formulation is required before being used. Most of the evidences of scientific explorations are based on in-vitro experimental, and a few human studies. This review will go through some more light on the pharmacological and medicinal properties of holy basil in respiratory condition. In conclusion, among 40 articles the results are as follow, Expectorant 33.33%, Anti-inflammatory 18.66%, Anti-microbial 16.66%, Bronchodilator 11.66%, Anti-tussive 10%, Anti-tubercular 10%. Traditionally it has been used for treating various systemic conditions in Ayurveda. It can prove beneficial in respiratory diseases because of various chemical constituents present in.

Keywords: *Tulsi*, Respiratory conditions

**DEVELOPMENT AN HERBAL LOZENGE FOR SORE THROAT: *SUGANDHA*
TRIPHALA LOZENGE**

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Sugandha triphala, is a combination of three aromatic plant ingredients, namely Nutmeg (*Myristica fragrans*), Clove (*Syzygium aromaticum*) and Cardamom (*Elettaria cardamomum*). This combination is known as a good remedy for some diseases of oral cavity and throat. Lozenges are ready-to-use dosage forms which are palatable and soothe the irritated throat. The main objective of this study is to develop a lozenge for sore throat condition by using *Sugadha triphala*, drug group and analyze its standard parameters. Two lozenges were developed by preparing decoction of *Sugadha triphala*, with Sugar (Lozenge 1) and with *Thalsukiri* (Lozenge 2) as the base. Mixtures were heated with constant stirring until it reached syrup state and removed from heat and poured on the mold to get lozenges of ideal size. Preliminary Physico-chemical, Phytochemical and other parameters pertaining to lozenges were analyzed according to standard guidelines. Results revealed that the presence of saponins, Tannins, Terpinoids and Steroids in raw materials as well as in the prepared Lozenge 1 and 2 in the qualitative phytochemical analysis. As the organoleptic characters of lozenge 1 showed, light brown in colour, pungent odour and sweet-pungent taste. It was smooth in touch. Lozenge 2 was dark brown in colour and had same organoleptic characters as Lozenge 1. Both preparations showed similar pH values (pH-6). Moisture content and disintegration time was 6.601% and 10min for Lozenger 1 respectively and 6.572% and 10.25min for Lozenge 2 respectively. Friability was less in lozenge 1 (0.772%) than the Lozenge 2 (2.275%) and hardness is high in lozenge 2 (2.8N) than the Lozenge 1 (0.6N). These preliminary findings can be used for the development of easy-to-use dosage form as a lozenge from *Sugadha triphala*, drug group for sore throat.

Keywords: *Sugadha triphala*, Nutmeg, Clove, Cardamom, Lozenge, Sore throat

THE UNANI CONCEPT OF *TAQASHSHUR E JILD*: AN APPRAISAL

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Taqashshur -e-jild is the skin condition mentioned in Unani medicine that coincides with Psoriasis. It is a chronic skin disorder that affects approximately 11.8% of the population worldwide. It can affect anyone at any age, but it is common between the ages of 20 and 40 years. This appraisal was conducted with the objective of understanding the concepts and treatment modalities mentioned in Unani medicine. A literature review was carried out to compile data from authentic textbooks of Unani medicine, while peer reviewed indexed journals were retrieved using Google Scholar, PubMed, Research Gate, and MEDLINE. After an exhaustive review of authentic texts of Unani medicine and updates on psoriasis, it was found that modern medicine has no conclusive idea about the disease's pathogenesis, while descriptions of Unani physicians have a lot of scope to be explored in terms of the pathogenesis and treatment of *Taqashshur-e-Jild*. According to Ibn-e-Sina, *Taqashshur-e- Jild* is a saudawi disease, but it is also caused by the burning of other *Akhlat*. *Ibn-e- Zohar* described that *Taqashshur-e-Jild* is caused when the *Khilt-e-Sauda* is transferred towards the skin and the *fasid khilt* is not expelled, which makes the skin scaly. *Taqashshur-e- Jild* is characterized by dryness of the skin and the formation of scales resembling the scales of fish. Since antiquity, *Taqashshur-e-Jild* has been treated by the Unani scholars through *Ilaj-Bil-Ghiza* (dietotherapy), *Ilaj-Bil-Tadbeer* (Regimenal therapy), and *Ilaj-Bil-Dawa* (pharmacotherapy). There are effective *munzij wa mus'hil e sauda advia* such as *Bisfayej*, *Post Halela Zard*, *Aftimoon*, *Turbud* while *murakaabat* like *Jawarish Amla Sada*, *Khamira Gaozaban sada* *Tiryaaq-i Arb'a* that strengthen *tabi'at* and the body, which in turn cures the condition. It is recommended that comprehensive clinical trials should be carried out to validate the treatment protocol as per Unani classical texts.

Keywords: *Taqashshur e Jild*, Psoriasis, Unani Medicine, *Khilt-e-Sauda*

DEMOGRAPHIC STUDY OF THE SRI LANKAN TRADITIONAL PHYSICIANS WHO TREATS FOR SNAKE BITES IN RATHNAPURA DISTRICT

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Sri Lanka has a very effective traditional treatment for venomous snake bites. The traditional method of curing snake venom can be called a heritage of Sri Lanka. It is important to preserve *Visha vedakama* for future generations. There are a large number of traditional physicians in Sri Lanka belonging to different *Veda parampara* but there are only 13 active snake venom healers in Rathnapura district. The objective of this study is the demographic study of the Sri Lankan traditional physicians who treats for snake bites in the Rathnapura district. The specific objectives of this research are identifying the different plant and animal-based concoctions and manipulations in the snake bite treatment, common medicines used in different *Veda Parampara*, identification of the different spiritual consultations used in snake bite treatments, and the most commonly treated type of snake. Also, that research helps their unique details such as herbal formulas, *Kem krama*, *Pirith*, and *Dutha lakshana*. All of the physicians used "*Mantra metirima*" and "*Pirith*" as a detoxification method. The percentage of healers who use "*Dummala metirima*" and "*Dehi atten visha bema*" is 91%. In those days mostly talked about item is poison stones but it is an unpopular item in the Rathnapura district and the use percentage is 33.33%. The most common snake bite type is Hump nosed viper. The most common type of porridge using in snakebite treatment is curry leaves and it is 91.6%. All of the physicians using pressure above the wound and placing medicine to expel the poison as first aid methods. A pioneering attempt was made to exploit traditional knowledge of snakebite treatments. It is about preserving the knowledge of physician and encouraging physicians to impart knowledge.

Keywords: Traditional Medicine, Traditional Physician, Snakebites, Rathnapura

**PHYSICOCHEMICAL AND PHYTOCHEMICAL EVALUATION OF
"BAVILA/ BABILA MUL", LOCALLY GROWN IN SRI LANKA**

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Sida rhombifolia, also known as *Bala*, *Bavila*, *Babila*, or Country Mallow, is a herbaceous plant indigenous to Sri Lanka and other tropical regions. It holds significant value as a medicinal plant in alternative restorative practices like Ayurveda and Helawedakama within Sri Lanka. Different parts of the *Sida rhombifolia* plant, such as leaves, roots, and stems, are utilized for their therapeutic benefits in traditional Sri Lankan medicine. Among these, the roots are the primary component used for medicinal purposes, and their therapeutic applications encompass the treatment of various conditions, including inflammation, ulcers, boils, fractures, and cardiac issues. This study evaluated the morphological characteristics, physicochemical properties, phytochemical composition, and thin-layer chromatography (TLC) fingerprint of *Sida rhombifolia*. The TLC fingerprinting was developed with Ethyl Acetate: Cyclohexane solvent system in a 2.0: 3.0 v/v ratio, and Vanillin Sulphate was used for visualization. The study's findings indicated that the physicochemical parameters include moisture content of 5.68%, total ash value of 10.60±0.20%, water-soluble ash of 2.3±0.1%, and acid-insoluble ash below 0.2%. In *Sida rhombifolia*, the presence of phenols and tannins through the Lead acetate test, flavonoids through diluted ammonia with concentrated sulphuric acid, alkaloids by the Wagner reagent test, saponins by the froth test, and reducing sugar by Fehlings test was established. These compounds exhibit diverse effects, including cardiovascular protection, antimicrobial and antibacterial properties, anti-inflammatory and analgesic effects, and antioxidant activity. Additionally, the TLC fingerprint provided visual evidence of ten phytochemical constituents in *Sida rhombifolia*, which must be identified and quantified through further research.

