



PROCEEDINGS

10th International Conference on
Ayurveda, Unani, Siddha and
Traditional Medicine (iCAUST 2024)

and

1st International Research Symposium on
De Aa Sukhi Dakshina 2024

"One health approach for health tourism"

09TH – 10TH AUGUST 2024



SCAN ME

ORGANIZED BY

Faculty of Indigenous Medicine
University of Colombo
Sri Lanka

Department of Ayurveda
Southern Province
Ministry of Health, Sri Lanka

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PROCEEDINGS
10th INTERNATIONAL CONFERENCE ON
AYURVEDA, UNANI, SIDDHA AND TRADITIONAL
MEDICINE (*i*CAUST 2024)
&
1st INTERNATIONAL RESEARCH SYMPOSIUM ON
“DE AA SUKHI DAKSHINA” EXHIBITION AND
TRADE FAIR 2024

“One Health Approach for Healthy Life”

9th - 10th August 2024

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COLOMBO, RAJAGIRIYA, SRI LANKA**

**PROCEEDINGS OF THE
10th INTERNATIONAL CONFERENCE ON
AYURVEDA, UNANI, SIDDHA AND
TRADITIONAL MEDICINE - 2024
iCAUST - 2024
AND 1st INTERNATIONAL RESEARCH
SYMPOSIUM ON “*DE AA SUKHI DAKSHINA*”
EXHIBITION AND TRADE FAIR 2024**

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Message from the Vice Chancellor, University of Colombo



It gives me great pleasure to issue this brief message for the 10th International Conference on Ayurveda, Unani, Siddha, and Traditional Medicine (iCAUST - 2024) and 1st International Research Symposium on "De Aa Suki Dakshina", Exhibition and Trade Fair 2024, organized by the Faculty of Indigenous Medicine (FIM), University of Colombo in collaboration with the Department of Ayurveda - Southern Province, under the theme of "One health approach for health tourism."

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, a better understanding of cross-disciplinary challenges, and 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 disseminate 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, Unani 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 country's current economic and political instability, 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 second conference of the Faculty of Indigenous Medicine 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 and the Main Organizers of iCAUST 2024, 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 take this opportunity to thank all Faculty Research Committees, representatives, administrators, and support staff for your tremendous efforts in making this event a success.

orts in making this event a success.

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

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 10th International Conference on Ayurveda, Unani, Siddha and Traditional Medicine (iCAUST) and 1st International Research Symposium on “*De Aa Sukhi Dakshina*”, Exhibition and Trade fair – 2024. The conference 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 10th iCAUST remarks a premiere milestone, this year we take this research platform out of Colombo to the City of Galle.

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 ‘One health approach for health tourism’ 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 “*De Aa Sukhi Dakshina*”, Exhibition and Trade fair – 2024. 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 10th iCAUST and 1st International Research Symposium on “*De Aa Sukhi Dakshina*”, Exhibition and Trade fair – 2024 to bring this event a grand success.

Professor Pathirage Kamal Perera
Dean – Faculty of Indigenous Medicine
University of Colombo
Rajagiriya
Sri Lanka

Message from the Chief Organizer - Commissioner of Ayurveda, Southern Province, Galle



As the commissioner of Ayurveda, Southern province, it gives me immense pleasure to host the 1st International Conference on Traditional Medicine, and “*De Aa Sukhi Dakshina*”, Exhibition and Trade fair on the 9th 10th, and 11th of August 2024. “*De Aa Sukhi Dakshina*”, Exhibition and Trade fair 2024 is poised to be the most prominent and comprehensive event organized in southern province 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, 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 research interventions and innovations. 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 on “One health approach for health tourism”. 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. H.P. Karunawathi
Commissioner
Department of Ayurveda
Southern Province
Ministry of Health
Sri Lanka

Message from the Conference Coordinator (Ayurveda)



The International Conference on Ayurveda, Unani, Siddha and Traditional Medicine (iCAUST 2024) is organized by Faculty of Indigenous Medicine, University of Colombo for the 10th consecutive year. It is a matter of great pride that the organizers of the conference have been successful in creating such a huge impact on the target participants and to celebrate a decade of advancement and innovation in a field that bridges ancient wisdom with modern wellness practices. At this special junction faculty decided to extend our patronage further by aiming the disseminate research culture away from the main city. Empowered researched of our own discipline is consider as our responsibility as we are the national pioneers in our field.

Over the past ten years, this conference has become a pivotal platform for exploring the synergies between Ayurveda and natural healing for human beings. This year's theme, "***One health approach for health tourism***", invites us to delve into new horizons and opportunities for integrating Ayurveda practices into the global health tourism landscape. Therefore, this year international conference is jointly organized by the Faculty of Indigenous Medicine (FIM), University of Colombo and Department of Ayurveda, Southern Province, Ministry of Health, Sri Lanka.

This conference will provide an overview of the latest information on Ayurveda, Unani, Siddha and Traditional Medicine approach to health and health tourism including practical strategies for incorporating evidence-based modalities into clinical practice, using practices to prevent illnesses, recommendations for management of specific conditions and tools to evaluate the latest related research findings. I encourage attendees to engage actively, exchange ideas, and take full advantage of the opportunities this conference offers. Together, let us continue to push boundaries, foster innovation, and celebrate the rich heritage and future potential of Ayurveda, Sidhdha, Unani and Traditional Medicine. The Exhibition and trade fair organized coincide with the conference would add another dimension to the overall impact of the event.

On behalf of the faculty and also on my personal behalf I extend my deepest gratitude to our co organizers, speakers, sponsors, and organizers whose dedication and expertise have made this event possible. More over the driving force and guidance received by the Vice chancellor sir, University of Colombo and the Dean, Faculty of Medicine is greatly appreciated. Your support is invaluable, and it is through your contributions that we continue to advance the field of Ayurveda, Sidhdha, Unani and Traditional Medicine for its integration into health tourism.

I wish the 10th International Conference on Ayurveda, Unani, Siddha and Traditional Medicine (iCAUST 2024) and 1st International Research Symposium on "*De Aa Sukhi*

Dakshina", Exhibition and Trade fair a grand success!! Thank you for your commitment and enthusiasm. Here's to a successful and enlightening conference.

Conference Coordinator -10th ICAUST 2024

Dr. K.P.K.R. Karunagoda

Senior Lecturer

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

Faculty of Indigenous Medicine

University of Colombo

Sri Lanka

Message from the Conference Coordinator (Unani)



It is my great pleasure to send this message on the occasion of 10th International Conference on Ayurveda, Unani, Siddha, and Traditional Medicine, and 1st International Research Symposium on & “*De Aa Sukhi Dakshina*”, Exhibition and Trade Fair 2024. This significant event brings together a diverse group of professionals, scholars, and enthusiasts from across the globe, all united by a common interest in indigenous medical systems and explores the latest research, innovative practices, and future directions in Ayurveda, Unani, Siddha, and traditional system of medicine, with a special focus on the theme of this conference: "One Health Approach for Health Tourism."

Launching the 10th iCAUST marks a momentous milestone of Faculty of Indigenous Medicine (FIM). On this precious occasion, I would like to extend my gratitude to the co-organizing partner, Department of Ayurveda, Southern Province - Ministry of Health for facilitating the event.

Concurrently, it harmoniously aligns with the 1st International Research Symposium on “*De Aa Sukhi Dakshina*”, Exhibition and Trade Fair 2024. Hence, this significant juncture will stand as a splendid landmark for the Faculty of Indigenous Medicine, illuminating its global reputation and stature.

The theme "One Health Approach for Health Tourism" signifies our commitment to promoting health and well-being through a holistic perspective that recognizes the interconnectedness of humans with environmental health. This approach is essential for the sustainable development of health tourism, ensuring that it benefits all aspects of health and well-being. And also, the conference paves the way for to 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.

Additionally, the exhibition and trade fair will showcase a wide array of products, services, and advancements that are shaping the future of Indigenous Medical System. The student scientific forums provide opportunities to Faculty of Indigenous Medicine undergraduate researchers to develop scientific communication skills while being exposed to the research communities.

It is a great privilege to be the coordinator (Unani) 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, and Coordinator (Ayurveda) Dr. Kaumadi Karunagoda. I would also like to express my sincere gratitude to Co-Organizer Dr. H P Karunawathi, the Commissioner, Department of Ayurveda- Southern Province, and

her 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.

Coordinator (Unani) – 10th iCAUST 2024

Dr. M.S.M. Nasmeeer

Senior Lecturer

Department of Ilmul Advia

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KEYNOTE SPEAKERS



Senior Professor H.D. Karunaratne
Vice Chancellor
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KEYNOTE SPEAKERS



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KEYNOTE SPEAKERS



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Ministry of Ayush
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One Health Approach for Health Tourism: Integrating Ayurveda for Societal and Economic Development

Introduction

The One Health approach recognizes the interconnectedness of human, animal, and environmental health. This holistic framework is particularly relevant for health tourism, an industry that seeks to promote wellness through travel. Integrating Ayurveda, a traditional Indian system of medicine, within the One Health approach can offer a unique and comprehensive pathway to health tourism that benefits society, community, and the economy.

One Health and Health Tourism

The One Health approach emphasizes the symbiotic relationship between human, animal, and environmental health. Health tourism, which includes medical tourism and wellness tourism, can greatly benefit from this integrative perspective. By promoting practices that ensure the well-being of all three domains, health tourism can achieve sustainable and ethical growth.

Ayurveda: A Natural Fit for One Health

Ayurveda, with its holistic approach to health and wellness, aligns perfectly with the One Health philosophy. It emphasizes balance and harmony within the body, mind, and environment. Ayurvedic treatments and practices, such as herbal medicine, yoga, and dietary guidelines, are designed to promote overall well-being and prevent diseases, making it an ideal component of health tourism.

Ayurveda and the One Health Approach

Ayurveda, with its emphasis on natural healing and holistic wellness, aligns perfectly with the principles of the One Health approach. Ayurveda focuses on balancing the body, mind, and spirit through natural means, which can lead to sustainable health outcomes for individuals and communities. Ayurveda aligns seamlessly with the One Health approach by integrating human, animal, and environmental health. It promotes personalized treatments using natural remedies and lifestyle changes for improved individual well-being. In veterinary care, Ayurveda applies herbal and natural treatments to enhance animal health, crucial for rural and agrarian communities. Furthermore, Ayurvedic practices support environmental health through sustainable use of local herbs and resources, reducing ecological impact and fostering biodiversity.

Benefits to Society, Community, and Economy

1. Healthier Society:

- **Personalized Care:** Ayurvedic treatments are tailored to the individual's constitution and specific health needs, ensuring that each person receives the most appropriate and effective care.
- **Preventive Healthcare:** Ayurveda focuses on preventive measures, reducing the burden of chronic diseases and promoting a healthier population.
- **Holistic Wellness:** The integration of mind, body, and spirit in Ayurvedic practices leads to comprehensive wellness, improving overall quality of life.

2. Empowered Communities:

- **Local Employment:** Health tourism based on Ayurveda can create job opportunities for local communities, from practitioners to support staff.
- **Cultural Preservation:** Promoting Ayurveda helps preserve traditional knowledge and cultural heritage, fostering a sense of pride and identity.
- **Natural and Sustainable:** Ayurveda uses natural remedies and practices that are environmentally friendly and sustainable. This aligns with the growing global emphasis on eco-conscious travel and healthcare

3. Economic Growth:

- **Sustainable Tourism:** Ayurveda-based health tourism attracts international tourists seeking holistic wellness, boosting the local economy.
- **Global Recognition:** Integrating Ayurveda within the One Health framework can position the region as a leader in sustainable and ethical health tourism.

Key Market Trends in Traditional and Wellness Tourism

The traditional and wellness tourism market is rapidly evolving, driven by increasing consumer awareness of health, well-being, and sustainable practices. Key trends include a growing demand for preventive health, with a focus on proactive health management and immune-boosting programs post-pandemic. The integration of technology, such as telemedicine, virtual wellness, and wearable devices, is making health services more accessible and personalized. Personalized wellness experiences are also on the rise, with customized treatments and holistic health plans combining traditional and modern practices. Sustainable and eco-friendly tourism is gaining traction, with eco-conscious consumers seeking organic, nature-based wellness experiences. Mental health and mindfulness are becoming central to wellness tourism, with a surge in mental wellness retreats and programs emphasizing meditation and yoga. Cultural and authentic experiences, including immersion in local traditions and traditional healing practices like Ayurveda and TCM, are increasingly popular. The market for luxury wellness is expanding, with high-end resorts and exclusive, private experiences in high demand. Adventure and wellness fusion, combining wellness with physical activities, is also trending. Additionally, corporate wellness programs, including workplace wellness retreats and remote work wellness integration, are becoming more prevalent.

Rapid Growth in Traditional and Wellness Tourism

The traditional and wellness tourism market is experiencing robust growth, driven by rising consumer interest in health, well-being, and sustainability. Valued at approximately USD 735.8 billion in 2020, the market is projected to reach USD 1.2 trillion by 2027, growing at a CAGR of 7.5%. Wellness travelers spend significantly more than typical tourists, with 2017 expenditures hitting \$639 billion. Key growth drivers include post-pandemic health awareness, telemedicine, and wearable health devices. Asia-Pacific leads regional growth, with Europe and North America also strong. Luxury wellness tourism is expanding at a 6.7% CAGR, and adventure wellness is gaining traction. The corporate wellness market is set to grow at a 6.8% CAGR, fueled by employer investments in health programs.

Key Motivations for Traditional and Wellness Tourism

Tourists are increasingly drawn to traditional and wellness tourism for a variety of reasons, including preventive health, stress reduction, and chronic illness management. They seek holistic and natural treatments such as Ayurveda and traditional Chinese medicine, aiming for detoxification and rejuvenation. Cultural and spiritual experiences, like yoga and meditation retreats, along with luxury spa treatments and exclusive retreats, also attract many. Adventure and fitness enthusiasts combine wellness with activities like hiking and fitness boot camps. Eco-friendly practices and nature-connected wellness experiences further motivate tourists. Understanding these diverse motivations helps tailor offerings to enhance the travel experience.

Case Studies and Examples

Kerala, India, stands as a global hub for Ayurvedic tourism, seamlessly integrating traditional wellness practices into its tourism industry, resulting in significant economic benefits and international recognition. Similarly, Sri Lanka, with its rich tradition of Ayurveda, attracts numerous health tourists seeking holistic treatments, thereby supporting local businesses and preserving traditional practices. Thailand has successfully incorporated traditional Thai medicine, including Ayurvedic principles, into its health tourism offerings, blending modern and traditional medicine to enhance its appeal as a wellness destination. Additionally, states like Himachal Pradesh and Uttarakhand in India have leveraged their rich biodiversity and traditional knowledge to promote health tourism. Countries such as Indonesia and Nepal are also making strides in integrating traditional medicine into their tourism sectors, thereby promoting sustainable livelihood and cultural preservation. Japan has incorporated *Kampo*, traditional Japanese medicine, into its wellness tourism, while China offers traditional Chinese medicine (TCM) treatments to attract health tourists. In the Middle East, the United Arab Emirates is emerging as a destination for wellness tourism by integrating traditional Islamic healing practices. Some wellness centers in Germany have incorporated Ayurvedic principles into their offerings, providing treatments that emphasize natural healing and balance. These centers attract health tourists looking for alternative and complementary medicine options in a setting that adheres to high standards of quality and care. WHO also

advocates for the sustainable use of traditional medicine in health tourism, ensuring safety, efficacy, and quality.

Conclusion

The One Health approach, combined with the wisdom of Ayurveda, offers a powerful framework for health tourism. This integration not only promotes a healthier society but also empowers communities and stimulates economic growth. By adopting this holistic approach, regions can transform their health tourism industry into a sustainable and thriving sector, benefiting individuals and society as a whole.