Keywords: *Sida rhombifolia*, Ayurveda, Phytochemical analysis, Traditional, medicinal plant

**A STUDY ON KNOWLEDGE, ATTITUDE, AND PRACTICE OF BREASTFEEDING
AMONG MOTHERS IN NINTAVUR, SRI LANKA**

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Breastfeeding is a socially accepted practice. Although breastfeeding is a common practice in Sri Lanka; but proper breastfeeding techniques are decline due to several factors. i.e., duration of breastfeeding, proper techniques, proper time of weaning is now poorly understood. So, this study is designed to assess the knowledge, attitude and practice of mothers in breastfeeding. This is an observational descriptive cross-sectional study carried out among 214 mothers of under 2 years old children attending the immunization clinic of Medical Officer in Charge, Nintavur, Sri Lanka. Before beginning data collection, the approval for this study was obtained from Ethics Review Committee (ERC 22/158) of Faculty of Indigenous Medicine, University of Colombo. Mothers were interviewed and given predesigned questionnaires. Regarding knowledge of breastfeeding, there is very less percentage of postnatal mothers having knowledge about early breastfeeding, exclusive breastfeeding, burping, breastfeeding on demand and not to give pre lacteal feeding. More than 50% of postnatal mothers having knowledge about colostrum being essential for health, breastfeeding creating bonding and <20% had knowledge of breastfeeding prevent diseases affecting breast. <50% know breastfeeding should be continued up to 2 years. Regarding attitude of breastfeeding, more than 50% of postnatal mothers thought breastfeeding in night and breastfed babies healthier than formula-fed babies. <50% thought not to breastfeed while sick and to sit comfortably while breastfeeding. Regarding practice of breastfeeding, more than 50% of postnatal mothers had given colostrum and pre lacteal feeding and feeding bottles still practiced. <10% postnatal mothers started early breastfeeding within 1 h. <40% still started late supplementary feeding and only <20% started breastfeeding on demand. It can be concluded that, there is poor knowledge, attitude and practices regarding all attributes of breastfeeding among postnatal mothers.

Keywords: Breastfeeding, Colostrum, Weaning, Pre lacteal food

PHYTOCHEMICAL EVALUATION OF SAFOOF E AMLA: AN UNANI COMPOUND FORMULATION

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Scientists are currently focusing on the Phytochemicals to treat numerous ailments affecting the mankind. The purpose of the study was identifying the organoleptic characteristics and to conduct physico and phytochemical screening of the *Safoof e amla*. Which comprises *Amla* (*Emblica officinalis*), *Haldi* (*Curcuma longa*), Sugar (*Saccharum officinalis*). It is mainly used in *Sozak* which is mentioned in *Al-Makzanul Murakkabath* Pharmacopoeia. Although *Safoof e amla* can used in various treatments. Such as Gastro Intestinal Tract disorders, Skin diseases, Joint disorders, Cancers, Wound healing. This formulation is not evaluated for its physico-chemical and phytochemical standardization since yet as revealed by the literature survey. Thus, keeping this goal in mind, the present study was carried out to fix the quality control standards of *Safoof e amla* with scientific analytical techniques. Investigations were carried out to study the physico-chemical and phytochemical properties of *Safoof e amla* and its active ingredients Physicochemical analysis revealed values for Loss on drying at 105°C, total ash and further TLC, phytochemical screening tests were done. On naked eye examination, it was confirmed that *Safoof e amla* was free from any foreign materials and other adulteration. The organoleptic properties of the formulation showed the colour was brown, characteristic odour, sweet taste, texture was fine and particle size was 80#. Preliminary phytochemical screening revealed the presence of phyto constituents' alkaloids, terpenoids, tannin, phenol, saponins. Results revealed that, total ash (3.5±0.08%) and loss on drying (5.96±0.01%). It can be concluded that standardization of *Safoof e amla* helps in confirmation of its quality, purity and authenticity. Further, quality specifications of *Safoof e amla* can be developed with analytical tools available today. Moreover, the developed quality standard may also helpful in the production of efficacious Unani formulation in future. According to this research findings, in future we can proceed clinical trials with this compound drug.

Keywords: Phytochemical, Physico-chemical, *Safoof e Amla*, *Sozak*, TLC

PHARMACOGNOSTIC ANALYSIS OF *Sida alnifolia* FROM DIFFERENT GEOGRAPHICAL ZONES OF SRI LANKA

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The genus *Sida alnifolia* L. is belonging to family Malvaceae and it is therapeutically valuable genus. Among the different varieties of *Sida*, *Sida alnifolia* (*Heen Babila* or *Babila*) is the species which are widely utilized in Ayurveda, Siddha and Traditional medicine throughout the Sri Lanka. Some texts described that it is a sub species of *Sida rombofolia*. Present study is focused to compare and contrast the pharmacognostical properties of *Sida alnifolia* L. from different geographical zones in Sri Lanka (Western, Southern, Sabaragamuwa, Uva, Northwest and Central province). Cold maceration was conducted with methanol and extracts were subjected to normal phase Thin Layer Chromatography (TLC) using with Chloroform: methanol: hexane: ethyl acetate; 9: 1: 9: 1 as mobile phase. A powder microscopy and chemical)characteristic study of dried powders of the different geographical regions was performed by using the TLC/HPTLC profiles of cold methanol extracts of the dried powders. The results revealed that there are different chemical characters in each sample which collected from different geographical regions. It can be concluded that the presence of chemical characters of this plant may be depended due to geographical and climatic conditions of their growing environment. Furthermore, this study would be more beneficial to developed standard parameters to screen this plant and isolate the active principles for pharmacological properties responsible for the therapeutic effects. Moreover, for further confirmation would be carried out with more advanced tools including; DNA bar coding and would be applied as a precise standardization parameter in the identification and authentication of the raw materials of this plant.

Keywords: *Sida alnifolia* L., TLC/HPTLC, Powder microscopy, Methanol extract

PREPARATION AND PHYSICO-CHEMICAL SCREENING OF *SHVITRARI LEPA*: AN AYURVEDIC FORMULATION

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Shvitrari lepa is a traditional herbal formulation with potential therapeutic applications in the management of vitiligo or *Shvitra* in Ayurvedic terms, a chronic skin disorder characterized by the depigmentation of patches on the skin. *Shvitrari lepa* is a classical formulation mentioned in Chakradatta under *Shvitra Adikariya* and used as a remedy for *Shvitra*. *Shvitrari lepa* consists of *Bakuchi* Seed (*Psoralea corylifolia*), *Gaja wasuru* (Elephant Dung) and *Gaja mutra* (Elephant Urine). In the present study was designed to assess the quality of the *Shvitrari lepa* according to standard protocols. *Shvitrari lepa* was prepared according to the method described in text Chakradatta. According to the results, *Shvitrari lepa* appeared semi-solid in texture, brownish yellow in colour with an aromatic fragrance. Moisture contain, solid contain, total ash, water soluble ash, acid insoluble ash were 8.35%, 89.81, 9.2% w/w, 5.3% and $7.4 \pm 0.0\%$ w/w respectively. The present study disclosed that the methanol extract of *Shvitrari lepa* and its constituents exhibited the presence of various secondary metabolites viz. alkaloids, flavonoids, phenols, steroids, saponin, tannins and resin. This study would provide preliminary scientific evidence that *Shvitrari lepa* is a potent drug because *Shvitrari lepa* has more active principles. Therefore, the Organoleptic properties and physico-chemical parameters of *Shvitrari lepa* are essential in order to evaluate active constituents responsible for its medicinal actions and the manufacturing of new drugs. Further exploration of *Shvitrari lepa* and its constituents is required to isolate and identify active molecules for a detailed evaluation of in vivo biological activities of such isolated compounds.