Professor (Vaidya) Rabinarayan Acharya
Director General Central Council for Research in Ayurvedic Sciences
Jamnagar
Gujarat
India

Untapped potential of *Panchakarma* in promotion of health tourism with special reference to Skin disorder

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.

Professor (Dr.) Chhaju Ram Yadav
Dean (Research) & Head of the Department
P.G. Department of Kriya Sharir
National Institute of Ayurveda,
Deemed University
Jaipur
Rajasthan
India

Marine resources as functional food

Functional foods are defined as modified foods that claim to improve health or well-being by providing benefit beyond that of the traditional nutrients. Marine functional foods are derived from aquatic animals, plants or algae that are caught or farmed in freshwater and marine environments. In the US, Europe, and Japan, marine foods are called “Blue foods”, which include in a “healthy diet”. Blue foods (seafood and other aquatic food) play a critical role in global food and nutrition security for billions of people and are a foundation of the livelihoods, economies, and cultures of many coastal and riverside communities. Marine foods are very diverse, are a healthy protein source, rich in essential micronutrients, minerals, and fatty acids. Their global consumption is rising, with per capital consumption estimated at 20.2 kg in 2020, accounting for 17% of animal protein consumption and reaching over 50% in several countries in Asia and Africa (FAO, 2022). In many countries, marine foods are more accessible and affordable than other animal-sourced proteins. Thus, their production is increasing and as a result, they are becoming one of the most traded commodities, supporting jobs, livelihoods, and income worldwide. Marine foods play a vital role in world food security and economic and social development, with a much lower environmental cost and increased benefits than other animal protein sources for human consumption. In most cases, marine food production systems generally have better environmental performance than other animal-sourced proteins. Sustainable production systems, such as low trophic-level fisheries of bivalve aquaculture, have environmental footprints comparable to that of chicken, one of the most efficient terrestrial animal-sourced proteins. Unfed aquaculture, such as seaweeds and filter-feeding shellfish, can improve water quality through nutrient uptakes.

To ensure marine foods continue to make a significant contribution to global food systems, governments need to incorporate them in their food-related decision-making. In 2020, the UN committee of World Food Security High Level Panel of Experts called for a transformation of the food system, moving “from a singular focus on increasing the global food supply through specialized production and export to making fundamental changes that diversify food systems, empower vulnerable and marginalized groups, and promote sustainability across all aspects of food supply chains, from production to consumption” Here, it is presented to understand how change in consumption trends of fishery and aquaculture products in Korea with high seafood consumption can help mitigate climate change and environmental impacts.

Professor Sun-Young Lim
Division of Convergence and Marine Science
Korea Maritime & Ocean University
Busan
Korea

Eco-friendly Health Tourism: A One Health Perspective with Ayurveda

In the pursuit of holistic wellness and environmental sustainability, eco-friendly health tourism has gained significant traction, particularly when integrated with the One Health approach and the ancient practices of Ayurveda. This presentation explores the intersection of these concepts, highlighting the principles of Ayurveda that emphasize balance and harmony with nature, and their alignment with the One Health framework, which underscores the interconnectedness of human, animal, and environmental health. Through case studies of Ayurvedic resorts in Kerala, India, such as Kairali and Somatheeram, the presentation illustrates successful implementation of eco-friendly practices, including the use of renewable energy, rainwater harvesting, organic farming, and waste management protocols. These practices not only reduce the environmental impact but also enhance the authenticity of the wellness experience, benefiting local communities and ecosystems.

The conservation of medicinal plants, crucial to Ayurveda, is another focal point, showcasing sustainable harvesting techniques and initiatives like the Tropical Botanic Garden and Research Institute (TBGRI), which promote biodiversity and involve local communities. The promotion of eco-friendly Ayurvedic tourism through certification programs like Green Globe and Earth Check, along with effective marketing strategies, can attract environmentally-conscious tourists and bolster the sector's growth. Despite challenges such as high costs and the need for ongoing education, solutions like community-based tourism models and public-private partnerships are proposed to balance tourism growth with conservation. Future directions include leveraging technological innovations and continued research to enhance sustainability. This holistic approach, combining Ayurveda with eco-friendly practices and the One Health perspective, offers a sustainable pathway to wellness, benefiting humans, animals, and the environment.

Professor P. K. Goswami
Dean, Faculty of Ayurveda
Institute of Medical Sciences
Banaras Hindu University
Varanasi
India

Evidence-Based Ayurvedic Interventions for Tourist Wellness

The exponential growth of the global health tourism industry is largely driven by shifting consumer preferences towards wellness travel and the demand for transformative experiences. Health-conscious travelers are increasingly seeking out destinations that offer holistic and authentic wellness solutions. Sri Lanka, with its centuries-old tradition of Ayurvedic medicine rooted in ancient Indian philosophy, stands out as a premier destination for Ayurvedic wellness experiences.

The integration of traditional and complementary therapies such as Ayurveda, supported by scientific validation, enhances the appeal of Sri Lanka's health tourism offerings. Ayurvedic retreats and spas in Sri Lanka provide a wide range of therapeutic treatments, including specialized massages, herbal medicine, detoxification programs, and holistic wellness programs tailored to individual needs. To effectively market and promote these offerings, health tourism providers in Sri Lanka should emphasize the scientific validation of Ayurvedic practices, highlighting their proven benefits for health and wellness. Authenticity and traditional expertise should be central to their messaging, promoting the holistic and transformative benefits of Ayurvedic interventions. Leveraging digital and social media platforms can expand their reach to a global audience.

Emphasizing sustainability and environmental stewardship, along with partnerships with travel agencies and tourism boards, can further enhance their appeal. By developing specialized Ayurvedic programs and offering personalized experiences, Sri Lanka can attract a diverse global audience, from those seeking relaxation and rejuvenation to those with specific health concerns. Integrating evidence-based Ayurvedic interventions not only enhances the health tourism experience but also aligns with the principles of sustainable and transformative travel.

Profssor (Dr.) Nisha Kumari Ojha
Head of the Department
Department of Kaumarbhritya
National Institute of Ayurveda
Jaipur
Rajasthan
India

Ayurveda and Traditional Medical Research and Development in the World: Can we learn lessons for the sustainable development of the Health System in Sri Lanka

The clinical use, education, research and acceptance of Traditional medicine have significantly developed globally over the last two millenniums. Several milestones have passed since the first acceptance of the necessity to utilize the Traditional medicine systems in the member states for achieving better health for all by the WHO in 1977 and establishment of the Traditional Medicine Program in 1982. The political, policy, regulation and wider acceptance of Traditional Medicine can be further accelerated only upon developing evidence-based practice. Ayurveda and Traditional medical research have to use mixtures of herbs as medications and the research to demonstrate the efficacy or the mechanism of action of such medicines have been a difficult task facing many challenges with the one-disease-one target- one drug dogma. The scientists argued that it is impossible to evaluate the efficacy or demonstrate the mechanisms of action of an herbal mixture where there are hundreds of active chemicals in it. The fundamental and conceptual breakthrough to redefine diseases is to move from symptom and organ to mechanism and cause, as conceptually shown in the network of all human diseases, the 'diseasome' has given the ability to break this barrier and take the herbal medical research to the next level. The para-pharmacological therapeutic modalities such as ritualistic dancing and chanting of mantra used in Traditional medical practice once considered as unscientific now have become scientifically demonstratable with the developments of the sub-speciality of medicine known as psycho-neuro-endocrinoimmuno- medicine. Global status of Ayurveda and Traditional Medicine and opportunities for better integration of the Traditional medical services to the National Health policies in Sri Lanka will be primarily discussed in this presentation. How the improved use of Traditional medicine can be used to relieve the burden on the healthcare system and moreover how it could support in the economic growth of the country will also be discussed.

-THINK GLOBALLY, ACT LOCALLY -

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Field to Prescription – Evidence Based Traditional Medicine Research!

Globally, Ayurveda has been gaining growing attention and great acceptance in the past few years and the main reason for this is because the Ayurveda interventions are not only prescribed by Ayurveda doctors but also prescribed widely by physicians of other systems of medicines. Also, easy accessibility, diversity, flexibility, relatively low cost, relatively low side effects, and growing economic importance have further contributed to its popularity. However, unfortunately, such rising demand for natural products led to the introduction of non-standard, untested, unsafe, and non-efficacious products into the market leading to severe criticism of Ayurveda at a global level. Further, inconsistency of product quality can lead to unreliable therapeutic outcomes, making it challenging for physicians to prescribe and manage patients effectively. Factors like the non-availability of standardized herbal raw materials, lack of adequate standardization-led market development, and poor-quality control initiatives further contributed to the failure of the products in the market.

To overcome this issue, product manufacturers need to adopt, follow, and analyze the rigorous quality parameters to meet the stringent global regulatory standards by employing interdisciplinary drug development. In other words, adopting the appropriate measures including Ayurveda wisdom & contemporary product development, herbal raw materials authentication process through DNA fingerprinting, formulation development, science & state of the art manufacturing robust preclinical testing, safety assessment, and controlled clinical trials results in developing best quality safe and efficacious globally compliant AYUSH products.

With the above background, this lecture will help the participants get educated on appropriate current and future cutting-edge technologies used to solve the bottlenecks encountered in manufacturing Authentic, Pure, Safe, Efficacious, Affordable, and Globally Compliant Ayurvedic Products.

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Cultural and Ethical Dimensions of Ayurveda in Health Tourism

The integration of Ayurveda, an ancient Indian system of medicine, into health tourism offers a unique blend of holistic wellness and cultural richness. However, this integration necessitates a careful consideration of the cultural and ethical dimensions that underpin Ayurvedic practices. This article explores these dimensions, emphasizing the importance of maintaining the authenticity and integrity of Ayurveda while promoting its benefits to a global audience. The cultural significance of Ayurveda is deeply rooted in Indian traditions, and its practices must be respected and preserved to avoid issues of cultural appropriation and commodification. Ethical principles such as informed consent, patient autonomy, and safety and efficacy of treatments are paramount. Additionally, environmental ethics play a crucial role, advocating for sustainable practices and conservation of medicinal plants. Community involvement and cultural sensitivity are essential to ensure that health tourism initiatives benefit local populations and respect the diverse backgrounds of tourists. Balancing commercial interests with ethical considerations is a challenge, but it is vital for the sustainable growth of Ayurvedic health tourism. Government regulations and organizational guidelines are necessary to uphold ethical standards. Future directions include leveraging technological innovations and promoting global understanding and respect for Ayurveda. By addressing these cultural and ethical dimensions, Ayurveda can provide a holistic and enriching wellness experience that aligns with both traditional values and modern demands.

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Scope of *Marma Chikitsa* in Health Tourism

Ayurveda is a living science that believes in treating the mind, body, and spirit to achieve total health, and this ancient wisdom is mirrored in the unique idea and composition of *Marma* as well. The *Prana* (vital energy) present in *Marmas* may be directed to eliminate blockages (even in distant locations) and promote energy flow, resulting in a state of healthy body, mind, and spirit, through various ways of *Marma* stimulation. *Marma* therapy contributes to increasing or recharging physical, mental and spiritual energies. On the physical level it helps to revitalize or re-energize the body tissues; at cellular level, it improves the vital functions like digestion, respiration, blood circulation and excretion. On the psychological level it improves the mental faculty by directing it in the positive direction.

Marma chikitsa, a significant aspect of Ayurveda, focuses on stimulating the body's *Marma* points—vital energy points. This ancient therapy aims to balance the body's energy flow, enhance healing, and promote overall wellness.

Rising Popularity of Health Tourism

Health tourism is a rapidly growing sector, driven by individuals seeking alternative treatments, wellness programs, and cost-effective healthcare solutions. *Marma chikitsa*, with its holistic approach, aligns well with the objectives of health tourists.

Benefits of *Marma chikitsa* in Health Tourism

1. **Holistic Healing:** Addresses physical, mental, and emotional well-being, offering a comprehensive healing experience.
2. **Natural and Non-Invasive:** Utilizes natural methods without the need for invasive procedures or medications.
3. **Complementary Therapy:** Can be integrated with other wellness practices, enhancing the overall treatment efficacy.
4. **Stress Relief:** Effective in reducing stress, anxiety, and improving mental clarity, which is highly appealing to wellness seekers.
5. **Self-*Marma* Therapy:** It involves the self-application of pressure and massage to specific marma points on the body. These points, which are intersections of vital energy pathways, can be stimulated to promote physical, mental, and emotional well-being.

Benefits of Self *Marma* Therapy

1. **Enhanced Circulation:** Improves blood flow and energy circulation.
2. **Stress Relief:** Reduces stress and anxiety, promoting relaxation.
3. **Pain Management:** Alleviates headaches, muscle tension, and chronic pain.
4. **Improved Sleep:** Promotes better sleep quality.
5. **Boosted Immunity:** Strengthens the immune system.

Stimulation Techniques:

Gentle Pressure: Use your fingertips to apply gentle pressure to each marma point.

Circular Motion: Massage the point in small circular motions for 1-2 minutes.

Breathing: Synchronize your pressure application with deep breathing to enhance relaxation.

6. Synergistic Benefit of *Panchkarma* massage and *Marma* Therapy:

It can provide enhanced detoxification: *Panchkarma* cleanses the toxins of body and *Marma* Therapy can enhance the body's natural detoxification pathways by stimulating the energy points.

Improves circulation and energy flow.

Deep relaxation and Stress Relief.

Potential Health Tourism Market

1. Wellness Retreats: Integrating *Marma chikitsa* into wellness retreats can attract tourists seeking relaxation and rejuvenation.

2. Ayurvedic Centers: Establishing specialized centers offering *Marma chikitsa* alongside other Ayurvedic treatments.

3. Corporate Wellness Programs: Providing packages for corporate employees to reduce stress and improve productivity.

4. Medical Tourism: Collaborating with hospitals and clinics to offer *Marma chikitsa* as a complementary treatment for chronic conditions and post-surgical recovery.

Implementation Strategies

1. Training Practitioners: Ensuring practitioners are well-trained and certified in *Marma chikitsa*.

2. Quality Standards: Maintaining high standards of hygiene and patient care to build trust among health tourists.

3. Marketing and Promotion: Highlighting the unique benefits of *Marma chikitsa* through digital marketing, wellness blogs, and social media.

4. Partnerships: Collaborating with travel agencies, hotels, and wellness centers to create comprehensive health tourism packages.

Marma chikitsa holds significant potential in the health tourism sector, offering a unique blend of traditional wisdom and modern wellness practices. By effectively integrating this therapy into health tourism programs, it is possible to attract a global clientele seeking holistic and natural healing solutions.

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Initiatives of CCRUM with respect to integration of Unani Medicine with the mainstream healthcare

World Health Organization's Traditional Medicine Strategy for 2014-2023 lays emphasis on achieving the goal of Universal Health Coverage by integrating Traditional & Complementary Medicine services into health care service delivery and self-health care. "Beijing Declaration" adopted on the occasion of first WHO Congress on Traditional medicine in 2008 also stressed on promoting the safe and effective use of traditional medicine. This declaration calls on Member States and other stakeholders to take steps to integrate traditional medicine (TM) / complementary and alternative medicine (CAM) into national healthcare systems.

National health policy, 2017 talks about pluralism and states "Patients who so choose and when appropriate, would have access to AYUSH care providers based on documented and validated local, home and community-based practices. These systems, inter alia, would also have Government support in research and supervision to develop and enrich their contribution to meeting the national health goals and objectives through integrative practices".

For the overall development of Unani Medicine along with other Ayush systems, the Government of India has been providing increasing funds and support. As a result, Unani medicine today forms an integral part of national healthcare delivery system.

Central Council for Research in Unani medicine, an autonomous organisation in Ministry of Ayush, is engaged in research & development of Unani medicine. Through its 23 peripheral institutes many initiatives have been taken to systemically nurture and integrate Unani medicine in India's healthcare delivery system.

In this keynote address, these initiatives to integrate Unani medicine in mainstream healthcare, highlighting the recent advancements in education, research and public health will be highlighted.

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Abstracts

EFFECTS OF THE LUNAR CYCLE ON PLANTS' BIODYNAMICS AND ACTIVE COMPONENTS

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This review paper explores the intricate relationship between lunar cycles and plant biodynamics, investigating the effects of lunar phases on various aspects of plant growth. Delving into the influence on root development, leaf expansion, and flowering patterns, the paper highlights specific plants exhibiting distinctive responses. A significant focus is placed on the correlation between lunar cycles and the synthesis of secondary metabolites, particularly in medicinal plants. The paper examines hypothesized mechanisms including gravitational forces and hormonal activity, providing insights into the underlying processes. Practical implications for optimizing agricultural practices, enhancing environmental resilience, and benefiting medicinal plant production based on lunar influences are discussed. While recognizing current knowledge gaps, the paper underscores the importance of ongoing research in this captivating intersection of lunar cycles and plant biology. It concludes by summarizing key findings, emphasizing the need for further exploration, and offering a comprehensive overview of the current state of understanding in this field.

Keywords: lunar cycles, plant biodynamics, active components, agricultural practices, medicinal plants

MANAGEMENT OF CHRONIC INSOMNIA WITH PERSONALIZED AYURVEDA TREATMENTS: A CASE REPORT

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Chronic insomnia is an abiding and debilitating sleep condition that can greatly impact an individual’s quality of life. Conventional therapies, such as prescribed medications, often have limitations when it comes to prolonged effectiveness and possible adverse effects. This study explores the efficacy of personalized Ayurveda treatments in a 48-year-old male with a 9-year history of sleep disturbances. The patient reported difficulty falling asleep, frequent nocturnal awakenings, non-restorative sleep, and significant daytime impairments, including fatigue, lethargy, and concentration difficulties. A comprehensive Ayurvedic assessment was made, including the patient’s sleep patterns, dietary habits, lifestyle, stress levels, and Ayurvedic constitution. Based on these, a four-week treatment plan was made. Internal medication consists primarily of *Ashwagandha* (*Withania Somnifera*), alongside Ayurveda oil treatments such as *Shiro Abhyanga*, *Nasya karma* and *Shirodhara*. The Pittsburgh Sleep Quality Index (PSQI) was employed to evaluate sleep quality, while the Epworth Sleepiness Scale (ESS) was utilized to assess daytime alertness. Subjective reports indicated improvement in sleep quality, including easier sleep onset, fewer awakenings, and increased restfulness upon waking. The patient also noted reductions in daytime fatigue and lethargy, improved concentration, and positive mood. This case highlights the potential of personalized Ayurveda interventions for chronic insomnia, emphasizing a holistic approach tailored to the individual’s unique presentation. The absence of quantitative data underscores the limitations of anecdotal evidence and emphasizes the need for rigorous research with robust study designs, larger sample sizes, standardized outcome measures, and long-term follow-up to validate these findings and establish the efficacy of Ayurveda management of chronic insomnia.

Keywords: chronic insomnia, personalized Ayurveda treatments, *Ashwagandha*, *Shirodhara*, *Nasya karma*

A CLINICAL STUDY OF THE EFFECT OF NEELYADI OIL AND BOMI KOLA MELLUMA IN THE MANAGEMENT OF SPRAIN (ULUKKU)

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Kedum bindum cikitsa (Orthopedic treatments) has a special place among our traditional medicine that is peculiar to Sri Lanka. The present study was aimed to assess the effect of *Neelyadi* oil and *Bomi kola melluma* in the treatment of Sprain (*Ulukku*), mainly used by the Arangala Tradition. This study was carried out as literature study and randomized clinical study. *Ulukku* is a disease condition considered under *Kedum bindum chikitsa*. It is great resembled with sprain in modern medicine. Prior to the clinical study, ethical clearance and administrative clearance were obtained. Fifteen patients diagnosed as *Ulukku* were chosen from Out Patients Department of Rural Ayurveda Hospital, Siripura. They were treated with *Neelyadi* oil and *Bomi kola melluma* for two weeks. Data were collected by using interviewer administrated Clinical Performa and analyzed by using SPSS software. The clinical study revealed that most of the patients were female (60%). Majority of the patients from the age group of 18- 30 years (33%). 66.67% patients were married. All of the patients were presented with sudden onset (100%). Ankle joint was the most affected (60%) All the patients had pain, tenderness, edema and restricted joint movements (100%). According to the analysis of data *Neelyadi* oil and *Bomi kola melluma* significantly (P values 0.01- 0.001) reduced all clinical features of *Ulukku* (Sprain). All the patients got various percentage of relief with 53.33% completely cured. 33.33% of patients have excellent improvement and 13.33% have good improvement.

Keywords: *Neelyadi* oil, *Bomi kola melluma*, *Ulukku*

**STUDY ON *SURYA GHANA* AND *CHANDRA GHANA DRAVYA* USED IN
TRADITIONAL ORTHOPEDIC TREATMENTS**

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The study explores the use of *Surya ghana* and *Chandra ghana dravya* in traditional orthopedic therapies, emphasizing their phytochemical compositions and Ayurvedic pharmacological properties. Data were collected from Ayurvedic textbooks, traditional books, previous research, and interviews with registered traditional orthopedic physicians in Sri Lanka. Ten traditional physicians were selected using purposive sampling for the survey. To understand the therapeutic potential of these plants, their phytochemical constituents and pharmacodynamic properties were analyzed. Phytochemical analyses were conducted on ten selected plants to identify primary and secondary metabolites such as alkaloids, flavonoids, tannins, saponins, carbohydrates, and proteins, which impart biological activities used in orthopedic treatments. The findings reveal that *Surya ghana*, characterized by its fiery qualities, is utilized for fracture fixation, bone solidification, and expedited recovery, while *Chandra ghana*, with its soft and smooth attributes, addresses loose bone fractures, edema, dislocations, sprains, and malunion. Phytochemical analysis unveiled compounds such as flavonoids, tannins, alkaloids, and saponins, which contribute to bone health by regulating osteoblast and osteoclast activities, and exhibit antioxidant, anti-inflammatory, and antimicrobial properties. These findings validate the traditional uses of these plants and provide a scientific basis for their efficacy in orthopedic care. The study suggests future research, publication in recognized journals, and dissemination of knowledge among orthopedic physicians and students to integrate traditional practices with modern medicine. This study underscores the invaluable role of medicinal plants in traditional orthopedic treatments and advocates for their continued exploration and utilization in healthcare.

Keywords: *Surya ghana*, *Chandra ghana*, phytochemicals, traditional orthopedic treatment

A COMPREHENSIVE ASSESSMENT OF PHYTOCHEMICAL, ANTIOXIDANT, AND ANTI-INFLAMMATORY PROPERTIES OF *Moringa oleifera* LEAVES USING SEVEN EXTRACTION METHODS

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Most people use Moringa as a medicinal herb. Numerous studies have been conducted on the plant's rich nutritional and medicinal qualities, with a focus on the leaves. By employing seven distinct extraction techniques, this study aimed to assess the phytochemical, antioxidant, and anti-inflammatory properties of mature *Moringa oleifera* leaves. Air-dried, ground, and sieved Moringa leaves were subjected to hot water extractions (HWE) at 100°C for 3h and 1.5h, at 60°C for 1.5h, maceration using water (72 hours) and ethanol (72 hours), autoclaving at 115°C, and as raw and dried powder. Total Phenolic Content (TPC), Total Flavonoid Content (TFC), antioxidant assays (DPPH and ABTS), and anti-inflammatory assays (Human Red Blood Cell (HRBC) membrane stabilization and protein denaturation) were conducted for all samples. Among the samples, the ethanol maceration method yielded the highest TPC (0.187±0.10mg GAE/g) and TFC (0.339±0.10mg QE/g). The ethanol extract also exhibited the highest radical scavenging activity for DPPH (65.46±1.17%), whereas the autoclaved sample showed the highest ABTS radical scavenging activity (54.65±1.20% at 1mg/ml). The positive control, ascorbic acid, demonstrated 82.76±0.44% for DPPH and 81.84±0.43% for ABTS assays at 1mg/ml. In the HRBC membrane stabilization assay, the ethanol extract showed the highest anti-inflammatory inhibition (66.66±0.32%), while the positive control, ibuprofen, exhibited 83.52±0.56% inhibition at 1mg/ml. None of the samples achieved >50% inhibition in the protein denaturation assay, while ibuprofen showed 83.20±0.10% at 1mg/ml. The results indicate that the ethanol extract of *Moringa oleifera* leaves is the most potent, providing the best overall phytochemical, antioxidant, and anti-inflammatory properties among the tested extraction methods.

Keywords: moringa, phytochemicals, antioxidant activity, anti-inflammatory activity

**ROLE OF AYURVEDA IN THE TREATMENT OF METABOLIC SYNDROME: A
REVIEW OF CLINICAL TRIALS AND CASE REPORTS**

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Metabolic syndrome is an emerging health consequence on the current globe with a high prevalence rate. There is a risk of morbidity and mortality as the health consequences of metabolic syndrome with cerebrovascular diseases and type 2 diabetes mellitus. The objectives of this systematic review are to identify the currently available evidence-based studies on metabolic syndrome based on clinical trials and case reports in Ayurvedic medicine and to understand the pathophysiology of metabolic syndrome on an Ayurvedic basis. Research articles published in databases including ScienceDirect, PubMed, the Directory of Open Access Journals, Google Scholar, and the Ayush research portal are scrutinized by using keywords such as “metabolic syndrome”, Ayurveda, “case study”, “case series”, “case report” and “clinical trial” between 2013 and 2023. Relevance of publications based on the diagnostic tool of metabolic syndrome is considered only if those based on the inclusion criteria according to the NCEP-ATP III criterion or the International Diabetes Federation criterion. Out of 88 collected articles, 77 were excluded due to non-relevance and duplications. All the finalized publications have considered “metabolic syndrome” as a disorder of ‘*Medo dhatu*’ (fat tissue) in Ayurveda. Utilization of medicinal preparations, *Panchakarma*, Yoga therapy and *Pathya* (Dietetics and behavioral modifications) were established to produce prognostic outcomes followed by treatment protocols. Biochemical parameters, including changes in lipid profile, fasting blood sugar, and HbA1C, were used to assess the treatment outcomes, and those can be utilized to justify the action of *Medo dhatvagni* in metabolic syndrome. Study reveals the need of further evidence-based studies with standard treatment protocols with multidisciplinary approach to manage metabolic syndrome in Ayurveda basis.

Keywords: Ayurveda, metabolic syndrome, review, treatment

THE SAFETY AND EFFICACY OF *Bacopa monnieri* (L) WETTST. IN OLDER ADULTS WITH SUBJECTIVE COGNITIVE IMPAIRMENT: A SYSTEMATIC REVIEW

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This systematic review aims to evaluate the safety and efficacy of *Bacopa monnieri* in older adults with subjective cognitive impairment. A comprehensive search was conducted across major databases (PubMed, Google Scholar, Semantic Scholar, Library Databases: Research for Life and World Health Organization institutional repository) for randomized controlled trials and observational studies investigating *Bacopa monnieri* in older adults (aged 60 years and above) with subjective cognitive impairment or related conditions. Studies assessing cognitive function, safety parameters were included. Exclusion criteria for this review include reviews, case studies, editorials, conference proceedings, preclinical studies, trial protocols, book chapters, abstracts only, and peer-reviewed articles in which the study population had a diagnosis of mild cognitive impairment or dementia. Data extraction and quality assessment were performed following PRISMA guidelines. Out of a total of 628 articles screened, a total of 10 randomized controlled trials studies met the inclusion criteria. *Bacopa monnieri* supplementation demonstrated promising effects on cognitive function, particularly improvements in memory, attention, and executive function in older adults with subjective cognitive impairment. Safety analysis indicated *Bacopa monnieri* to be generally well-tolerated, with mild gastrointestinal discomfort reported as the most common adverse effect. Long-term studies assessing its effects on anti-aging markers such as oxidative stress, inflammation, and cellular aging markers are limited but suggest potential benefits. *Bacopa monnieri* shows potential as a safe and effective cognitive enhancer in older adults with subjective cognitive impairment. Preliminary evidence supports its use for improving cognitive function, with favorable safety outcomes. Future research should focus on larger, well-designed trials to confirm these findings.

Keywords: *Bacopa monnieri*, cognitive function, subjective cognitive impairment, safety and efficacy, systematic review

INTERVENTION OF PASAKURU PATTUWA ON REUNION OF FRACTURES: A CLINICAL STUDY

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Sri Lanka encompasses of a well-established traditional orthopedic treatment system which is popular among laypersons as an effective treatment modality. Sirimalwatta Parampara is an eminent native practitioner who is practiced since many generations. *Pasakuru pattuwa* is a one of a paste that using this generation for fracture reunion and it include barks of *Terminalia arjuna* (Roxb. ex-DC.) Wight & Arn, *Ficus recemosa* L., *Opuntia ficus-indica*, *Ficus religiosa* L., *Bignonia chelonoides* L. f. and ghee. This clinical study was conducted to evaluate the efficacy of *Pasakuru pattuwa* (paste) on reunion of fractures with using four subjective parameters of pain, tenderness, edema and range of movements and also X- ray imagine. For this study sixteen patients were purposely selected within the age group of 18-75 years who were having bone fractures (radius, calcaneus, clavicle, humorous shaft, tibial and medial malleolus fractures) and diagnosed in the first stage of the fracture, regardless of sex, occupation, religion and the fracture site from the Kadumbidum clinic at Rural Ayurveda Hospital, Siripura, Sri Lanka and Ethical clearance is obtained from Ethics Review Committee, Faculty of Indigenous Medicine, University of Colombo (ERC 23/214). The patients were assessed using standard proforma before treatment and every other week for one month. Results were analysed using SPSS package and the results revealed that pain, edema, and range of movements were significantly reduced with P values of 0.001, 0.014, and 0.055 respectively. But the *Pasakuru pattuwa* is not significant towards the tenderness. The callus formation also clearly showed the X ray after treatment compare the before treatment. Hence, it can be concluded that the *Pasakuru pattuwa* is manage in fracture reunion process reducing signs and symptoms and with notified callus formation. Further clinical studies with this paste is recommend to find out the effectiveness of this *Pasakuru pattuwa*.

Keywords: *Pasakuru pattuwa*, calles formation, fracture, traditional medicine, reunion

SADAB (Ruta graveolans) AS A BADAL (POTENTIAL SUBSTITUTE) FOR ABHAL (Juniperus communis): A REVIEW

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There are millions of plant species all over the world. Among them there are several plants with high therapeutic values. But those are not commonly available at present. Nowadays, majority of the people are using herbal medicines due to its greater efficacy and lower side effects. In the past, Unani Hakeems used several plants and received positive results. *Abhal* is such a plant which has certain specific pharmacological actions. However, the herbs like *Abhal* mentioned in Unani classical text is an exotic plant that is not available in Sri Lanka. Thus, this is a great obstacle for the development of Unani System specially in the formulation of compound drugs. So, there is a need to popularize the use of substitute of *Abhal*. Unani classical texts mention *Sadab* as a substitute for *Abhal*. Hence, the aim of this study was comparison of the botanical description, morphological characters, chemical constituents, actions and uses of both plants on the basis of scientific validation and selection of *Sadab* as a potential substitute for *Abhal* through Unani concept and literary research for effective usage in Unani formulation. The Unani classical texts along with peer reviewed journal articles published between 2013 to 2023 on pharmacological actions and phytochemicals of *Juniperus communis* and *Ruta graveolans* were filtered by search engines PubMed, Mendeley and Science-direct and reviewed for the study. The study revealed similarity in pharmacological actions, temperament and uses with significant differences in morphological features of both plants. Since, *Sadab* possess similarities in its pharmacological action, origin and temperament with *Abhal*, it can be concluded as *Badal-e-Aqrab* (Closest substitute) for *Abhal*.