Keywords: *Shvitrari lepa*, *Shvitra*, physico-chemical parameters, Chakradatta

ROLE OF SOIL AND CLAY USED IN PHARMACEUTICAL PREPARATION IN SRI LANKAN TRADITIONAL MEDICINE WITH SPECIAL REFERENCE TO *GERI PAS*

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Soil and clay have been used for therapeutic purposes since the earliest recorded history of the Sri Lankan traditional medical system. This research study is mainly focused on the role of soil and clay in the Sri Lankan traditional medical system by conducting a literature review referring to the book series "*Thalpatha Piliyam*". Further, a comparative physiochemical analysis was also performed on two samples of *Geri pas*, the authentic sample was collected from the Rathnapura, Sri Lanka and a market sample was purchased from Rajagiriya, Sri Lanka. As per the observations out of 25,000 medicinal formulae, 150 contained soil and clay as ingredients. *Humbas mati* (Termite Mound Clay), *Rankumbal mati* (Potter Wasp Clay), *Geri pas* (Geri Soil), *Lipa mada pas*, and *Gadol kudu* (Brick Powder) were the mainly used soil and clay types. *Geri pas* was used in the highest number of formulae in 14.5%, *Rankumbal mati* in 11.3% and *Gadawili pas* in 1.3%. Out of the 150 formulae, 25% was used to treat *Gadu* (abscesses), 14% for *Gedi* (lumps), 8% was for *Pilika* (Malignant tumors), 81% of the formulae were administered externally. In physiochemical analysis, organoleptic properties were different in the two samples viz authentic sample had a dark brown color and particles were larger and stickier compared to the market sample. The authentic sample had a 28.6% of moisture percentage and the market sample had only 5.10%. Both samples had a similar pH level of 7. This study suggests that soil and clay have been significant components of traditional remedies in Sri Lanka and especially *Geri pas* plays a significant role in treating ailments like *Gadu* and *Gedi Wana pilika* (lumps, wounds, and malignant tumors). Further research is needed to analyze the minerals and their properties and effectiveness in treating specific ailments.

Keywords: Sri Lankan Traditional medicine, Soil and Clay, *Geri pas*, *Humbas mati*

**A SURVEY ON CONSUMPTION OF SPECIAL FOODS AND BEVERAGES TO
CONTROL HIGH BLOOD PRESSURE**

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Hypertension is a condition in which blood pressure exerted by the arteries rises and remains continuously high. This is the chronic condition and defined as a persistent systolic pressure of 140–150 mmHg and a diastolic pressure of 90–95 mmHg. According to WHO data, an estimated 1.28 billion people aged 30-79 have hypertension globally, with the majority residing in middle-income countries. It is obvious that while hypertension causes many deaths, it also causes many difficulties. In addition to medications, non-medicated diets and lifestyle modification can regulate this chronic condition. Although many studies have been carried out on hypertension, no publications are available regarding the findings of such surveys, especially those conducted in Sri Lanka. Aim of this study was to find what unique meals and beverages people with hypertension consume in addition to their prescriptions. A survey was done with ERC approval. Information was collected through an interview and a questionnaire from 120 hypertensive patients attended to Medico Pharmacy, Battaramulla and Ayurvedic Hospitals, Borella, Navinna, Meegoda, Lunava, Jamburaliya; representing both the sex, different socioeconomic and educational levels. It was found that Tomatoes, Carrots, Garlic, Cinnamon are consumed by >75%, Cardamom, Ginger, Curry leaves by >50%, Pumpkin seeds, Bananas, Passion fruit, Drumstick leaves, Cabbage, Green tea, Orange by >25% patients. Beets, Broccoli, Fenugreek, Watermelon, Avocado, Probiotics, Potatoes, Sweet potatoes, *Lunuwila*, Parsley, Beans, Yoghurt, *Kowakkaa*, *Gotukola*, Grapes, Salman fish, Strawberries, Ginseng, Black cumin, Dark chocolate, Oats, Peanuts, Hibiscus tea, Olive oil, Sunflower oil, Lemon, Spinach, and Barley are also consumed. Patients who consumed them daily could achieve a moderate symptoms reduction. Further, they maintain, less intake of salt, sugar, starchy food, fast food, oily foods, processed food, more water intake and avoid caffeine, alcohol, smoking. The pharmacodynamic properties of above identified meals and beverages and their influence on hypertension management were also analyzed in this study. Analyzing the results, it was concluded that there are anti-hypertensive actions generating *Rasa*, *Guna*, *Virya*, *Vipaka* and chemical constituents in those foods and beverages.

Keywords: *Hypertension management, Special food, Beverages,*

**A COMPARATIVE STUDY OF *GUDUCHI SHEETHA KASHAYA*, *GUDUCHI SATTVA*
AND *GUDUCHI KWATHA***

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Guduchi (*Tinospora cordifolia*) family: Menispermaceae is an essential medicinal plant used in different Ayurvedic formulations. *Guduchi* is bitter, pungent and astringent in taste (*Rasa*), sweet in post digestive effect (*Vipaka*) and hot in potency. All parts of *Guduchi* have medicinal value including roots, stems, bark, leaves, etc. and also it contains phytochemicals such as Alkaloids, Glycosides, Phenolic compounds, Steroids and Polysaccharides etc. Present study involves the comparative phytochemical analysis and Thin Layer Chromatography (TLC) of three different *Guduchi* preparations (*Guduchi sheeta kashaya*, *guduchi sattva* and *Guduchi kwatha*). *Guduchi sheeta kashaya* and *Guduchi kwatha* are cold and hot extraction of *Guduchi* powder. *Guduchi sattva*, the starchy material extracted from the *Guduchi* stem is well-known Ayurvedic single drug formulation having a wide range of therapeutic utility. Results that, hot and cold extracts of *Guduchi* and *Guduchi sattva* are rich in phytochemicals such as Tannins, Phenols, Flavonoids, Alkaloids, Saponins and Reducing Sugars. According to Thin Layer Chromatography, *Guduchi* hot extraction (Solvent - Cyclohexane: Dichloromethane: Ethyl acetate: Methanol in a ratio of 6 : 4 : 1 : 0.1 v/v) has a high Retention factor (Rf) value (0.99 - observed under UV 254 nm and 366 nm) and that indicates the compound is less polar and high absorptivity , *Guduchi sattva* has a lower Retention factor values (0.94) and that indicates the compound is more polar. According to this study indicates that *Guduchi sattva* is more polar than *Guduchi sheetha kashaya* and *Kwatha* and also it is intense positive in some phytochemical screening test than hot and cold extractions of *Guduchi*.

Keywords: *Tinospora cordifolia*, Menispermaceae, *Guduchi sheeta kashaya*, *guduchi sattva*, *Guduchi kwatha*

**STUDY THE EXTERNAL APPLICATIONS FOR SWARABHEDA MENTIONED IN
AYURVEDA AND SRI LANKAN TRADITIONAL MEDICINE AND PREPARATION OF
SOME SELECTED FORMULAE**

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Among various diseases, *Swarabheda* is a *Vata*, *Kapha dosha* predominance disease that affects quality of life. Vitiated *Vata* and *Kapha* spread out from their own location and obstruct in *Swaravaha srotas* leads to pathogenesis of the *Swarabheda*. *Swarabheda* can be correlated to hoarseness of voice (Dysphonia) according to the modern medicine. Prevalence of voice disorders among older adults ranged from 1.8% to 55.2%. More than 50% of patients with voice problem face significant quality of life impairment. Source that I used to collect external application formulae for *Swarabheda* are Charaka Samhita, Susruta Samhita, and Ashtanga Hridaya Samhita as Ayurveda authentic text books and Thalpate Piliyam, Kanda Vaidya Granta as Sri Lankan Traditional medical text books. I have found twenty-two external applicable formulae from Thalpate Piliyam and Kanda Vaidya Granta. There weren't mentioned external applicable formulae for *Swarabheda* in Vruhatrayi and Laghutrayi. Aims of this research project were to find out pharmacodynamic and pharmacokinetics properties of collected formulae and to prepare some selected formulae which used as external application. Therefore, among them, selected four formulae and prepared them (three *Alepa* and an oil) considering the availability of drugs, easy preparation, less consuming of time, fair cost of preparation. When it is considering the pharmacodynamic properties 32% *Katu rasa*, 27.12% *Laghu guna*, 77.27% *Ushna virya* and 65.22% *Katu vipaka* were recorded. According to the *Dosha karma* 63.63% was *Vata*, *Kapha shamaka*. According to the results obtained by the study, drugs which have *Katu rasa*, *Laghu guna*, *Ushna virya*, *Katu vipaka* and *Vata*, *Kapha shamaka* can be beneficial for *Swarabheda*. The efficacy of selected formulae used for external application will be evaluated in further studies.

Keywords: Hoarseness of voice, Pharmacodynamic, *Swarabheda*

DIVERSITY OF SRI LANKAN *KADUM BINDUM WEDAKAMA*: AN OBSERVATIONAL STUDY

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A fracture is a breaking of the continuity of a bone, and may range from a simple crack to complete breakage of the bone. In general bone fracture treatment in allopathic medicine consists of bone reduction, immobilization to happen bones to occur natural healing process and then rehabilitation. Traditional orthopedic treatment named as *Kadum bindum wedakama* uses various external and internal medicines to set fractured bones. When observing *Kadum bindum* treatment done by different traditional physicians, the treatment and treatment procedures are not uniform. Therefore, this study aimed at identifying those diversities of *Kadum Bindum* treatment. This observational study was conducted in all provinces of Sri Lanka, with purposively selected five physicians in each province to study on how their treatment modalities differ from one another. Primary data were collected from the participants by in-depth interviews, direct observations and semi-structured questionnaire. Majority (80%) of respondents used both external and internal medicines whereas (20%) used only external medicines. Majority of the population used oil (60%), *Mallum* (60%), *Pattu* (60%) in their treatment and *Thelkira* (11%) was not used widely. Considering internal medicines *Thambum*, *Kashaya*, *Guli*, *Kalka* (each 55.6%) were used. Majority used (57.8%) firstly oil, *Mallum* and *Pattu* in order. Medicinal treatment was supplemented by chanting mantra by some of the physicians (48.8%). The findings revealed that *Kadum bindum wedakama* have some diversities of treatment and treatment modalities from one another although majority utilized according to the treatment principles of bone healing which existence in traditional medicines and ayurveda from past centuries. There was not revealed vast diversity in plants of using *Kadum bindum wedakama* and majority were used *Ankendha*, *Ketakala*, *Madatiya*, *Karadha*, *Kubuk*, *Nika*, and *Pawatta* due to commonly availability of all areas in SL. Majority (90.9%) used *Neelyadi* oil in their *Bhagna* treatment and whereas (47.7%) used their own traditional oil which prepare of according to their own recipe in their generation, it was commonly named as *Handi* oil.

Keywords: Diversity, *Kadum bindum wedakama*, Treatment

PHYSICOCHEMICAL AND PHYTOCHEMICAL EVALUATION OF POLYHERBAL FORMULATION "SAFOOF-E-KARKADASINGI"

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Safoof e Karkadasingi is a traditional polyherbal formulation utilized in the Unani system of medicine for many centuries. The formulation comprises *Karkadasingi*, *Zanjabeel*, and *Filfil e daraz*. Its primary purposes are alleviating mucus congestion (*Munaffis-e-balgham*) and relieving inflammation (*Muhalil-e-varm*). This *Safoof* is widely employed to address various respiratory tract conditions, including Asthma, bronchitis, pleuritis, pneumonia, cough, and cold. Its pharmacological properties encompass expectorant, anti-inflammatory, antioxidant, antimicrobial, antifungal, antiviral, antihypertensive, immune-modulatory, analgesic, and antidote effects. This study evaluated the morphological characteristics, physicochemical properties, phytochemical compositions, and thin-layer chromatography (TLC) fingerprint of *Safoof e Karkadasingi*. The study findings indicated that the moisture content of 5.68%, total ash value of 15.2 ±0.4 %, water-soluble ash of 5.6 ±0.3 % and acid-insoluble ash was below 0.2%. The phytochemical analysis revealed the presence of saponins, carbohydrates, flavonoids, terpenoids, tannins, and phenolic compounds. The TLC fingerprint provided visual evidence of the phytochemical constituents present in *Safoof e Karkadasingi*. These findings provide important insights into the active ingredients of *Safoof-e-Karkadasingi* and its potential implications for respiratory diseases in Unani medicine. Further research is warranted to identify the main bioactive compound, isolate and elucidate its structure, and conduct in vivo studies to understand its mechanism of action.

Keywords: Unani system, Respiratory tract ailments, Polyherbal formulation, Secondary metabolites, Active ingredients

**FORMULATION AND STANDARDIZATION OF “SUGANDHA TRIPHALADEE”
HERBAL MOUTHWASH**

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Oral hygiene plays a vital role in determining the overall quality of life. Herbal products cure and prevent *Mukha roga* (oral diseases) and provide beneficial effects. Ayurveda drug preparations including, *Kavala* (gargling) and *Gandusha* (holding medicated liquids in the mouth) are almost similar to modern oral hygienic medicinal products. In Ayurveda authentic texts, *Sugandha triphala* is specifically mentioned for its ability to eliminate unpleasant odor (*Mukha durgandhanashana*) and to cleanse (*Mukha shuddhikara*) the oral cavity. The objective of present study was to develop a herbal mouthwash with antimicrobial properties aimed for promoting oral health. A modified approach was employed to formulate the herbal mouthwash utilizing *Myristica fragrance*, *Elettaria cardamomum*, *Syzygium aromaticum*, *Curcuma longa*, and *Glycyrrhiza glabra*. Six samples were prepared by altering the proportions of the five different herbal extracts after incubation of water extracts of powdered ingredients at 37°C for 48 hrs. To ensure the standardization of the optimal sample as the mouth wash, all samples were evaluated for their physical characteristics, pH levels, phytochemicals, thin-layer chromatography (TLC) and high-performance thin-layer chromatography (HPTLC). Chromatographic profiles were developed using the solvent system of hexane: methanol: dichloromethane, 2:6:2. Optimal sample was selected by considering the pH value of 7. Subsequent confirmation of homogeneity and absence of phase separation achieved through organoleptic assessment via visual observation, presence of secondary metabolites (specifically Saponins, alkaloids and phenols) and proper separation of constituents with observed R_f values of 0.75, 0.71, 0.66 in Thin Layer Chromatography (TLC) and high peaks in High-Performance Thin Layer Chromatography (HPTLC). Antimicrobial analysis was conducted using the method of pour plate technique using Soybean casein digest agar by incubating at 30±10°C for 72 hours and showed 69% reduction of *Pseudomonas aeruginosa*. Results can be concluded as the standardization parameters of the herbal mouthwash along with its demonstrated antimicrobial properties.

Keywords: Herbal mouthwash, *Kavala*, Oral health, HPTLC, Antimicrobial

**EVALUATION OF PHYSICOCHEMICAL PROPERTIES AND SELECTED
PHYTOCHEMICALS IN *GANDHAKADI OIL*: SRI LANKAN TRADITIONAL HERBO
MINERAL FORMULA**

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Gandhakadi oil is a Sri Lankan traditional herbo-mineral formula comprised of *Leea indica*, *Cocos nucifera* Linn, Sulphur and CuSO₄ which belongs to the *Ariyawansa Hettiarachchi* traditional family in *Pannala* North western province in Sri Lanka. It has been used externally since more than fifteen decades to treat *Kitibha kushta* (Psoriasis) and clinical trials revealed that it has high therapeutic potential to subside the clinical features of *Kitibha kushta*. Aiming standardization of the *Gandhakadi* oil; the research study was planned to evaluate the selected physico-chemicals in the test drug. The study was conducted at the Department of *Dravyaguna Vignana*, Faculty of Indigenous Medicine, University of Colombo. The oil was prepared by mixing 1kg of fresh *Leea indica*, leaves and bark with 200g of grated coconut and extracting 750ml of fresh juice adding 250ml of water. The addition of 750ml of coconut oil, 15g of sulfur, and Copper Sulfate followed, with heating until the *Madyapaka stage* was achieved using the method of *Taila paribhasha* mentioned in Sharangadara Samhitha. The physicochemical characterization, with the phytochemical screening, was carried out using standard methods. Organoleptic characters, physicochemical parameters, and selected phytochemicals were tested. It was observed that the oil was green in colour with a slightly rotten egg smell and phytochemicals of Alkaloids, Saponins, and Tannins were presented. Furthermore, the refractive index of the oil was 1.4582 and the PH value was 6.52. Further, the biochemical study has to be planned to quantify the presented phytochemicals in the oil to detect product efficiency.