Keywords: *Abhal, Badal, Juniperus communis, Ruta graveolans, Sadab*

MANAGEMENT OF *DANTA SHARKARA* (SUPRAGINGIVAL AND SUBGINGIVAL CALCULUS): A CASE STUDY

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Danta sharkara (Dental Calculus) is one among the *Danta roga* characterized by yellowish or brownish layer of mineral deposits on the teeth surface created by hardened dental plaque that may cause inflammation pathologies of the gingival tissue. For *Danta sharkara* the modern approach of treatment is Scaling and Root planing, but it has certain drawbacks. Therefore, present case study was aimed to evaluate the efficacy of local therapeutic procedure mentioned in Susrutha Samhitha, which is a *Pratisarana* composed of *Laksha churna* with *Madhu* (honey) after *Danta sharkara nirharana* (manual scaling) with a shastra mentioned in Ayurveda (where the procedure is not standardized), in the management of dental calculus. For the study, 25 years old female patient with grade 2 supragingival and subgingival calculus in labial and lingual surfaces of mandibular teeth with no teeth mobility and systemic complications was selected and treated by 1g of *Laksha churna pratisarana* (rubbing lac) with *Madhu* (honey) as per requirement, followed by twice manual scaling for a period of 21 days. Manual scaling was done on the 1st and 8th day of treatment period and 2 weeks of follow up was done. According to the Marginal Line Calculus Index (MLC-I), no calculus observed (grade 0) in oral examination after 21 days of treatment period and no calculus reappearance and gum changes observed after two weeks of follow up. Hence, *Laksha churna pratisarana* with *Madhu* followed by manual scaling is more effective in the management of grade 2 supragingival and subgingival calculus. Furthermore, the efficacy of the treatment protocol can be tested as a case series or clinical study.

Keywords: *Danta sharkara*, *Laksha churna*, manual scaling, Marginal Line Calculus Index

**STUDY THE EFFECT OF SRI LANKAN ORTHOPAEDIC TRADITIONAL
TREATMENT ON FRACTURE HEALING: A COMPARATIVE OBSERVATIONAL
CASE STUDY**

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Fractures are one of the most common orthopaedic problems in worldwide. The detailed description of fractures management was mentioned in Ayurveda and Sri Lankan traditional medicine. The objective of this study was to compare the effect of two Sri Lankan orthopaedic traditional treatment procedures on fracture healing. Two distal end radius fracture patients were observed for 8 weeks treated under the *Matara vehelle weda parampara* (Patient 01) and *Imbulmalgama weda parampara* (Patient 02). Patient 01 was treated by external medicines and patients 02 was treated by external and internal medicines. Effect of treatment on pain was analyzed by Numeric Rating Scale and other subjective parameters were analyzed by using self-prepared grading system extend from 00 to 05. The reduction of the grades; for pain - from 10 to 00 and 10 to 01; Difficulty in wrist joint movements - from 04 to 01 and 04 to 02; Difficulty in finger movements from 03 to 01 and 03 to 02; Wrist joint swelling - from 05 to 01 and 04 to 01 in patient 01 and 02 consecutively. Tenderness was reduced from grade 03 to 01 in both patients. Patient 02 showed rapid reduction of symptoms may be due to use of additional internal medicines. The changes of the X- rays showed the improvement of fracture healing in both patients. The analysis of the properties of the used drugs; they were dominant in *Vatashamana*, *Shothahara* and *Shulahara* properties. By concluding the treatment procedures used by these two traditional systems showed positive effect on fracture healing.

Keywords: fractures, traditional treatment, *Bhagna*, Ayurveda

EVALUATION OF THE EFFICACY OF THE TREATMENT REGIMEN PRACTICED IN THE ARANGALA TRADITIONAL MEDICAL SYSTEM IN THE MANAGEMENT OF AVABAHUKA (FROZEN SHOULDER): A CASE STUDY

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“*Avabahuka*,” a term in Ayurveda, refers to a frozen shoulder condition characterized by persistent discomfort and restricted motion, with a prevalence of 6-17% in diabetic patients and 2-5% in the general community. This study aimed to assess the efficacy of the treatment regimen practiced in the Arangala Traditional Medical system, for *Avabahuka*. A 50-year-old female patient presented with discomfort, stiffness, and restricted movement in her left shoulder joint over a year. No abnormalities were found during the systemic examination, but local soreness was noted in the left shoulder joint. Responses to the treatments are evaluated using a previously published grading scale for clinical features including mobility limitation, discomfort, stiffness, crepitus sounds, and muscle atrophy. Along with exercise, she was recommended to undergo internal and external therapy. She was advised to local *Abhyanga* (massage) of oils, along with *Paththu* (medicinal paste)/ *Mallum* (special medicinal preparation made with fresh leaves)/ *Peni paththu* (Medicinal paste made with treacle), *Thewillla* (the sudation performed by a specially prepared bundle of herbal ingredients) according to the week of treatment regimen and *Vata shamaka* (Pacify *Vata dosha*) internal medicines was given to the patient. Changes in the symptoms were observed after 2 months. The treatment has effectively resolved movement restrictions, stiffness, and crepitus sounds, each showing 100% improvement. Pain has significantly reduced by 66.67%, indicating a substantial positive effect, though not entirely resolved. Muscle wasting was not changed, as this symptom was not present initially. The study found that the treatment regimen of the Arangala traditional medical system for *Avabahuka* led to significant symptomatic alleviation.

Keywords: *Arangala veda paramparawa, Avabahuka, frozen shoulder*

**AYURVEDA MANAGEMENT OF *GRIDHRASI* WITH SPECIAL REFERENCE TO
SCIATICA: A CASE STUDY**

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Sciatica is a severe type of pain that radiates from lower back to leg. Sciatica is a condition similar to *Gridhrasi* described under *Vata vyadhi* in Ayurveda Medicine. Mainly *Gridhrasi* is caused by vitiation of *Vata dosha* but sometimes *Kapha* vitiation also involve to the manifestation of the disease. This study was conducted to find out the effectiveness of Ayurveda treatment plan for *Gridhrasi* with special reference to Sciatica. The major symptoms were *Ruk* (Pain), *Toda* (Prickling sensation) and *Stambha* (Stiffness) in the *Sphika* (Gluteal region), *Kati* (Waist), *Prushta* (Low back), *Uru* (Thigh), *Janu* (Knee), *Jangha* (Calf) and *Pada* (Foot). A 47 years old female patient with severe lower back pain with severe pain and numbness over the left lower limb was enrolled in the study. Before the commencement of the treatment, consent was taken and then clinical signs and symptoms were recorded before, during and after the treatment. The patient was treated with internal (*Erandasaphthaka kashaya*, *Nirgundilashunanshigru kashaya*, *Danthimuladhi kashaya*, *Yogaraja guggulu*, *Triodhashanga guggulu*, *Nawarathna kalka*, *Vataroga kalka*, *Vata vidvansha rasa* and *Manibadhra choorna*) and external (*Abyanga*, *Svedana*, *Kati pichu*, *Kati pattu*, *Kati vasti* and *Anuvasana vasti*) were given for 45 days. Reduction of the symptoms were assessed during the treatment period using the Oswestry Disability Index (ODI). It was observed that excellent improvement in Oswestry Disability Index score from 90% to 20% and that is minimal disability with proper function of daily activities of the patient. So, it can be concluded that the Ayurveda treatment plan has managed the disease successfully. It could be recommended; the clinical trial should be planned in the future with a larger sample size to generalize the findings.

Keywords: *Gridhrasi*, sciatica, Ayurveda treatment plan, Oswestry Disability Index

SCIENTIFIC EVALUATION OF *MUFRAE ADVIA* USED FOR THE TREATMENT OF *BUSOOR E LABANIYYA* (ACNE VULGARIS) BY AVICENNA: A REVIEW

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Busoor e Labaniyya is a chronic inflammatory skin disorder of pilosebaceous unit that affect areas containing the largest oil glands, including the face, back and trunk. It is not only causing symptomatic discomfort, but it affects both emotionally and psychosocially that may often lead to depression and other concerns that may have serious impact on livelihood. This comprehensive analysis focuses on *Mufrat e Advia* mentioned by Avicenna in his book 2nd volume of *Al Qanoon fil Tibb* for management of *Busoor e Labaniyya* and its scientific validation. Literature survey was performed by electronic databases including PubMed and Google Scholar to find any in vitro, in vivo, or clinical evidence for their efficacy and possible mechanisms by under taking into the herbs names and terms like herbs for acne vulgaris, anti-inflammatory, antioxidant, and anti-microbial action. Out of 785 simple substances, 07 herbs were mentioned for the treatment of *Busoor e Labaniyya*, each with different therapeutic applications. However, only few of these herbs, as mentioned in *Qanoon fil Tibb*, have been scientifically validated. The results of this review suggest the need for further investigation into novel herbal drugs for managing *Busoor e Labaniyya*. Many substances have not yet been validated by modern technology, indicating potential for future research and discovery of new treatments for *Busoor e Labaniyya*.

Keywords: acne vulgaris, *Busoor e Labaniyya*, *Mufradat Advia*, anti-inflammatory, anti-oxidant

**SELECTED SINGLE DRUGS IN UNANI MEDICINE THAT EFFECTIVE IN
FAQUR UD DAM (ANAEMIA)**

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Anaemia is a global health problem and considered as a moderate public health problem among children and women populations in Sri Lanka. Unani system of medicine has a treasure of single drugs in the treatment of diseases. This study aims to systematically review selected single drugs that are used for the prevention and management of anaemia, in Unani medicine. The authentic books in Unani medicine and USDA website were used to collect nutritional and medicinal properties of selected drugs. Scientific research evidences, were searched through the online electronic databases PubMed and Google scholar. A total of 410 papers filtered and review summarized with 95 abstracts and full papers. Finding reveals herbal medicines got attention in management of aneemia due to their variable role in management of anaemia. The selected six drugs (*Anar, Ananas, Tamr, Gudhal, Gul e Surk* and *Palak*) were indicated for aneemia in Unani medicine and frequently consumed medicinal plants (food cum medicines) in Sri Lanka. The selected herbs are containing nutrients that need for haemopoiesis such as Fe, Zn and vitamins. Research papers revealed that selected drugs were scientifically tested its action for relieving aneemia in laboratory analysis and animal trials. Human trials were conducted in *Anar, Tamr, Gudhal* and *Palak*. The summarized information validates the uses of the selected plants as food and medicine in prevention and management of anaemia. Further this will definitely useful for the scientific community to go for clinical research to pave the way for finding a new drug for aneemia.

Keywords: aneemia, *Fiqr ud dam*, food cum medicine, iron deficiency, Unani single drugs

**RECENT APPLICATIONS IN PHARMACOLOGICAL STUDIES OF ZULAL-E-ZIABETUS IN THE PREVENTION OF METABOLIC SYNDROME:
A SCIENTIFIC REVIEW**

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Metabolic Syndrome includes (MetS) hyperglycemia, central obesity, atherogenic dyslipidemia, and hypertension. Globally, the prevalence of MetS varies between 20–25% in adults and 0–19.2% in children. MetS haven't been described in the classical Unani literature. However, each of its components has been treated differently and has been classified as a unique illness in Unani classical texts. As per Unani classical texts, *Zulal-e-Ziabetus* is the decanted water that is obtained by soaking the *Tukhm-e-Hayat* (Seeds of *Withania coagulans*, Dunal.) overnight in water and then decanted in the morning. *Tukhm-e-Hayat* is commonly known as vegetable rennet or Indian cheese maker. It has been used by ancient Unani physicians to treat *Badh Hazm* (Indigestion), *Nafkh* (Accumulation of gas), *Dard-e-Shikam* (Pain in intestine), *Dard-e-Mi'da Riyahi* (Pain in stomach due to flatulence), *Jiryam* (Semenorrhoea), *Ihthilam* (Nocturnal emission), *Sayalan-al- Rahm* (Leucorrhoea), *Ziyabetus Shakri* (Type-2 Diabetes mellitus) and in drug addiction. This review aimed to explore the information available in the literature regarding recent applications in pharmacological studies of *Zulal-e-Ziabetus* in the prevention of MetS. All the available information on *Zulal-e-Ziabetus* was compiled from electronic databases such as Google scholar, PubMed, Medline, Scopus and classical texts. The literature search revealed that *Zulal-e-Ziabetus* possess significant pharmacological properties such as antihyperglycemic, antihyperlipidemic, antioxidant, diuretic, hepato protective, cardioprotective, anti-inflammatory and neuroprotective that are important for the prevention of MetS as *Tukhm-e-Hayat* which is the single ingredient of *Zulal-e-Ziabetus* contains withanolide D, H, ajugin E, A, coagulanolide, coagulin, etc in it. It can be concluded that *Zulal-e-Ziabetus* is a potential Unani preparation in the prevention of MetS and it can be a relied alternative to the conventional treatment. Hence, further well-controlled clinical studies in large sample are needed to establish the use of *Zulal-e-Ziabetus* in the prevention of MetS.

Keywords: metabolic syndrome, prevention, *Tukhm-e-Hayat*, *Zulal-e-Ziabetus*

**SUGAR APPLE GREEN: A STUDY ON ITS PHYTOCHEMICAL CONTENT,
ANTIOXIDANT CAPACITY AND ANTIMICROBIAL ACTIVITY IN THE SRI LANKAN
CONTEXT**

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In Sri Lanka herbal medicines are used to cover up basic medical needs. But the use of Sugar apple green (SAG), *Annona squamosa* L. which is a member of the Annonaceae family is lesser known. The objective of this study was to determine the phytochemical content, antioxidant and the antibacterial activities of the SAG leaf extract in Sri Lanka. Leaves of SAG were collected from the western province, Sri Lanka in the month of February 2023. Phytochemicals were extracted using the roller mixer and water (100mL) as the solvent after grinding the dry leaves to a fine powder (2g). Total Phenolic Content (TPC), Total Flavonoid Content (TFC) and Total Antioxidant Content (TAC) were determined using Folin-ciocalteu assay, Aluminium chloride assay and phosphomolybdate assay respectively. The antioxidant capacity was determined using DPPH (2,2-diphenyl-1-picrylhydrazyl) free radical. Tannins, flavonoids, saponins, proteins and reducing sugars were detected in the leaf extract by qualitative analysis. Spectrophotometric analysis showed significant amounts of TPC (336.3 ± 0.12 mg GAE/g), TFC (175.98 ± 0.02 mg QE/g), TAC (380.38 ± 0.04 gAAE/g) and very high free radical scavenging activity at a IC₅₀ (half maximal inhibitory concentration) of 9.66 µg/mL. A significant antibacterial activity was not observed against *S. aureus* or *E. coli* at 20 mg/mL concentration. These findings shows that the leaves of SAG grown in Sri Lanka are rich in phytochemicals and antioxidant properties, making them ideal candidates as a safe source of bioactive compounds for medical uses and a strong option for additional research on antioxidant characteristics and antimicrobial activity to develop drugs.

Keywords: sugar apple green, leaves, phytochemicals, antioxidant, antibacterial

ROLE OF UNANI MEDICINE IN REVERSAL OF DRUG RESISTANCE

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Antibiotic resistance, including multidrug-resistant (MDR) strains, presents a significant global threat to human healthcare, challenging the development of new therapeutic agents. Emerging resistance mechanisms in microbes lead to the inefficacy of existing drugs, prolonged illnesses, and increased healthcare costs. The widespread and improper use of conventional antibiotics in healthcare, hygiene, veterinary, and agricultural practices is a major driver of the rapid evolution, persistence, and spread of antibiotic resistance. In response, the exploration of plant secondary metabolites, or phytochemicals, offers promising solutions for combating drug-resistant strains. Various phytochemicals, such as alkaloids, phenols, coumarins, and terpenes, have demonstrated significant inhibitory potential against drug-resistant pathogens. Unani medicine, a traditional system rooted in Greco-Arabic practices, utilizes these phytochemicals extensively, providing a natural and effective approach to reversing drug resistance. This presentation will delve into the efficacy of these Unani medicinal compounds, exploring their mechanisms of action and potential integration into modern antimicrobial therapies to mitigate the growing threat of drug resistance.

Keywords: antibiotic resistance, multidrug-resistant strains, Unani medicine, plant secondary metabolites, phytochemicals, antimicrobial therapy

**PHYTOCHEMICAL ANALYSIS AND ANTIOXIDANT ACTIVITY OF
Justicia adhatoda L. LEAVES**

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Justicia adhatoda L. is a flowering plant belonging to the Acanthaceae family. For generations, the herb has been utilized in Ayurvedic and Unani treatments. Moreover, many pharmacological and phytochemical investigations are reported for *Justicia adhatoda* extracts. This study aimed to determine the phytochemical properties of ethanolic extract of *Justicia adhatoda* leaves. Phytochemical screening was performed using standard protocols. The Thin Layer Chromatography (TLC) fingerprint of *Justicia adhatoda* was developed using ethyl acetate, methanol, cyclohexane and dichloromethane (1:5:15:30 v/v) as the mobile phase. The TLC fingerprint was observed at 254 nm and 366 nm under UV lamp. For High-Performance Liquid Chromatography (HPLC) fingerprint, extract (20 µl) was injected into an Agilent infinity 1260 HPLC system equipped with C18 (25 cm, 4.6 mm, 5 µm) column at the temperature of 250 °C and eluted using a gradient of 0.1% formic acid and water. Detection wavelengths were 254 nm and 280 nm. The DPPH (2, 2-diphenyl-1-picrylhydrazyl) and ABTS (2,2'-azino-bis (3-ethylbenzothiazoline-6-sulfonic acid)) radical scavenging assays were performed according to the standard method to evaluate total antioxidant potential. HPLC and TLC fingerprints of the ethanolic leaf extract of *Justicia adhatoda* exhibit the presence of phytochemical constituents. Ethanolic leaf extract of *Justicia adhatoda* exhibited significant potential antioxidant capacity with IC₅₀ = 933.62 ± 7.48 µg/ml and 16.29 ± 5.54 µg/ml inhibition concentrations against the scavenging of DPPH free radicals and ABTS free radicals, respectively. Therefore, the findings of the present study, exhibited the phytochemicals constituents of *Justicia adhatoda* ethanol extracts.

Keywords: *Justicia adhatoda* L., phytochemical composition, TLC, HPLC

**STANDARDIZATION OF *SHARBAT E GHUDAL* (SYRUP OF HIBISCUS FLOWERS):
A NUTRITIVE UNANI MEDICINAL SYRUP**

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Unani medicines are gaining more and more attention all over the world, due to their time memorial practice and its treasure of different form of compound medicines effective in most of the ailments. *Sharbat e Ghudal* is a nutritive syrup included in several Unani pharmacopeia. The pharmacological actions of this syrup are *Mufarrih* (Exhilarant), *Muqawwi e qalb* (Cardio tonic) and *Dafe Qafqan* (Regulates palpitation) and *Muwallid e dam* (Hemoptysis). Standardization is essential for poly herbal formulations to assess the quality of the drugs for the global requirements and to increase patient acceptance. The present study aims to standardize *Sharbat e Ghudal* with organoleptic, physicochemical, and phytochemical parameters. This was performed according to WHO guidelines and other authentic scientific publications used in standardize the Traditional syrups. The product was dark red colour with characteristic hibiscus flower smell. It is sourly sweet taste. The pH, specific gravity, extractable mater and brix value were found to be 3.7 ± 0.14 , 1.34 ± 0.16 , 70.7 ± 3.15 and 65.59 ± 0.45 respectively. The TLC fingerprint with artificial colour standards confirmed that there are no artificial colours added in the syrup. Phytochemical screening reveals that the sharbat was positive for Cardiac glycosides, Terpenoids Flavonoids, Tannins, Phenols, and Alkaloids. The Steroids were not found in the screening. A standard HPLC fingerprint for the *Sharbat e Ghudal* was developed with seven major peaks at wave lengths of 254 nm. The outcomes of this research are pharmaceutical standards for the *Sharbat e Gudhal*. Further phyto-chemicals constituents of the formulation have been supporting to validate its pharmacological actions.

Keywords: pharmaceutical standard, physico-chemical properties, phyto-chemical properties, *Sharbat e Gudhal*

CYTOTOXICITY OF AN AQUEOUS TRADITIONAL FORMULA AGAINST HeLa CELLS

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Gynecological cancers are currently treated with a variety of drugs, but they have several side effects. As a result, the search for novel therapies is crucial. In Sri Lanka, cervical cancer is the second most common cancer among women. In this research, a Sri Lankan traditional formula with six herbs was analyzed to study its biological properties, especially its cytotoxic properties in cervical cancer HeLa cells. Currently, this formula is given to female cancer patients including gynecological cancers. The formula and the six individual medicinal herbs were extracted by water. The Folin Ciocalteu's method was used to measure the total phenolic content (TPC) of all extracts. *Cinnamomum zeylanicum* extract showed the highest TPC value, 0.079±0.004mg/ml Galic Acid equivalent g, while the formula showed 0.035±0.001mg/ml Galic Acid equivalent g. The 2,2-diphenyl-1-picrylhydrazyl (DPPH) assay exhibited a maximum antioxidant activity of 40.13±1.27% for the formula, while *Zingiber officinale* extract showed the highest activity; 61.10±1.60% at 1mg/ml. The formula reported an antioxidant activity of 31.43±0.08% at 1mg/ml for the 2,2'-azino-bis (3-ethylbenzothiazoline-6-sulfonic acid) (ABTS) assay while *Z. officinale* extract showed the highest activity of 85.30±0.01% at 1mg/ml with consistent results across both assays. The anti-inflammatory activity was reported as 89.72±0.005% for the formula while a similar maximum inhibition of 93.10±0.002% was shown by *C. zeylanicum* by the HRBC assay at 1mg/ml. For the protein denaturation assay, the formula showed an anti-inflammatory activity of 34.10±0.03% while *Allium sativum* extract showed a maximum activity of 59.08±0.003%. The anti-cancer effect of the formula was found by 3-[4,5-dimethylthiazol-2-yl]-2,5 diphenyl tetrazolium bromide (MTT) assay for the cervical cancer cell line HeLa where the formula showed the highest cell inhibition out of all extracts; 65.74±0.01% at 1mg/ml. The survival fraction for the formula was found as 51.42±0.10% against the HeLa cell line, by the clonogenic assay. According to this study, these results may suggest that this formula can decrease cervical cancer cell growth. However, additional research is warranted.

Keywords: Phytochemicals, DPPH, ABTS, HRBC, Protein Denaturation, MTT, HeLa cell line

THERAPEUTIC POTENTIAL OF *CHILBEENJ* (*Strychnus potatorum* LINN.) IN THE CONTEXT OF INDIGENOUS MEDICINE: A SCIENTIFIC REVIEW

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Chilbeenj/Nirmali which is commonly known as clearing nut tree is one of the important medicinal plants that have been used in Unani system of medicine. It is a medium sized deciduous plant that belongs to Loganiaceae family. The fruits contain one or two seeds that are yellow, circular, not much compressed, 8 mm in diameter, shining with short appressed silky hairs. This review aimed to explore the information available in the literature regarding therapeutic potential of *Chilbeenj* in the context of indigenous medicine. All the available information on *Chilbeenj* was compiled from electronic databases such as Google scholar, PubMed, Medline, Scopus and classical texts. The literature search revealed that the seeds of *Chilbeenj* traditionally have been used to clarify foul and muddy water as well to treat various ailments such as chronic diarrhoea, dysentery, irritation of the urinary organs, gonorrhoea, diabetes, chemosis of the conjunctiva, copious watery eye discharge, boils, leprosy etc. In Unani system of medicine, the seeds of *Chilbeenj* have been used to treat *Jiryan* (Semenorrhoea), *Hurqat al-Bawl* (Burning micturition), *Usr al-Bawl* (Dysuria), *Amraz-e-Ayn* (Eye diseases), *Didan al-Am'a* (Worm infestation) and *Bawasir-e-Damiya* (Bleeding haemorrhoid), etc. Further, *Chilbeenj* contains alkaloids, glycosides, tannins, flavonoids, sterols, phenols, diterpins, and saponins etc and possess pharmacological properties such as antimicrobial, antidiabetic, anticholesteremic, hepatoprotective, anthelmintic, antiulcerogenic, antiinflammatory, antinociceptive, antiarthritic, analgesic, antipyretic, antidiarrheal, diuretic, nephroprotective, antioxidant, antianaphylactic, and anticancer properties. It can be concluded that *Chilbeenj* is a potential therapeutic agent in indigenous medicine as it has emerged as a good source of scientific literature for the treatment of various ailments.

Keywords: *Chilbeenj*, Indigenous medicine, *Strychnus potatorum*, Therapeutic potency

**AYURVEDA MANAGEMENT OF SANDHIGATAVATA WITH SPECIAL REFERENCE
TO OSTEOARTHRITIS: A CASE STUDY**

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Sandhigata vata is the commonest form of articular ailment which affects millions of individuals globally. Osteoarthritis is considered to be its close equivalent to *Sandhigata vata* of Ayurveda Medicine. Mainly *Sandhigata vata* is caused by vitiation of Vata Dosha but Kapha Dosha vitiation also involve to the manifestation of the disease. The major symptoms are *Sandhi shula* (joint pain), *Sandhi shotha* (swelling), *Stabdha* (Stiffness), increasingly difficult and painful motions as *Akunchana* (flexion) and *Prasarana* (extension). This study was conducted to evaluate the efficacy of an Ayurveda treatment plan for *Sandhigata vata* with special reference to Osteoarthritis. A 62 years old female patient with severe bilateral knee joint pain was enrolled in the study and before the commencement of the treatment, consent was taken and clinical signs and symptoms were recorded. The patient was treated for 30 days with internal medicines {*Erandasapthaka kashaya* (1-10 days), *Rasna shigrupunarnawa kashaya* (11-20 days), *Dashamulibalairanda kashaya* (21-30 days), *Rasnadi guggulu* (1-15 days), *Yogaraja guggulu* (16-30 days), *Nawarathna kalka* (1-15days), *Vataroga kalka* (16-30 days), *Vata gajendrasinghe rasa* (16-30 days) *Dhathri choorna* (1-7 days)} and external treatments with *Panchakarma* [*Abhyanga* (30 days), *Nadi svedana* (30 days), *Pattu* (14-30 days for 3 hours duration) and *Anuvasana vasti* (07 days)]. Using the Kellgren Lawrence Scale, the degree of symptom reduction was evaluated throughout the course of treatment. Excellent progress was seen in the Kellgren Lawrence Scale, which decreased from grade 4 to grade 1. Thus, it can be concluded that the disease has been effectively managed by the Ayurveda treatment plan and suggested that, in order to generalize the results, the clinical trial be scheduled for the future with a bigger sample size.

Keywords: Osteoarthritis, *Sandhigata vata*, Ayurveda treatment plan, Kellgren Lawrence Scale

**EFFECT OF KOLAKULATHTHADI UPANAHA SWEDA IN JANU SANDHIGATA VATA
(KNEE OSTEOARTHRITIS)**

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Sandhigata vata (Osteoarthritis) is a *Vatavyadhi* that limits everyday activities among the elderly population. According to World Health Organization, Osteoarthritis (OA) is the second most common musculoskeletal problem among the world population (30%) after back pain (50%). Ayurveda has emphasized various treatment modalities including *Upanaha* in the management of *Sandhigata vata*. This single blind clinical study aims to evaluate the effect of *Kolakulaththadi upanaha sweda*, which consists of *Kola* (*Zizyphus jujube*), *Kulaththa* (*Dolichos biflorus*), *Suradaru* (*Cedus deadara*), *Rasna* (*Pluchea lanceolate*), *Masha* (*Vigna mungo*), *Atasi* (*Linum usitatissimum*), *Tila* (*Ricinus communis*), *Kushta* (*Saussurea lappa*), *Vacha* (*Acorus calamus*), *Shatahwa* (*Anethum sowa*) and *Yava* (*Hordeum vulgare*) in *Janu Sandhigata vata*. Thirty patients of primary OA in knee, aged between 40 - 70 years fulfilling the diagnostic criteria of the American College of Rheumatology (ACR) for OA knee were randomly selected at National Ayurveda Hospital in Borella. Took 10g of each ingredient of *Kolakulaththadi churna* and mixed with 50ml of *Kanji* (Tamarind juice) and 5g of *Saindhava Lavana* (Rock salt). Paste heated with light flame and applied over the affected part of knee joints followed by bandaging and retained for 12 hours for consecutive 14 days. Subjective and objective parameters were used to assess the results based on clinical observations before and after treatment. The data were analysed using the Wilcoxon Signed Rank Test and Mann-Whitney U Test. It was observed that 75% relief was found in pain, 85% in restricted movement of knee joints, 90% in swelling and Crepitus. This study substantiates the efficacy of *Kolakulaththadi upanaha sweda* in the management of *Janu sandhigatavata*.

Keywords: *Kolakulaththadi, Sandhigatavata, Swedana, Upanaha, Vatavyadhi*

ANALYSIS OF THE COMBINED EFFECT FOR ANTI-OXIDANT ACTIVITY OF PLANT SPECIES OF NEEM (*Azadirachta indica*), DRUMSTICK (*Moringa oleifera*), LUNUWARANA (*Crateva adansonii*), AND THOTILLA (*Oroxylum indicum*)

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Having the roots of origin back to 3000 years ago, Sri Lanka is a country with a well-known culture of indigenous medicine. Such medicine has used the plant combination formed by four plants, Neem (*Azadirachta indica*), Drum stick (*Moringa oleifera*), Lunuwarana (*Crateva adansonii*), and *Thotilla* (*Oroxylum indicum*) as an anti-oxidant treatment. Therefore, this study aims to evaluate the anti-oxidant activity of this plant combination with a proper scientific approach. The dried and powdered, bark samples of the four plants were refluxed for 4 h at 60 °C using distilled water as the solvent. Next, the refluxed extracts were subjected to vacuum rotary evaporation under reduced pressure. Then, the resulting crude extracts of the four plants were mixed to make fifteen different combinations. These combinations were used to evaluate the anti-oxidant activity separately by DPPH assay. The results obtained showed IC₅₀ values of 55.63 (± 3.20) ppm for Neem, 144.58 (± 2.40) ppm for Drumstick, 166.89 (± 1.09) ppm for *Lunuwarana*, and 170.85 (± 1.70) ppm for *Thotilla*. The IC₅₀ value decreased to 26.73(± 2.16) ppm for the combination of all four plants which is a significant decrease from the IC₅₀ values of separate individual plant extracts. This suggests that the four-plant combination has higher anti-oxidant activity than individual plant extracts alone. Therefore, considering these results, the evaluated indigenous medical plant combination might be preferred as an anti-oxidant that could be used as a treatment for free radical-induced diseases.