Keyword: *Gandhakadi* oil, Phytochemical, Herbo- mineral Formula

UNEXPLOITED THERAPEUTIC UTILITIES OF *Cannabis sativa* (KANSA) AS AN INGREDIENT OF FORMULATIONS IN *DESHIYA CHIKITHSA SANGRAHAYA*: A REVIEW

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Cannabis sativa Linn. belonging to the Cannabaceae family is one of the oldest medicinal plants in history including Sri Lankan Traditional Medicine. The ongoing debate surrounding its medicinal properties has prompted attention in recent years. It contains different active ingredients including Tetrahydrocannabinol (THC), Cannabinol and Cannabidiol (CBD) etc. Cannabis has always been a common ingredient in medicaments, either in the form of traditional preparations or as pure active principles. Synthetic THC (Marinol), has gained approval for treating chemotherapy-induced nausea and enhancing appetite in AIDS patients. "*Deshiya Chikithsa Sangrahaya*" is a compendium that compiles traditional therapeutic applications, aiming to uphold the practices of traditional medicine in Sri Lanka. This review focuses on *Cannabis sativa* as an ingredient in different formulations described in *Deshiya Chikithsa Sangrahaya*. The objective is to underscore the therapeutic potential of these formulations for future applications while respecting the restricted status of the plant. Within the text, cannabis is referenced in 66 instances, with its role highlighted in various forms like *Vati* (Pills), *Lepa* (External applications), *Churna* (Powders) etc. and majority of 55% in *Vati* (Pills). Disease wise application was observed in several diseases and the highest usage was in *Athisara* (Diarrhea) 29% and next in *Grahani* (Malabsorption) 11%. System wise highest therapeutic application was observed in Gastro Intestinal Tract (GIT). According to previous research reported THC and CBD could be important chemical constituents in treating *Athisara* and *Grahani* conditions. Also reported evidence on antimicrobial activity of *Cannabis sativa* on pathogens *Staphylococcus aureus*, *Escherichia coli*, *Candida albicans* which cause diseases in GIT could be therapeutically used in treating *Athisara* conditions. This suggests that the *Deshiya Chikitsa Sangrahaya* is a valuable resource with untapped therapeutic potential of *Cannabis sativa*. In conclusion, *Cannabis sativa*'s role in traditional medicine, as documented in *Deshiya Chikitsa Sangrahaya*, showcases its diverse applications and contributions to various formulations. The text's insights underscore the need for further research into the medicinal properties and initiation of cultivation of cannabis while respecting its regulated status.

Keywords: *Cannabis*, Drug formulations, *Deshiya Chikithsa Sangrahaya*, Sri Lankan Traditional Medical practices

DIFFERENT RECIPES AND NUTRACEUTICAL VALUE OF NIYAMBALAWA

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Niyambalawa means a traditional food preparation method that uses scraped coconut, rice, garlic, and mustard together. There are various kinds of *Niyambalawa* recipes in society and those were passed through generations by our great ancestors. Six recipes are found among them. Those are *Alukeselbada niyambalawa*, *Kekiri niyambalawa*, *Wattakka niyambalawa*, *Thampala niyambalawa*, *Pipinna* (cucumber) *niyambalawa*, and *Labu niyambalawa*. Cooking method of these preparations does not harm the nutritional value of the curry. Due to their stressful and busy lifestyles, people are more likely to eat unhealthy, quick, and Artificial foods. Therefore, non-communicable disease conditions such as cancer, Hypertension, Diabetes mellitus. The main ingredient in this recipe is Ash plantain stem. Objective of this study is to evaluate the *Alukeselbada niyambalawa* by evaluating Phytochemicals and nutritional values. Firstly, all ingredients should be cleaned well. Then this dish should prepare with using grated coconut, rice, garlic and mustard mixture together. After preparing, nutraceutical value of 100g of this curry was analyzed through this research project. This food recipe contains Phytochemicals such as Tannins Saponins, Terpenoids, Phenols etc. The food contains Moisture 82.7%, Carbohydrate 12.9%, Fat 2.3%, Energy 76.7% kcal per 100g. Starch and sugar contents are very high in the traditional form tested. The presence of natural sugar brings out more flavor in the products without the addition of external sweeteners. It has a lower fat content of 2.3, which is health-beneficial. Also, the high content of carbohydrate and calories can help to prevent malnourishment. The food contains tannins, act as antioxidants which are beneficial for scavenging and neutralizing free radicals and combating oxidative stress. Phenols are also potential antioxidants. Phenols can increase the anti-inflammatory capacity of the human body. This curry was made without using any additional sweeteners and curry is beneficial for everyone in terms of fitness.

Keywords: *Alukeselbada*, *Niyambalawa*, Traditional, Recipe, Nutraceutical Analysis, Physicochemical Analysis, Phytochemical Analysis.

**FORMATION OF CEREAL FOOD SUPPLEMENT FOCUSING ON THE
MANAGEMENT OF DIABETES MELLITUS**

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Diabetes is a common non-epidemiological disorder that has lots of complications in the kidney, liver, heart, and nervous system. Therefore, to ensure the protection against microvascular and macrovascular complications, early and intensive control of diabetes is essential. Hence, glycaemic control is one of the crucial factors. In order to manage a disease, Ayurveda recommends *Pathayapathya* specifically for each disease. Hence, this study aims to prepare a user-friendly cereal food supplement from *Pathya ahara* indicated for diabetes mellitus. The literature was gathered using authentic textbooks and the formula was formed based on the availability, taste, convenience, and pharmacological properties of the food such as *Katu*, *Tikta*, *Kashaya rasa*, *Laghu*, *Ruksha guna*, *Ushna veerya*, *Katu vipaka* and *Kapha vata hara*. Finally, the dosage form was decided and the prepared food was subjected to the quality control parameters such as moisture content, pH values, Ash value etc. and the glycaemic index, and nutritional values were assessed. According to the results, it was found that moisture content 5.1% total ash value 1.75% water soluble ash 0.1% pH value 7. Glycemic indexes (GI) for Barley, Green gram, Horse gram, Millet, and Chickpeas were 20-22, 22, 51, 52.7, 28-33 respectively. Nutritional facts in a serving package contain protein 63.14g, Fat 4.10g, carbohydrate 244.17g, fiber 16.03g, calcium 0.81g, phosphors 1.06g, iron 21.97g. Most of the ingredients contained the *Ushna Veerya*, *Katu Vipaka*, *Kashaya Rasa*, and *Ruksha guna* pharmacological properties. Therefore, to increase the palatability old bee honey was supplemented which will enhance the quality of the food. The evidence showed that the prepared food would be helpful in controlling the glycaemic index while enhancing the medicinal values of the meal for diabetes Mellitus. Before marketing the product, detailed physiochemical and phytochemical analysis, pre-clinical and clinical trials need to be evaluated.

Keywords: Diabetes mellitus, *pathya pathya*, Glycemic index, cereal food supplement

**KNOWLEDGE AND AWARENESS OF CERVICAL CANCER AMONG FEMALE
MEDICAL STUDENTS AT FACULTY OF INDIGENOUS MEDICINE, UNIVERSITY OF
COLOMBO**

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Cervical cancer is a major public health concern and disease of the female genital tract among the childbearing age specially in developing countries. According to the global cancer incidence, mortality and prevalence approximately 570000 cases and 311000 deaths of cervical cancer were estimated. In Sri Lanka health information statistics health points that in the year 2018 an estimated 1136 were detected and 643 deaths occurred due to cervical cancer. Persistent infection with Human papillomavirus (HPV) types with high oncogenic risk is known to be associated with occurrence of cervical cancer in 90% of the cases. Other known risk factors of cervical cancer are multiple sexual partners, initiating sexual activity at a very early age, multiple births, poor socio-economic status, immune suppression and having a partner who participates in high-risk sexual activities. The present study was undertaken to assess the knowledge and awareness of cervical cancer among female students of Faculty of Indigenous Medicine, University of Colombo. Across sectional descriptive study design was employed to systematically sample 100 female students selected by random sampling technique. Self-administered questionnaire was used among 1st and 2nd professional female medical students of BUMS and BAMS for data collection and descriptive data analysis was used to report the results. 90% of the respondents had good knowledge whereas 72% of the respondents had favorable attitude towards cervical cancer. Chi-square test showed an association between age category, education level and awareness to be statistically significant at a p-value of <0.05. 3.8% were aware of HPV vaccination. However, less than 8% of the respondents had been screened for cervical cancer. Though undergraduate female students had apparently good knowledge and favorable attitude, their practices on cervical cancer screening were quite low. Therefore, health sectors and the awareness programme of university level are mandatory to strengthen the uptake the cervical cancer screening practice.