Keywords: anti-oxidants, DPPH assay, indigenous medicine, cysts treatment, IC₅₀ values

GARBHA SAMSKARA FOR BETTER PROGENY

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Garbha samskara, ancient rituals from the Ayurvedic tradition, play a crucial role in promoting prenatal health and fostering positive societal outcomes. This paper explores their significance and practices, focusing on rituals like *Garbhadhana*, *Pumsavana*, and *Simantonayana*. These rituals aim to purify the reproductive environment, enhance progeny quality, and ensure maternal well-being. This study involves a comprehensive review of classical Ayurveda texts and contemporary literature to understand the rituals performed during specific stages of pregnancy. The research includes an analysis of the purification rituals for both parents, dietary regimens, and spiritual practices involved in these ceremonies. Additionally, the study examines the cultural and social aspects of *Garbha Samskaras*, including their emphasis on avoiding consanguineous marriages to prevent genetic disorders. The findings indicate that *Garbha samskara* enhance fertility, prevent complications, and ensure a healthy birth. These rituals are performed on auspicious days and involve specific purification processes, dietary regimens, and spiritual practices that promote the physical, mental, and spiritual development of both mother and fetus. The study also reveals that these practices contribute to shaping a harmonious society by nurturing virtuous qualities in offspring and promoting maternal health. The broader implications of *Garbha samskara* in modern healthcare systems are significant. While rooted in tradition, adapting these practices to contemporary contexts ensures their relevance and effectiveness. The holistic approach of *Garbha samskara*, which integrates physical and spiritual well-being, underscores their potential to contribute to the overall welfare of society through the birth of healthy progeny. This study highlights the importance of *Garbha samskara* in fostering physical and spiritual well-being, thereby contributing to the overall welfare of society. The adaptation of these ancient practices to modern healthcare systems can enhance their relevance and effectiveness, ensuring the birth of healthy progeny and promoting societal harmony.

Keywords: *Garbha samskara*, progeny, Ayurveda

CHALLENGES AND OPPORTUNITIES FOR AYURVEDA IN HEALTH TOURISM IN SRI LANKA

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Ayurveda, an ancient holistic system of medicine, is integral to Sri Lanka's cultural heritage and the global health tourism market. This review identifies challenges and opportunities for integrating Ayurveda into Sri Lanka's health tourism sector. A comprehensive literature review was conducted, analyzing data from academic journals, industry reports, and expert opinions on regulatory issues, practitioner qualifications, infrastructure, integration with modern medicine, and tourist preferences. In this study, significant regulatory and standardization issues were identified, with inconsistencies in quality standards and practitioner qualifications. Approximately 60% of Ayurveda centers face these challenges, with only 55% of practitioners being Bachelor of Ayurveda Medicine and Surgery qualified. Infrastructure limitations and cultural barriers also pose challenges. However, leveraging natural resources and biodiversity, international collaborations, and innovative wellness packages present substantial opportunities. Emphasizing sustainability and investing in training are crucial for enhancing credibility and appeal. Addressing regulatory and standardization issues is critical for maintaining the credibility of Ayurvedic treatments. Integrating Ayurveda with modern medical practices can meet international tourist preferences. Improving infrastructure and overcoming cultural barriers can enhance the tourist experience. Promoting sustainable practices and investing in practitioner training can solidify Sri Lanka's position in the health tourism market. By addressing these challenges and leveraging identified opportunities, Sri Lanka can enhance its appeal as a destination for Ayurvedic health tourism, offering holistic and credible health experiences.

Keywords: Ayurveda, health tourism, Sri Lanka, holistic medicine, sustainable tourism

A CONCEPTUAL STUDY OF TRI BANDHA IN YOGA: A REVIEW

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Yoga is an ancient Indian science which is a group of physical, mental, and spiritual disciplines, seek to recognize a detached witness-consciousness that is unaffected by the mind (*Chitta*) and ordinary suffering (*Duḥkha*) and to control the mind. Tri Bandha concept has explained under Mudras refers to a special practice of three energy locks used to regulate, control and direct the flow of prana (life force) within the body. That involves the contraction of three specific muscle groups in the body. *Mula bandha* (Root lock) engages the pelvic floor muscles to activate and stabilize the *Muladhara chakra*, enhancing grounding and energy conservation. *Uddiyana* Bandha (Abdominal Lock) involves pulling the abdominal muscles inward and upward, stimulating the *Manipura chakra* and aiding in the upward movement of energy. *Jalandhara bandha* (Throat lock) performed by tucking the chin toward the chest, engaging the *Vishuddha chakra*, and regulating the flow of *Prana* between the head and the heart. Aim of this study was find out detailed explanation about Thri bandha in authentic Indian texts. *Shiva samhitha* and *Hatha yoga pradeepika* have explained method of perform *Bandhas*, indication, and importance and also explained combination of all *Tri bandha* together called as *Maha bandha*. Practicing *Tri bandha* is considered and believed to activate the *Chakra*, facilitating the flow of *Kundalini* energy (spiritual energy) up the spine, which leads to higher states of consciousness with balance the endocrine functions and promote both physical and mental health.

Keywords: *Tri bandha*, Yoga, triple lock, Yogic seal, *Maha bandha*

SUCCESSFUL AYURVEDA MANAGEMENT OF COMPLICATION DUE TO FRAGILE X SYNDROME: A CASE STUDY

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Fragile X syndrome is a genetic disorder, having characteristic behavior patterns similar to Attention-deficit/hyperactivity disorder and autistic behaviors. Fragile X syndrome is caused by a triplet expansion that inhibits expression of the Fragile X Messenger Ribonucleoprotein 1 (FMR1) gene; The most frequent form of inherited intellectual disability and is also linked to other neurological and psychiatric disorders. A pre-diagnosed 07 years old boy with fragile X syndrome, seeking Ayurveda treatment presented at the Ayurveda National Hospital, pediatric unit. With the complaints of poor attention, delayed and poor speech, stereotyping social behavior with hyperactivity. To evaluate the efficacy of Ayurveda treatment protocol in mitigating signs and symptoms of Fragile X syndrome. According to Ayurveda diagnosis for this condition was *Balaka vata pradhana mano vyadhi*. The treatment regulation of *Tridosha*, particularly *Vata dosha* aiming to alleviate signs and symptoms associated with condition. Each treatment protocol was spanned for seven weeks with *Anthahparimarjana*, and *Bahihparimarjana chikithsa*. As *Anthahparimarjana chikithsa* within first week *Trikatukadi* decoction ½ *Patha*, *Chandra kalka* 1.25g with *Mahadalu Anupana*, were given twice a day. *Sarasthwata choornaya* 1.25g with bee honey in the morning and *Vachadi choornaya* 1.25g with bee honey nocte, *Kola daunda vatee* one in the morning. During the 2nd week, only the decoction changed. *Sheersha abhyanga* was done with *Divyanganadi* oil and *Hastha, Pada abhyanga* was done with *Nirgunyadi* oil. *Narayana* oil on lower back, B/L knee and ankle joints. calf muscles rigidity absent, behavior is normal memory and study performance. Following treatment rounds, the child exhibited significant improvements with Bilateral calf muscles strength and tone, speech, behavior, memory and study performance. Fragile X syndrome is a *Sahajabala pravirti roga* meanwhile its control and improve quality of life of patients according to do this treatment protocol. Its beneficiary for patients and burned of economy in country.

Keywords: Fragile X syndrome, genetic disorder, ADHD, autism, *Vata vyadhi*

POTENTIAL FOR USE OF NATURALLY OCCURRING HERBAL BIOACTIVE COMPOUNDS IN SRI LANKA'S ORNAMENTAL FISH INDUSTRY

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Integrating medicinal plants into the ornamental fish industry has a significant impact on the overall health and welfare of the fish. However, in Sri Lanka, the application of medicinal plants in the ornamental fish industry is still not widely used. Research for this is still going on in Sri Lanka and this study is designed to collect existing data based on secondary data. The collected data were analyzed using simple statistics and presented in tables and graphs. According to the results, out of a total of 36 research work, the majority of studies (36.1%) have significantly proven the potential of use to improve growth performance. In addition, according to the results of this study, 19.4% for color enhancing, 11.1% for boosting immunity, 22.2% as an anesthetic agent, 2.7% for improving water quality and 8.3% for antibiotic activity were very successful. The findings of this study revealed that naturally available herbal bioactive compounds, their extracts, living plant materials or combinations can be used as growth promoters, color enhancers, antiparasitic, antimicrobials, antioxidants and immune stimulants to improve the ornamental fish industry. *Daucus carota*, *Zea mays*, *Osbeckia octandra*, *Carica papaya*, *Ipomoea batatas*, *Artocarpus heterophyllus*, *Bixa orellana*, *Clitoria ternatea*, *Coriandrum sativum*, *Allium sativum*, *Moringa* and *Asparagus racemosus* are famous among these plants and their compounds. More research is needed to elucidate medicinal plant products, active ingredients and their functions for the development of Sri Lanka's ornamental fish industry.

Keywords: ornamental fish, medicinal plants, growth promoters, immune stimulants, color enhancers

**SUBSTANTIATE THE USE OF *GUL E SURKH* AS AN EFFECTIVE *BADAL*
(SUBSTITUTE) FOR *GUL E GAUZABAN* IN TERMS OF THE SIMILARITIES IN
THEIR BOTANICAL AND CHEMICAL PROPERTIES**

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Unani system of medicine is one of the indigenous systems in Sri Lanka. It initiated in Greece based on the teaching of Hippocrates (460BC) and Galan (151-201AD). Then the Unani medical system brought to the countries such as India, Pakistan, Bangladesh, and Sri Lanka by the Arab Traders. Even though Unani concept of remedial substitution have enormous practical feature, it has not been touched upon in a reasonable way by the majority of the Unani scholars except Razi (Rhazes 865-925 AD), who took the concept reasonably and enclosed rules for substitution drug prescription at the time of unavailability of the drugs of choice. The Unani concept of remedial substitution is based on similarity in action, temperament, and physical properties of drugs mainly botanicals, which are already established and discussed; however, chemical constituent has not been considered a basis for substitution. Therefore, objective of this study was to comparison of the botanical description and morphological character and chemical components of both plants on the basis of scientific validation and selection of *Gul e surkh* as a possible substitute for *Gul e Gauzaban* with reference to its action on *Qalb* through Unani concept and literary research for effective method in preparing Unani compound preparations. Unani classical books, text books, reference book, review articles and computer data base searches, botany books and relevant papers were reviewed. Literature was collected from well-known search PubMed, Google Search etc. The study showed similarity in main and substitute botanicals with insignificant differences. Direct relation between similar physical properties, actions, temperament and chemical constituents of main and substitute botanicals was observed. The study, however, seemed to validate the concept on the basis of similar physical properties, actions, temperament and chemical constituents, further pharmacological studies on the basis of properties and activities, pharmacogenetical studies and clinical studies are required to strengthen the concept.

Keywords: *Badal*, Substitution, *Gul e Surkh*, *Gul e Gauzaban*, Unani concept

EVALUATION OF ANTIOXIDANT CAPACITY OF SELECTED SRI LANKAN HERBS
FOCUSING ON HAIR GROWTH

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Diverse ecosystems in Sri Lanka support a broad-spectrum medicinal plant. The global plant-based cosmetics market has grown dramatically due to rising consumer awareness of long-term health benefits. The present study aims to investigate the antioxidant capacity of selected twelve herbs in Sri Lanka, *Trigonella foenum-graecum* L, *Centella asiatica* (L.), *Alternanthera sessilis* (L.) R.Br. ex-DC, *Indigofera tinctoria* L, *Phyllanthus emblica* L, *Coscinium fenestratum* (Gaertn.) Colebr, *Adenantha pavonina* L, *Azadirachta indica* L, *Hibiscus rosa-sinensis*, *Cyperus rotundus* L, *Bacopa monnieri* (L.) Wettst, and *Murraya koenigii* (L.) Spreng. These plants were selected based on the literature review on hair growth. As the initial phase of the study. Total Phenolic Count (TPC) and the Total Flavonoid Count (TFC) of ethanolic extract and water extracts were investigated. TPC in ethanolic extract for *Trigonella foenum-graecum* L, *Centella asiatica* (L.), *Alternanthera sessilis* (L.) R.Br. ex-DC, *Indigofera tinctoria* L, *Phyllanthus emblica* L, *Coscinium fenestratum* (Gaertn.) Colebr, *Adenantha pavonina* L, *Azadirachta indica* L, *Hibiscus rosa-sinensis*, *Cyperus rotundus* L, *Bacopa monnieri* (L.) Wettst, and *Murraya koenigii* (L.) Spreng were 208.77±2.34, 497.72±3.18, 660.63±5.10, 859.15±4.80, 940.4±5.20, 383.27± 2.07, 855.65±4.17, 839.89±5.68, 808.36±8.36, 371.26±4.96, 304.67±4.35 and 889.36±2.36 in mg of gallic acid eq/g of extract respectively. TFC in ethanolic extract were 123.33±3.48, 307.33±2.94, 106.67±2.48, 173.67±3.33, 424.50±3.76, 597.67±5.76, 196.06±3.80, 76.87±2.50, 256.33±4.14 and 196.06±1.80 in mg of quercetin eq/ g of extract respectively except *Indigofera tinctoria* L and *Coscinium fenestratum* (Gaertn.) Colebr as they have not shown significant functional capacity, which would promote hair growth. The results mentioned above in this study can be utilized in developing herbal hair care products by utilizing these tested plants.

Keywords: antioxidant capacity, hair growth, herbs, Sri Lanka

**ASSESSING THE EFFICACY OF AYURVEDA TREATMENT PROTOCOL IN
MITIGATING SIGNS AND SYMPTOMS OF MYELOMENINGOCELE: A CASE STUDY
ANALYSIS**

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Myelomeningocele is a neural tube defect where the spinal cord protrudes due to incomplete closure during embryonic development. The efficacy of Ayurvedic treatment was evaluated for a 3 ½-year-old girl who was admitted to National Ayurveda Hospital Borella on her 2nd rotation with walking difficulties, joint contractures, and incontinence. This condition was diagnosed as a *Balaka vata vyadhi*. Treatment was designed to regulate *Tridosha*, particularly *Vata dosha*, alleviating the signs and symptoms associated with the condition. In first week *Trikatukadi* decoction ½ *Patha*, *Chandra kalka* 1.25g with *Mahadalu anupana*, *Desadun kalka* 1.25g, *Inguru koththamalli phantaya* 1.25g were given twice a day. *Sarasthwata choornaya* 1.25g with bee honey in the morning and *Vachadi choornaya* 1.25g with bee honey in the night and *Dhatree choornaya* 1.25g at night were prescribed. In 2nd week, decoction was changed to *Trikatukadi* ½ *patha* twice a day *Chandra kalka* was excluded and the rest of the internal medications were continued. As *Bahihparimarjana chikithsa*, *Sheersha abhyanga* was done with *Divyanganadi* oil and *Hastha, Pada Abhyanga* was done with *Nirgunyadi oil* and Bone marrow paste was applied to bilateral lower limbs. *Pichu 1* was applied with *Narayana* oil to lower back and *Pichu 2* was applied with *Prasarani oil* to bilateral knee and ankle joints. The external treatment regimen remained consistent throughout both weeks. Following two cycles, the child exhibited significant improvements: regained bladder control, reduced daytime voiding, strengthened bladder and anal sphincters, and improved ability to walk with support. Treatment included *Shodhana*, *Vata shamana*, and *Tarpana* therapies. Further clinical studies must validate the protocol's efficacy despite encouraging initial outcomes.

Keywords: *Apana vata*, Ayurveda management, *Balaka vata vyadhi*, *Sahaja roga*, myelomeningocele

POTENTIAL ROLE OF 'DIYA-BATH' IN THE PREVENTIVE AND CURATIVE ASPECTS OF VARIOUS NON-COMMUNICABLE DISEASES

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Diya-bath, a traditional breakfast dish consumed by the indigenous people of Sri Lanka, is celebrated for its health benefits and unique preparation method. This dish is prepared by keeping the leftover rice in water overnight to ferment. The next morning, the fermented rice is mixed with coconut milk, onion, garlic, and raw chili, creating a meal. The study aims to investigate the benefits of *Diya-bath* from a scientific perspective. More than forty articles were searched using the main ingredients and their chemical constituents as search terms in PubMed and Google Scholar. It was found that the fermentation process enhances the bioavailability of nutrients and introduces beneficial bacteria, promoting a healthy gut microbiota. Onion, in *Diya-bath*, is rich in flavonoids and sulfur-containing compounds, notably quercetin, which possess potent antioxidant, anti-inflammatory, and antimicrobial properties. These compounds contribute to cardiovascular health, improved lipid metabolism, and enhanced immune function. Garlic adds further benefits, such as anti-cholesterol and anti-atherogenic effects. Coconut milk provides medium-chain triglycerides, which are easily digestible fats that support energy metabolism and gut health. Raw chili enhances flavor and contains capsaicin, which has anti-inflammatory and metabolism-boosting properties. Collectively, the ingredients in *Diya-bath* synergistically support gut health by promoting the growth of beneficial microbiota, reducing inflammation, and enhancing nutrient absorption. Regular consumption of *Diya-bath* may help prevent chronic diseases such as cardiovascular diseases, diabetes, and gastrointestinal disorders and cure many gastric disorders. Further research into its specific health impacts can solidify its role in a balanced diet and its potential as a functional food.

Keywords: gut microbiota, onion, garlic, coconut milk, raw chili, probiotics

SCIENTIFIC BASIS IN CONTRAINDICATION OF *KAKARASHTAKA* WITH
RASA AUSHADHA: AN ANALYTICAL REVIEW

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Kakarashtaka is a compilation of eight flora, with Sanskrit names starting from the consonant “Ka”. *Kakarashtaka* is described in principal treatises of *Rasa Shastra* including Rasendra Sarasamgraha, Rasa Tarangani and Rasarnava. But, the exact reason for its contraindication with *Rasa aushadha*, is still a mystery with minimal scientific evidence. Thus, the objective of this review was to analyze and summarize the scientific background in contraindication of *Kakarashtaka* with *Rasa aushadha*. For this purpose, authentic textbooks of *Rasa Shastra* and modern research papers were analytically reviewed. Ingredients of *Kakarashtaka* include; *Kushmanda* (*Benincasa hispida*), *Karkati* (*Cucumis sativus*), *Kalinga* (*Citrullus lanatus*), *Karavellaka* (*Momordica charantia*), *Kusumbha* (*Carthamus tinctorium*), *Karkoti* (*Momordica dioica*), either *Kadali* (*Musa paradisiaca*) or *Kalambi* (*Ipomoea aquatica*) and *Kakamachi* (*Solanum nigrum*). Notably, five out of eight (62.5%) are plants of Cucurbitaceae family. The main active ingredients of this family are Cucurbitacins and they are known as bitter compounds. Cucurbitacins are highly oxygenated tetracyclic triterpenes with multiple therapeutic benefits, but misuse may cause toxicity. Furthermore, according to recent studies several Cucurbitacins exhibit heavy metal chelation, especially Iron. Moreover, several herbs of *Kakarashtaka* are indicated as *Shodhana* or *Marana dravya* for *Rasa aushadha* and as *Parada bandhana*. Besides, as per Nighantu Ratnakara; *Kakarashtaka* is the best formulation to combat any adverse effects in misuse of *Rasa aushadha*, also eliminating bodily overload. Thus, the heavy metal chelating activity of Cucurbitacins, provides a strong scientific background for contraindication of *Kakarashtaka* with *Rasa aushadha*. Therefore, it can be concluded that the Ayurveda theory of contraindication of *Kakarashtaka* with *Rasa aushadha*, has a scientific basis beyond phonetics.

Keywords: contraindication, *Kakarashtaka*, *Rasa aushadha*, scientific basis

**A CASE STUDY ON THE EFFECTS OF MULTI-ACUPOINT ELECTROACUPUNCTURE
FOR UPPER EXTREMITY MOTOR FUNCTION AND SPASTICITY IN CHRONIC
HEMIPLEGIA**

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Hemiplegia (ICD-11: 8B20.Z) often results in significant impairments in hand motor function. This study evaluates the effectiveness of Korean Acupuncture (KA) at LI4 (Hegu), SI3 (Houxi), LI11 (Quchi), and TE5 (Waiguan) points, combined with electrical stimulation, in enhancing these motor functions in a single hemiplegic patient. The patient had impaired hand posture for more than six months, with no improvement following three months of physiotherapy and no use of Ayurveda medicine. The intervention comprised 12 sessions over six weeks, with two sessions per week. Acupuncture needles were inserted at LI4, SI3, LI11, and TE5 points, followed by electrical stimulation at 2 Hz for 20 minutes per session. Primary outcomes were evaluated using the Fugl-Meyer Assessment (FMA) for upper extremity motor function and the Modified Ashworth Scale (MAS) for spasticity, both pre- and post-intervention. The study demonstrated significant improvements in the FMA score, with an increase of 14 points, indicating enhanced finger flexion and extension capabilities. The MAS score showed a reduction in spasticity by 1.5 points. These findings suggest that the combination of acupuncture and electrical stimulation significantly improves motor function in this hemiplegic patient. The results align with prior studies highlighting the beneficial effects of acupuncture and electrical stimulation in neurological rehabilitation. However, the single-case design and lack of ethical clearance limit the generalizability of these findings. Further research with larger sample sizes and ethical oversight is essential to corroborate these preliminary observations and elucidate the underlying mechanisms. KA at LI4, SI3, LI11, and TE5 points, combined with electrical stimulation, appears promising in improving finger flexion and extension in hemiplegic patients. Despite the absence of ethical clearance, the significant improvements observed warrant further investigation through rigorously designed clinical trials.

Keywords: hemiplegia, acupuncture, motor function

ROLE OF *ISABGOL* (PSYLLIUM HUSK) IN THE MANAGEMENT OF *QABS* (CONSTIPATION): A SYSTEMIC REVIEW

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Constipation (*Qabs*) is a prevalent gastrointestinal disorder characterized by infrequent and difficult bowel movements. In Unani system of medicine *Isabgol* (Psyllium husk) obtained from the plant *Plantago ovata* seeds, is widely used for its *Mulayyin* (laxative) property, for the management of *Qabs*. This systemic review aims to evaluate the role of *Isabgol* in the management of *Qabs* by examining contemporary scientific literature and traditional medicinal texts. A comprehensive search was conducted across various databases, including PubMed, Scopus, and Google Scholar, to identify relevant studies investigating the efficacy, safety, and mechanism of action of *Isabgol* in treating constipation. Search terms such as '*Isabgol*', 'Psyllium husk' '*Plantago ovata*' combined with '*Qabs*', 'Constipation', and 'Bowel regularity' were used for articles published from 2014 to 2024. A total of 34 articles were filtered and scrutinized. In the Unani system of Medicine, *Isabgol* has been used extensively for its various therapeutic actions such as laxative, purgative, carminative, lubricant, diuretic, anti-inflammatory, anti-microbial, and analgesic. The findings indicate that, *Isabgol* effectively improves bowel regularity, stool consistency, and overall digestive health. It primarily works through its high fiber content, which increases stool bulk and promotes peristalsis. Additionally, *Isabgol* exhibits prebiotic properties, enhancing gut microbiota balance. This review also addresses potential side effects and contraindications, emphasizing the importance of proper dosage and administration. In conclusion, *Isabgol* is a valuable therapeutic agent for managing *Qabs*, offering a natural, safe, and effective alternative to conventional laxatives. Further clinical trials and pharmacological studies are recommended to substantiate these findings and explore additional benefits.

Keywords: constipation, *Isabgol*, bowel regularity, Psyllium husk, *Qabs*

**EFFECT OF AYURVEDA TREATMENT REGIME ON KITIBHA KUSHTA WITH
SPECIAL REFERENCE TO PSORIASIS: A CASE STUDY**

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Psoriasis is a chronic autoimmune condition characterized by red, well-defined plaques with silvery-white dry scales, commonly found on the elbows, knees, scalp, and lumbosacral area. *Kitibha kushta*, known for its *Vata-Kapha* dominance, closely correlates with psoriasis. Despite numerous treatments, no permanent solutions exist, often leading to patient isolation due to cosmetic concerns. This study aimed to evaluate the effect of an Ayurveda treatment regimen, including oral medication and external paste, on *Kitibha kushta*. A 63-year-old male patient with a 2-month history of *Kitibha kushta* presented to the Out Patient Department, Department of *Kayachikitsa*, Ayurveda National Hospital, Borella, was registered for the study. The clinical features such as *Shyava varna* (discoloration), *Kina khara sparsha* (rough and scaly texture), *Parushatva* (hardness), *Ruksha* (dryness), and *Kandu* (itching) were recorded before commencement of the treatment regimen. *Amurta vrusha patoladi* decoction (120 ml) and *Manibadra choorna* (5 g) were given twice daily as oral medication. For the following 2 weeks, *Maha Rathhadun decoction* (120 ml) and *Triphala guggulu* (2 pills) were administered twice daily. *Anithadi lepa*, comprising *Rhinacanthus nasutus*, *Azadirachta indica*, *Cocos nucifera*, and *Curcuma longa*, was applied to skin lesions and kept for four hours each morning. *Pinda taila* was applied externally in the evening for four weeks. Clinical features were assessed weekly over the one-month treatment period. Results showed a 100% reduction in *Kandu* (itching), *Kina khara sparsha* (rough texture), *Parushatva* (hardness), *Ruksha* (dryness), and *Ruksha pidaka* (dry papules) according to the Visual Analog Scale (VAS). Further research is needed to understand in what way *Ayurvedic* treatments can effectively manage psoriasis and improve patient outcomes.

Keywords: Ayurveda management, *Kitibha kushta*, *Anitadi lepa*

LITERATURE REVIEW OF *SHIRA VEDANA* IN THE MANAGEMENT OF VARICOSE VEINS

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Varicose veins are tortuous, enlarged, palpable usually blue or dark purple in the subcutaneous tissues which are twisted, swollen, and lumpy, Throbbing or cramping pain, rash that is itchy or irritated, darkening of the skin and loss of soft texture of the skin are also present in varicose veins. In Ayurveda literature the varicose vein has no its separate elaborative identity as a disease but considered as a *Siravikrutya* (venous disorders) and named as *Sirakautilya* or *Kutilsira* disease by commentators. The purpose of this was to find out the success of *Shira vedana* for varicose veins. For this information was collected from the books. The scrutinize shows, may correlation with *Siragranthi* and is due to *Vata dosha*. Sushruta described its cause as a person undertakes excessive exercise get his network of vein affected due to *Vayu dosha* which in turn compresses squeezes and dries up and produce granthi which is raised and circular. *Raktamokshana* means removing vitiated blood from the body. It is a localized treatment. Extraction of vitiated blood from the body by using surgical instruments and other tools is known as *Raktamokshana*. In past, it was done by using purified and sterilized horns of animals, gourd, by applying leeches or by puncturing veins (phlebotomy) Types of *Raktamokshana* are, Using surgical instruments (*Shastra*), *Pracchana* (scratching), *Siravyadha* (venepuncture). Other tools (*Ashastra*), *Jalouka* (leech therapy), *Shringa* (horn), *Ghati* (cupping) to drain the vitiated blood. Ayurveda *Sira vedana* treatment for varicose veins aim at Improving the blood circulation, External Therapies are given along with blood thinning medication to repair valve function so that the blood can be sent back to the heart, Repairing the damage which is cause by dysfunctional vein i.e. weakening of muscle in the body, loss of sensation, blood purificatory procedures and medicine are given to detox the blood generated through the improperly functional valve Improving the metabolism which will help in purifying the blood faster. Thus, *Shira vedana* can be successfully used for the treatment of varicose veins.

Keywords: *Shira vedana*, varicose veins

**EVALUATE THE EFFECACY OF VASTHI IN BENING PROSTATIC HYPERPLASIA:
A CASE STUDY**

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Benign prostate hyperplasia is a histological diagnosis that states the proliferation of smooth muscle and epithelial cells within the transient zone of prostate gland. The incidence and severity of lower urinary tract symptoms due to benign prostate hyperplasia are increasing day by day and more likely to occur in after 40 years of age. Due to the resemblance of clinical feature, it is correlated to *Asthila* which is one of the types of *Mutraghata* according to all the *Acharyas*. The objectives of this study were to study the effectiveness of an Ayurveda treatment in benign prostate hyperplasia. A male patient came to OPD of District Ayurveda Hospital Bibila Medagama and was diagnosed as *Asthila* based on clinical features and ultra sound scan of abdomen. He was treated with local *Sneha karma* (application of oil) with *Hingu thriguna* oil and *Sweda* with *Dashamoola nadi sweda* followed by *Yoga vasthi* with *Punaenawashtaka kwatha* (480ml). herbal decoction and *Vati* were given as oral medicine for 28 days. Assessment of patient was done by using International Prostate Symptom Score (IPSS) and weight of the prostate and post void residual urine volume. After completion of *Vasthi* significant relief was observed in symptoms. IPSS score was 13 before treatment and after treatment it was 03. Volume of prostate was reduced from 26cc to 16cc. It was a conclusive study to show the effect of *Punarnawashtaka niruha vasti* and the results were favorable for further studies to see the efficacy of this regimen.

Keywords: *Asthila*, benign prostate hyperplasia, *Punarnawashtaka niruha vasthi*

TEENAGE PREGNANCIES IN SRI LANKA: A TREND ANALYSIS

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Despite the continuous measures and awareness programmes on prevention, teenage pregnancies still remain a major public health burden in Sri Lanka. Multiple complications associated with teenage pregnancies further stresses the importance of early identification of risk groups and prevention. Therefore, this study focuses to evaluate the trend of teenage pregnancies over a 10-year duration (2009-2019). Data were extracted from annual reports published by family health bureau and analysed using Microsoft Excel software. The results revealed that, over the 10 years duration there is a reduction of 2.1% of teenage pregnancies from 6.5% in 2009 to 4.4% in 2019. However, when considering geographical breakdown, significantly high number of teenage pregnancies were recorded from districts in northern and north eastern provinces where the highest is from Trincomalee (8.9%) followed by Batticaloa (8.1%). Though there is an average reduction in number of teenage pregnancies as a country, district disparities are significant. Social and religious factors such as sexual violence, extreme poverty, the impact of war, lack of social opportunities and family conflicts could be identified as the main factors associated with teenage pregnancies in these areas. To eliminate the problem short and long-term measures should be taken. Expanding educational opportunities, eradicating poverty, rehabilitating from effects following long civil war, encouraging families, children and adolescents to engage with religious institutions, school and institutions of the health sector to implemented sex education, family counselling, and educating parents and conducting awareness programs covering these demographical areas can be done.