Keywords: Cervical cancer, Undergraduate female students, Screening, HPV infection, Prevention

PREVALENCE OF *WAJA UL RUKBA* (KNEE OSTEOARTHRITIS) WITH SPECIAL REFERENCE TO DIFFERENT AGE GROUPS IN ADULT FEMALES AT IRAKKAMAM, AMPARA DISTRICT, SRI LANKA

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About 1.71 billion people have muscular skeletal conditions in worldwide. It is the major cause for disability in worldwide. Knee osteoarthritis (KOA) is commonest muscular disorder. Objective of the study was to determine the prevalence of KOA in the different aged population in Irakkamam, Ampara District, Sri Lanka, Assess the influence of BMI in KOA in the population. A cross-sectional survey conducted among 93 females aged 31 years or more resident in Irakkamam. For this study an ethical approval was obtained from ERC committee of faculty of Indigenous Medicine. A standard questionnaire (WOMAC osteoarthritis index)' was used to collect data. After getting informed consent samples was collected. The representative sample size was derived from the online Raosoft sample size calculator. Data was analyzed using percentage calculation. Study showed the highest prevalence of knee pain was in subjects with Age 51-60years (46.625%) and Age 41-50 years (33.38%). lowest prevalence of knee pain was seen with Age of 31-40years (15.79%). KOA symptoms started to presence from 31 yrs in this sample population. In addition, the BMI level also have shown a considerable relationship with KOA. The highest prevalence of knee pain was in subjects with BMI higher than 30kgm² (46.78%) and BMI 25-30 kgm² (38.55%). lowest prevalence of knee pain was seen in subjects with lower BMI 25- 18.5 kgm² (13.43%) Very lowest prevalence of knee pain was seen in subjects with lower BMI of <18.5kgm² (1.22%). Therefore, these results indicated a strong association between Age and the Knee Osteoarthritis. With ageing Knee Osteoarthritis prevalence also increasing. high prevalence of overweight. and obese people also found among the selected population. This both group of people are in under the high risk for many diseases and KOA. The study concluded that managing life style and diet plan and arranging awareness programme above 30 years of population and giving knowledge about BMI related risk and KOA will help to reduce the rate of over weight and obese and it will help to prevent or reduce the incidence of KOA.

Keywords: Musculoskeletal conditions, Knee osteoarthritis, Prevalence, BMI, Irakkamam, Ampara district

**PREVALENCE OF ZAGHTUDDAM QAWI (HYPERTENSION) IN PREGNANCY
AMONG PREGNANT WOMEN ATTENDING IN DODANGASLANDHA ANTENATAL
CLINICS IN NORTH WESTERN PROVINCE**

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Hypertension in pregnancy is a major challenge in antenatal practice due to its impact on mother and foetus outcome. Given this background the present study aims to assess prevalence of hypertension among pregnant women antenatal care at public sector hospital in Dodangaslandha. The study was focused to determine the prevalence of hypertension and risk factors of hypertension in pregnancy mainly in first second and third trimesters. A cross sectional descriptive study design was employed to systematically available sample of 40 females age over 20 years or more selected for the study. An ethical approval obtained from ERC committee of faculty of Indigenous Medicine. A standard questionnaire was used as research tool to collect data and descriptive data analysis was done to report the results. The prevalence of hypertension in pregnancy in the present study was observed to be 22%. Hypertension were higher among women more than 25 years of age. The risk of hypertension in pregnancy was observed to be higher among women in second and third trimesters due to hypertension and pre-eclampsia. Prime parity is also implicated to be a risk factor for hypertension. A substantial proportion of more than one-tenth of the pregnant women were found to be hypertensive in the present study. Primary care physicians have a critical role to play in the early identification and management of hypertension during early antenatal care.

Keywords: Pregnancy induced hypertension, Eclampsia, Pre-eclampsia, Risk factor

**REVIEW ON WARALA WARTHIKAWA AND ITS SUITABILITY FOR VISHA
CHIKITSA**

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There are many treatment methods for snake bites in Sri Lankan Traditional Medical System. *Warala warthikawa* is one of the drugs mentioned in many authentic texts both in Ayurveda as well as Traditional Medicine (TM). *Vatika Prakaranaya* and Ayurveda Aushadha Samgrahaya, have specially mentioned that *Warala warthikawa* as an external therapeutic application for *Sarpa dansha chikithsa*. In *Vatika Prakaranaya*, *Warala Warthikawa* has mentioned under *visha* treatments and it has given another name as *Maha Warthikawa*. This study was aimed to study on suitability of *Warala warthikawa* for *Visha chikitsa*, analyze the pharmacodynamic properties of the ingredients and interpret the mode of action in *Visha chikitsa*. Data was collected from relevant published review articles, available *Āyurveda* authentic texts and associated Traditional Medical books. *Warala warthikawa* is comprised of twenty-nine (29) herbal ingredients and equal parts of those ingredients grind with juice of beetle leaves (*Piper betle*), *Nika leaves* (*Vitex negundo*), ginger (*Zingiber officinale*) and Bee honey to prepare *Vatika* forms into 125mg. It uses as an internal drug for many diseases such as *Vamana*, *Jwara*, *Udara shula*, *Udawartha*, *Ajeerna*, *Atheesara*, *Karna roga*, *Kantha roga* and externally for *Sarpa visha* and *Shirsha shula*. According to the pharmacodynamic properties of the ingredients, prominent *Rasa*, *Guna*, *Veerya* and *Vipaka* were *Katu rasa*, *Laghu guna*, *Ushna veerya* and *Katu vipaka* respectively which were beneficial to stimulate the *Agni* and fast transformation through minute channels. That causes to quick action of the *Warala warthikawa* and leading to act against *visha* within short period. Alkaloids and Tannins were identified in the chemical analysis of *Warala warthikawa*. Alkaloids which give anti-inflammatory and analgesic action while Tannins reduce protein digestibility and provide anti-toxicity for venoms. Therefore, *Warala warthikawa* can be tested for toxicity studies, clinical trial and then develop as a market available drug for *Sarpa visha chikitsa*.

Keywords: Snake bites, *Visha chikitsa*, *Warala warthikawa*

A COMPARATIVE STUDY OF PHARMACODYNAMIC PROPERTIES OF *Cassia fistula* KSHARA MADE USING COWS' URINE AND WATER

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Kshara kalpana is a unique Herbo-mineral alkaline preparation in Ayurveda. The aim of this study was to analyze physico-chemical properties of *Aragvadha* (*Cassia fistula*) *kshara*. The preparation of *Aragvadha kshara* in water and cows'urine was carried out by following the method mentioned in *Susrutha Samhitha*. Among four *Kshara* samples, first sample was prepared immediately after mixing *Aragvadha* ash in water and second sample was prepared dissolving *Aragvadha* ash overnight in water. Other two samples were prepared as above-mentioned method in cows' urine. Total ash value of the *Aragvadha kshara* which was made from water, immediately filtered one (AKJI) and the filtered after keeping over one night (AKJO) were 90.6% and 89.45% respectively and total ash value of the *Aragvadha kshara* which was made from *Gomutra*, immediately filtered one (AKGI) and the filtered after keeping over one night (AKGO) were 77.05% and 72.15% respectively. Water soluble ash value of the *Aragvadha kshara* samples (AKJI, AKJO, AKGI, AKGO) were 61.35%, 40.55%, 37.20% and 40.60% respectively and loss on drying value these samples were 0.65%, 0.63%, 0.22% and 0.59% respectively also pH value of the *Aragvadha kshara* samples were 9.86, 8.76, 9.05 and 9.97 respectively. AKGO is the most alkaline sample thus it could be enhanced more alkaline property from cows' urine while keeping over one night and, but *Jala Kshara* samples emphasize an idea about immediately filtered sample is more alkaline than the overnight kept sample because it could be gained more acidic property while keeping an overnight in water. The study proved that pharmaceutical processing of the raw drugs imparts characteristic properties to the formulation which are evident by the physico-chemical analysis of the four samples.

Keywords: *Aragvadha kshara*, *Jala*, *Gomutra*

**PHYSICO- CHEMICAL AND PHYTOCHEMICAL STANDARDIZATION OF UNANI
COMPOUND FORMULATION-HAB E VOJ UR REHM**

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Herbal medicines are at a great demand globally for primary healthcare due to their efficacy, higher safety margins and cost effectiveness. Standardization of herbal formulation is significant in evaluating the quality of medicine and its therapeutic value. In the global view, there is a shift towards the use of herbal medicine in a large scale. *Hab e voj ur rehm* is an Unani compound formulation, consisting of *Berg e Sambalu* (Leaves of *Vitex nigundo*), *Filfil e siya* (*Piper nigrum*), and *lahzan* (*Allium sativum*). It is mainly used for treating in *usr e thams* (dysmenorrhea). Objectives of this study to conduct the physico and phytochemical analysis of *Hab e voj ur rehm* and standardize the formulation, while identifying the organoleptic characteristics. The raw materials were obtained from local market and were identified and authenticated by the experts of the department of *Dravyaguna Vignana* and *Swasthvritta*, FIM, UOC. The compound medicine was prepared in the Unani Pharmacy, FIM, under the guidance of National formulary of Unani Medicine. Results: The organoleptic characteristics of the formulation showed black color, faint aromatic (garlic smell) odor and bitter spicy taste. The study findings revealed that loss of weight in drying at 105°C was 16.73% and the total ash value was 8.66%. The phytochemical screening indicates the presence of tannins, flavonoids, alkaloids, terpenoids, carbohydrates and reducing sugar. In the TLC, Dichloromethane: Ethyl-acetate: Cyclohexane was used as the solvent system and the R_f values obtained at 254nm and 356nm revealed the presence of the phytochemical constituents in *Hab e voj ur rehm*. It was concluded that standardization of *Hab e voj ur rehm* helps in confirmation of its identity and determination of its quality, purity and detection of nature of adulterant by various parameters.

Keywords: *Hab e voj ur rehm*, Unani formulation, Standardization, *Usr e thams*

INTEGRATING AYURVEDA INTO MAINSTREAM HEALTHCARE SYSTEMS: POLICY CONSIDERATIONS

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The integration of Ayurveda into mainstream healthcare systems is a topic of increasing interest due to its potential to offer holistic and patient-centered care. This study delves into the crucial policy considerations associated with this integration, while specifically focusing on identifying gaps and providing evidence-based recommendations for a successful incorporation. To comprehensively analyze the integration of Ayurveda into mainstream healthcare, this study employed a multifaceted approach. Regulatory frameworks, practitioner training, safety standards, interprofessional collaboration, and case studies from various regions were scrutinized. The emphasis was on pinpointing gaps in the integration process and formulating targeted recommendations. This study revealed that the integration of Ayurveda into mainstream healthcare is not merely about blending two systems but about effectively addressing disparities. One major gap identified was the lack of standardized regulatory frameworks, leading to issues of practitioner credibility and patient safety. Another significant gap existed in the realm of interprofessional collaboration, as the integration process often encountered resistance from conventional medical practitioners. Based on evidence, the study proposes key recommendations to bridge these gaps. Firstly, stringent regulatory frameworks must be established to ensure the competency of Ayurvedic practitioners and the safety of patients. This involves creating licensing and certification requirements aligned with modern medical standards. Secondly, interprofessional collaboration should be actively encouraged through policy reforms and educational initiatives. Building mutual respect between Ayurvedic practitioners and allopathic doctors could enhance patient care through a combined approach. In conclusion, the integration of Ayurveda into mainstream healthcare demands a nuanced understanding of the gaps in the existing system. This study highlights the deficiencies in regulatory frameworks and collaboration, providing evidence-based recommendations to tackle these challenges. By implementing these targeted policies, healthcare systems can ensure a safer, more effective, and harmonized integration of Ayurveda.

Keywords: Ayurveda integration, Mainstream healthcare, Policy considerations, Interprofessional collaboration

**DEVELOPING A NATURAL TOOTHBRUSH USING MEDICINAL PLANTS
MENTIONED IN AUTHENTIC AYURVEDA TEXTS**

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According to the WHO, around 3.5 billion individuals worldwide are suffering from one or more types of oral diseases. *Dhanthadhavana* (brushing teeth) has been recommended in Ayurveda as the daily regimen for maintaining oral health. *Dhantha kashta* (oral twig) which were prepared from various medicinal plants with properties of *Katu*, *Tikata* and *Kashaya*, have been used to brush the teeth at the ancient time. It was replaced by the non-degradable plastic toothbrushes in modern era that has become an impact to the environment. The objectives of this study were to study the medicinal plants which are promoting oral health and develop a natural toothbrush based on the collected data. The literature has been gathered from the various Ayurveda authentic texts, journals and authentic web sites on pharmacodynamic properties and therapeutic effects of medicinal plants which are used to prepare *Dantha kashta* and promoting oral health. Results were analysed and *Dantha kashta* was prepared. *Terminalia arjuna* contains *Kashaya rasa* and it has been selected for the handle of the brush as its medicinal values and its ability to be found more easily than other plants. Considering the bristles, husk of *Arica catechu* has been chosen as it provides *Mukha vishyandha* and anti-microbial properties against oral pathogens according to scientific researches. The final product was convenient to grip and user-friendly. As this toothbrush has made from medicinal plant materials, it is biodegradable and promote the oral health. Thus, it is possible to reduce the impact to the environment due to plastic toothbrushes and to maintain oral health in a better way.

Keywords: *Danthadhavana*, *Dantha kashta*, Oral health, Toothbrush

**PHYSIO - CHEMICAL AND PHYTO - CHEMICAL STANDARDIZATION OF UNANI
COMPOUND FORMULATION - SAFOOF E MUHAZZIL**

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Safoof e Muhazzil is a poly herbal formulation used in Unani medicine. It is useful in obesity. It is important *Murakkab Dawa* used in Unani System of Medicine that effective Anti-Lipidemic, Antihypertensives, Anti-inflammatory and some *Zaman e mufri* (Obesity) conditions. It contains *Trachyspermum ammi*. (*Ajwain desi*), *Foeniculum vulgare* (*Badiyan*), *Cuminum nigrum* (*Zirah siyah*), *Ruta graveolens* (*Barg e sudab*), *Cinnamomum officinalis* (*Darchini*), *Laccifer lacca* (*Lak maghsool*), *Nigella sativa* (*Kalonji*) [Substitute for *Marzanjosh*] [HPEM]. This study conduct the phytochemical analysis of main ingredients of *Safoof e Muhazzil*, to analyses the standards for *Safoof e Muhazzil* through organoleptic characteristics and develop the TLC of *Safoof e Muhazzil*. Materials and methods: Authentic ingredients bought from the market and were authenticated at Department of *Dravya Guna Vijnana* Laboratory at Department of Ayurveda FIM. The drugs were dried in shade and powdered. All the powders were uniformly mixed. The compound medicine prepared in the Unani Pharmacy, FIM and its organoleptic character and Basic physic - chemical and phytochemical analysis were performed at ITI. The results revealed that the organoleptic characteristics of the formulation showed dark brown color, aromatic odor and acrid taste. The experiments revealed loss of weight in drying at 105°C was 10.23% and the total ash value was 11.3%. The phytochemical screening indicates presence of tannins, phenols, flavonoids, alkaloids, terpenoids, saponins, carbohydrates and reducing sugar. The TLC fingerprint provided evidence of phytochemical constituents present in *Safoof e Muhazzil*. Conclusion: Organoleptic characteristics could be used reference standard for the standardization of *Safoof e Muhazzil*. The presence of photochemical and Physiochemical properties could be used as reference standard for standardization of *Safoof e Muhazzil*.

Keywords: *Safoof e Muhazzil*, Unani formulation, Standardization, *Zaman e mufri*

AN AYURVEDA APPROACH TO MANAGEMENT OF PERTHES DISEASE: A CASE STUDY

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Perthes disease (PD) is avascular necrosis in children aged 4–10 years, more common in boys, affecting both hips in 10% to 15% of cases. It results from a compromised blood supply in the proximal femoral head. The features of PD can be correlated with Asthigata Vata. The aim of this study was to assess the efficacy of Ayurveda management, including *Abhyanthara* (Internal treatment) and *Bahira chikitsa* (External treatment), in PD. It is a single case study of a female patient of age 05 who consulted the *Bala roga* clinic, National Ayurveda Teaching Hospital, Borella, with complaints of mild pain in the left hip joints, difficulty walking, and an abnormal walking pattern for 6 months. On examination of the hip joint, restricted hip angle flexion, forward bending, and lateral rotation were noted. Also, the right leg was shortened by 2 cm compared to the left leg. There was a significant joint space reduction with femur head necrosis in an X-ray of the left femur bone. The patient was suggested to get admission to the hospital. Responses to the treatments are evaluated by using a grading scale for clinical features including pain in the hip and groin region, stiffness of the hip joint, restricted range of movement of the hip joint, gait, and a plain radiograph (ficat scoring). She was advised for local *Abhyanga* (massage) of *Uluwa* oil, along with *Lepa* (local application of medicament) made with *Dashangalepa*, *Lakshadi*, and mixed with *Uluwa* oil and *Vata shamaka* (*Pacify Vata dosha*) internal medicines was given to the patient. After 2 months, changes were observed in symptoms and an X-ray of the left femur head. The patient got satisfactory relief in clinical features as well as changes in the X-ray. Thus, this study concluded that the treatment protocol for PD showed significant results in gaining symptomatic relief. Although, in order to generalize the result to other patients, further study is required with the extensive study group.

Keywords: Ayurveda, Perthes disease

**DETERMINATION OF PREVALENCE AND THE CAUSES OF STRESS AMONG
SELECTED UNANI UNDERGRADUATES OF FACULTY OF INDIGENOUS MEDICINE,
UNIVERSITY OF COLOMBO**

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Stress related mental health problems are one of the most common causes of the burden in university students, worldwide. They are facing a great deal of pressure and challenges that pose a variety of physical, social and emotional difficulties. The main objective of this study is to investigate the prevalence and causes of stress among selected Unani undergraduate students' population in Faculty of indigenous medicine, University of Colombo, Sri Lanka. An interpretive and qualitative methodology was adopted for the study. While a self - administered online survey (Google form) questionnaire was circulated via online platform (i.e. WhatsApp) for data collection. The collected data was analysed using the percentage calculation and it was presented by using graphical presentation. Some leading factors that directly and subjectively cause for increasing the stress among the Unani undergraduate students were identified. They are, academic workload, worrying about getting a job, compulsory attendance procedure and financial issues. However, these causes are more or less dependent on the financial background of the student's family and knowledge of English and information and technology and also the gender of the student. Due to time and access limitation the study was conducted in only at Faculty of Indigenous medicine Unani, University of Colombo, Sri Lanka. This study will also generate new knowledge and open platform for critical discussion on students' stress. And will provide knowledge on the personal grievances of students and differences among the students and opportunities they enjoy in the university life The research will be helpful for academics and administrators to restructure academic programs to minimize the academic workload and provide career guidance for students. And also this will let the University to promote students' friendly curriculums.

Keywords: Prevalence, Stress, Causes, Unani undergraduate students, Academic workload

EVALUATE THE EFFICACY OF *TRIPHALA PARISEKA* AND *TRIPHALADI BIDALAKA* ON *ANJANANAMIKA* (EXTERNAL HORDEOLUM): A CASE STUDY

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According to the Sustruta Samhitha, *Anjananamika* has mentioned under the twenty-one *Varthmagatha netra roga* a small ball in the lid margin, which is characteristic of *Mṛudu* (soft), *Manda ruja* (moderately painful), *Daha todaka tamra* (burning sensation, pricking sensation, coopery coloured), and *Pidaka varthma sambhava* (small ball in the lid). It is also mentioned as a *Raktaja sadhya vyadhi*. The clinical characteristics of *Anjananamika* can be correlated with the external hordeolum, which manifests at the base of the eyelashes with pain, swelling, redness, a burning sensation, and suppuration. Acharya Chakradatta has expressly mentioned that *Pariseka* and *Bidalaka* should be used in the early stages of *Amaja netra roga*, which means the acute stage of eye disease. Because there had not been any prior scientific research to evaluate the effectiveness of these therapies, it was decided to carry out this research. In accordance with the inclusion criteria, a 48-year-old male patient presented to the *Shalakya Thantra* OPD (ENT clinic) at the National Ayurvedic Teaching Hospital, Borella, complaining of pain, redness, swelling, and a burning feeling in the left upper edge of the eyelid for one day. Upon examination, it was identified that the left upper eyelid margin had developed an abscess and that the edge of the eyelid was edematous. The patient was identified as having *Anjananamika* based on signs and symptoms and was given the prescription for *Triphala pariseka* twice a day (Morning and evening) and *Triphala bidalaka* twice a day (Morning and evening) for a 7-day treatment period and a 14-day follow-up period. During the course of treatment, the patient reported a considerable improvement in symptoms. Within two days, the eyelid's pain and burning sensation were 100% cured, and all other symptoms fully subsided within five days. Thus, the patient reported that all of their symptoms disappeared within seven days. Hence, this case study concludes by proving that *Triphala pariseka* and *Triphala Bidalaka* are potential cures for *Anjananamika* (external hordeolum).

Keywords: *Anjananamika*, *Pariseka*, *Bidalaka*, External Hordeolum, *Triphala*

A PHARMACOGENETIC STUDY OF *Hemidesmus indicus* GROWN IN SRI LANKA

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Hemidesmus indicus (L.) R.B.R. is a widely used herbal plant in Ayurveda and Traditional Medicine in India and Sri Lanka. *Hemidesmus indicus* belongs to the ASCLEPIADACEAE family (*Arka kula*). It is used in traditional medicine for loss of appetite, fever, skin diseases, leucorrhea, syphilis, rheumatism, also it has antimicrobial and potent anti-inflammatory activities. This research study mainly focused on performing macroscopic and microscopic examinations, thin-layer chromatography, and ultraviolet spectral measurements to carry out the pharmacogenetic study of the *Hemidesmus indicus* grown in Sri Lanka. Identified organoleptic properties are externally dark brown and internally pale yellow, characteristic aromatic, sweetish bitter, hard textured roots, and whitish brown powder of the roots in dry form and yellowish brown in wet form. Starch grains, Sclereids, fibers, xylem vessels are observed under histological and microscopical studies of cross-sections of roots and the powder of the roots. Tannins and phenols, alkaloids, saponins, and terpenoids were present in the methanolic extract of the roots. In the TLC fingerprinting obtained as saponins and flavonoids present in the methanolic extraction of the roots Rf values with 0.09, 0.41, 0.87, 0.95, 0.15 in saponin and 0.07, 0.18, 0.85, 0.96 in flavonoids. Performing these methods evaluated the Pharmacogenetic study of *Hemidesmus indicus*. Performing further studies like HPTLC can be done Pharmacogenetic study in advanced and isolating the individual phytochemical studies can proceed to find a novel drug using *Hemidesmus indicus*.

Keywords: *Hemidesmus indicus*, TLC, Secondary metabolites

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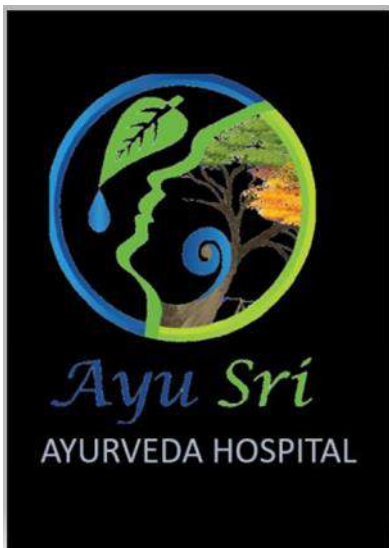
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