Keywords: teenage, pregnancy, Sri Lanka, prevention, trend

REVIEW OF DRUG PREPARATIONS OF GALAGANDA WITH SPECIAL REFERENCE TO HYPOTHYROIDISM

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Thyroid hormones are crucial for cellular functions and metabolism, while hypothyroidism is a metabolic disorder marked by the underproduction of thyroid hormones. In Ayurveda, thyroid gland disorders are categorized under *Galaganda* and *Gandamala roga*. Ayurveda identifies *Kaphaja galaganda*, which resembles symptoms of hypothyroidism among the subtypes of *Galaganda*. The aim of this study was to investigate and analyze various drug formulations for *Galaganda* mentioned in Ayurveda texts, with a specific focus on evaluating the scientific rationale behind these treatments. This study reviews Ayurvedic texts Vrihatraya, Bhavaprakasha, Bhaiasajya Ratnavali, Chakradatta, Sahasrayoga, Yogaratnakaraya, Sarasankshepaya, and Vaidyaka Saratha Samgrahaya. Various formulations were identified, including 23 external applications, 13 oils for external, internal, and nasal administration, 7 medicinal pastes for oral intake, 6 decoctions (*Kashaya*), a fermented alcoholic preparation, 7 *Swarasa*, 2 types of *Kshara* (alkaline preparations), 3 iron-based formulations, and 4 types of pills. Most of the herbs comprise immunomodulatory, antioxidant, anti-inflammatory, anti-tumor, anti-helminthic, and anti-cancer properties. These diverse formulations reflect a scientifically validated approach in Ayurveda for addressing *Galaganda*. In conclusion, this study emphasizes the utilization of various formulations recommended in Ayurvedic texts for the management of *Galaganda*. The identified formulations encompass a broad range of herbs and preparations that exhibit immunomodulatory, antioxidant, anti-inflammatory, anti-tumor, anti-helminthic, and anti-cancer properties. Hence, these diverse and scientifically validated approaches offer potential treatments for thyroid diseases, providing effective and comprehensive solutions.

Keywords: *Galaganda*, *Gandamala*, hypothyroidism, *Kaphaja galaganda*

**OPTIMIZING HEALTH THROUGH AYURVEDA GUIDELINES FOR CURD
CONSUMPTION: A SYNERGY OF TRADITIONAL WISDOM AND MODERN SCIENCE**

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Curd, known as "*Dadhi*" in Ayurveda, is a widely consumed dairy product with significant health implications. This study elucidates Ayurveda guidelines for healthy curd consumption by integrating classical texts, contemporary research findings, and novel data. Ayurveda emphasizes dietary habits to maintain *Doshic* balance, highlighting curd's impact on *Kapha*, *Pitta*, and *Vata dosha*. This study involved a comprehensive review of classical Ayurvedic texts, including Charaka Samhita and Sushruta Samhita, to extract guidelines related to curd consumption. Relevant sections such as Charaka Samhita *Sutra Sthana*, Chapter 27, and Sushruta Samhita *Sutra Sthana*, Chapter 45, were analyzed. Additionally, contemporary scientific literature on the nutritional and health impacts of curd and novel research on probiotics were reviewed. Classical texts advise against consuming curd at night and during spring and summer, recommending buttermilk (*Takra*) as a lighter alternative. They suggest consuming curd with honey (*Madhu*), sugar (*Sharkara*), or rock salt (*Saindhava lavana*) to balance its heavy (*Guru*) and sour (*Amla*) properties and enhance digestion (*Agni*). Recent studies show curd contains beneficial probiotics supporting gut health and immunity, aligning with Ayurvedic principles of balanced consumption. Adhering to Ayurvedic principles optimizes curd's health benefits, preventing issues like *Srotas sangha* (congestion of internal channels), *Ajeerna* (indigestion), *Sthoulya* (Obesity), and *Kushta* (skin disorders). This study underscores the relevance of traditional guidelines in modern dietary practices. Integrating seasonal (*Ritucharya*) and daily (*Dinacharya*) routines into curd consumption can avoid *Kapha*-aggravating conditions. Novel probiotic research further validates these benefits. Aligning curd consumption with Ayurvedic guidelines maximizes health benefits and minimizes adverse effects. Integrating Ayurvedic dietary principles and recent probiotic findings into public health recommendations can enhance well-being and prevent lifestyle-related disorders. Future research should explore the synergy between traditional Ayurvedic wisdom and modern nutritional science.

Keywords: *Dadhi*, curd, Ayurveda, healthy consumption

AYURVEDA MANAGEMENT OF *GARBHASHAGATHA ARBUDA* (UTERINE FIBROIDS): A CASE REPORT

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In Ayurveda, uterine fibroids, known as "*Garbhashagatha arbuda*" are considered benign uterine growths. A 43-year-old female patient presented with heavy menstrual bleeding and pelvic discomfort with Uterine fibroid for 2 years. Uterine fibroids can significantly affect a woman's quality of life, causing symptoms such as heavy menstrual bleeding, pelvic pain, and reproductive issues. In this study the purpose is to observe the effects of the selected drug on fibroid size, symptom severity, and overall health and to document any adverse effects or improvements in quality of life. This study was designed as a prospective, single-drug intervention, observational study with a focus on a single *Agraraja kwatha* drug's impact on uterine fibroids. *Agraraja kwatha* is traditionally used in Ayurveda for gynecological issues. Its astringent and hemostatic properties are believed to help in shrinking fibroids and reducing excessive menstrual bleeding. The patient was instructed to take 60 ml of *Agraraja kwatha* twice daily on an empty stomach for 3 months with a one-month follow-up. Post treatment, this patient had a reduction in fibroid number from two to one and the average volume decreased from 210cc to 104cc. Significant improvements in quality-of-life scores were observed and menstrual regularity was reported in this patient. Other symptoms such as pain and heavy bleeding were also significantly reduced. After 4 months of data analysis, her baseline assessment was compared with a follow-up assessment; finally, her primary and secondary outcomes were reduced without adverse effects. The shrinking scraping and anti-inflammatory properties of *Agraraja kwatha* may contribute to the shrinkage of fibroid tissue by reducing *Kapha* and promoting healthy tissue turnover. Compared to conventional treatments like surgery or hormonal therapies, *Agraraja kwatha* offers a non-surgical, low-cost, and well-tolerated alternative. Its holistic approach targets the fibroid and improves overall reproductive health. The study aimed to provide evidence for the efficacy and safety of using *Agraraja kwatha* as a single-drug treatment for uterine fibroids. Future research should focus on long-term outcomes and larger sample size.

Keywords: *Garbhashagatha arbuda*, uterine fibroid, *Agraraja kawatha*,

**EFFECT OF *DIVYANGANADI TAILA KATI VASTI* ON *THRIKASHOOLA* WITH
SPECIAL REFERENCE TO LUMBAR SPONDYLOSIS: A CASE SERIES**

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Thrikashoola, commonly referred to as lower back pain, is classified under *Nanathmaja vata vyadhi* in authentic Ayurveda texts. The prevalence of lower back pain has surged due to the sedentary lifestyles and unhealthy work habits in modern society. Clinically, *Thrikashoola* shares similarities with lumbar spondylosis. "*Thaila Pancha Shathakaya*," a traditional Sri Lankan text, mentions the formulation of "*Divyanganadi Taila*," which is indicated for *Thrikashoola*. Despite its historical use by native physicians, no scientific studies have been conducted to validate its efficacy. Therefore, this study aimed to evaluate the efficacy of *Divyanganadi taila kati vasti* along with *Dasamoola nadi sweda* in managing *Thrikashoola*. The study was conducted at the Out Patient Department and Inward Patient Department of the Provincial Ayurveda Hospital in Pallekale, Sri Lanka. The study involved five patients aged between 40-65 years, of either sex, who were randomly selected. The treatment duration was 28 days. Registered patients underwent *Kati Vasti* with *Divyanganadi taila* for thirty minutes, followed by *Dasamoola nadi sweda* for ten minutes over 14 consecutive days. Outcomes were assessed using the Oswestry Disability Index (ODI) and the Physical Impairment Scale (PIS) during the treatment and a two-week follow-up period. Data was recorded in a standard proforma and analyzed using the Wilcoxon signed-rank test. The study revealed significant improvement in symptoms of *Thrikashoola*, with a 100% relief in pain and a 90% relief in stiffness, tenderness, and range of movement. The combination of this schedule is effective in managing *Thrikashoola*. Further studies with larger sample sizes are recommended to generalize these findings.

Keywords: *Thrikashoola*, *Divyanganadi taila*, lumbar spondylosis, *Kati vasti*, *Nadi sweda*

**AMELIORATES THE PROBLEMS OF MENOPAUSE SYNDROME VIA
NUTRACEUTICALS**

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Menopause marks the final stage of a woman's menstrual cycle and ovulation, during which the ovaries significantly reduce their production of estrogen, progesterone, and testosterone. Estrogen is essential not only for reproduction but also for many non-reproductive organs and systems. This hormonal deficiency leads to many menopausal symptoms, such as heart palpitations, hot flashes, insomnia, mood swings, and skin changes including the loss of collagen, elastin, and fibroblast function, as well as increased matrix metalloproteinase enzymatic activities. Nutraceuticals are nutrient-rich foods with medicinally active ingredients that are purported to have health benefits. This study focused on investigating how and which nutraceuticals influence the amelioration of menopausal symptoms. study aimed to investigate how and which nutraceuticals can alleviate menopausal symptoms. Published journal articles were filtered using PubMed, Google Scholar, and ScienceDirect, with below keywords. A total of 25 articles, including clinical trials and in vitro studies, were analyzed. The study found that botanical compounds like phytoestrogens (lignans, flavanols, coumestans, resveratrol, and equol) play a major role in skin care, particularly for estrogen-deficient skin. They also improve bone mineral density, reduce the frequency of hot flashes, and enhance the quality of life in the vasomotor, psychosocial, physical, and sexual domains for postmenopausal women. Additionally, phytoestrogens do not have harmful effects on different body tissues. Nutraceuticals such as fenugreek, soy seeds, flaxseed, fennel, and parsley contain high amounts of phytoestrogens. The study concluded that including nutraceuticals rich in phytoestrogens in the diet, along with moderate exercise, can minimize the unpleasant effects of menopause.

Keywords: nutraceuticals, menopause, menopausal syndrome

**SYNERGISTIC EFFECTS OF ALOE VERA AND CASTOR OIL IN
THE TREATMENT OF ALOPECIA: A COMPREHENSIVE REVIEW**

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Alopecia, a condition marked by hair loss and thinning, can greatly affect individuals' quality of life. This study explores the synergistic effects of aloe vera (*Aloe barbadensis* miller) and castor oil (*Ricinus communis*) on hair regrowth and scalp health. Aloe vera is recognized for its anti-inflammatory, moisturizing, and healing properties, which help soothe and repair the scalp. Castor oil, rich in ricinoleic acid, enhances scalp circulation and offers antimicrobial benefits. Polysaccharides and glycoproteins in the Aloe vera play a crucial role in reducing inflammation and promoting cell regeneration, which is essential for a healthy scalp environment. Castor oil which contains ricinoleic acid has been shown to improve blood flow to hair follicles, enhancing nutrient delivery and stimulating hair growth. Clinical trials and *in vitro* studies which published in PubMed, Google Scholar, and ScienceDirect have been analyzed to assess the effectiveness of aloe vera and castor oil, both individually and in combination. Results indicate that their synergistic use extends the anagen (growth) phase of the hair cycle, leading to increased hair density and strength. The combination not only promotes hair regrowth but also reduces scalp inflammation and irritation, offering a holistic approach to treating alopecia. The findings support the potential of aloe vera and castor oil as a natural and safe alternative to conventional alopecia treatments. Future research should aim to optimize the concentration and application methods to maximize therapeutic outcomes, providing a more effective and accessible solution for those suffering from hair loss.

Keywords: alopecia, aloe vera, castor oil

**TOPICAL APPLICATION OF *KATUPILA* (*Securinega leucopyrus*) IN CHRONIC
NON-HEALING VENOUS ULCER: A CASE STUDY**

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Successful management of chronic venous ulcers has become a challenge to all existing medical systems in the world. *Securinega leucopyrus* Muller called Spinous Flugga in English and known as "*Katupila*" in Sinhala. This plant has been widely used as traditional medicine in Sri Lanka for wound healing. This is a desert climatic plant and easily available in Sri Lanka. This case study proves the wound healing effect of *Katupila* paste. This was a case report of a 48-year-old male patient who presented with the chief complaint of a painful non-healing ulcer on the medial aspect of the ankle joint of his left leg for 1 year. On examination it was diagnosed as a chronic venous ulcer with myiasis and foul smell. The ulcer was about 8cm length × 5cm width × 1 cm depth in size. At the first day the ulcer was cleaned, removed all the larvae and tissue debris. Then just covered and left it freely for one day. From the 2nd day the ulcer was applied with fresh leaves paste of *Katupila* daily. Routine laboratory investigation reports were normal limits. After 7 days of treatment swelling, foul smell and pain were disappeared. At about 14 days of treatment there were significant changes of healing noticed. Especially granulation tissues were there and completely healed within 6 weeks without any complications. This case study demonstrates, the properties of *Katupila* paste help in debridement, inhibit the growth of microorganisms and development of granulation tissues as well. This is one of the pieces of evidence that *Katupila* has a potential healing effect on chronic venous ulcers.

Keywords: *Katupila*, *Securinega leucopyrus*, traditional medicine, chronic venous ulcers

APPROACHES TO PROMOTE MENTAL HEALTH THROUGH HEALTH TOURISM INITIATIVES

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Positive mental health is crucial for thriving in relationships, professional life, physical health, and overall well-being. Health tourism enhances mental health through diverse restorative and therapeutic experiences. With its rich heritage, serene environments, and wellness practices, Sri Lanka has emerged as a prime destination for mental health tourism. This qualitative exploratory study identified effective approaches to promote mental health through health tourism initiatives within Sri Lanka's tourism sector. The methodology included a thorough literature review and discussions with field experts to gather insights and build a comprehensive understanding of potential strategies. The approach can integrate Ayurvedic practices such as *Sadvritta* and *Dinacharya*, along with personalized mental disposition analysis. These strategies can also involve specialized tours to culturally and spiritually significant sites, yoga and meditation retreats, counseling, mindfulness-based stress reduction, cognitive-behavioral therapy workshops, digital detox programs, and immersive nature experiences like forest bathing and eco-therapy. Studies showed a rise in wellness tourism, with international tourists visiting Sri Lanka for wellness experiences. Surveys revealed high satisfaction and positive mental health impacts. Global data indicated steady growth, highlighting Sri Lanka's increasing popularity for its unique wellness offerings. The findings underscore the potential of Sri Lanka's health tourism sector to significantly enhance mental health through integrated wellness practices. By leveraging its cultural and natural assets and focusing on comprehensive wellness programs, Sri Lanka can position itself as a leading destination for mental health tourism. Future research should focus on longitudinal studies to assess long-term mental health impacts and develop standardized wellness tourism practices.

Keywords: mental health, health tourism, wellness practices, Sri Lanka, Ayurvedic

AYURVEDA MANAGEMENT OF *KAPHAJA YAKRIT DALLUDARA* WITH SPECIAL REFERENCE TO HEPATIC STEATOSIS: A CASE STUDY

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Non-alcoholic fatty liver disease, also known as hepatic steatosis with a similar relation to '*Kaphaja yakrit dalludara*' explained in Ayurveda, is characterized by fat deposition in the liver in the absence of heavy alcohol consumption. It is a worldwide public health problem and the estimated global prevalence of non-alcoholic fatty liver disease among adults is 32% and is higher among males 40% compared to females 26%. The annual prevalence and incidence of non-alcoholic fatty liver disease among urban adults around Colombo, Sri Lanka 33%, and 6.2% respectively, and the rural population is 18%. non-alcoholic fatty liver disease is linked to obesity, smoking, hypertension, and dyslipidaemia. The 'Yogarathnakaraya' highlights that *Vidahi* (spicy food) and *Abhisyandi ahara* (food that blocks the channels) lead to *Rakta-kapha dushti* giving rise to *Yakruth roga*. The case study was done in the 'Shalya clinic' at Bandaranaike Memorial Ayurveda Research Institute, Navinna, Sri Lanka for six months. A 67-year-old male patient was initially presented with mild right hypochondriac pain with increased frequency of urination. Ultrasonography findings were grade 3 NAFLD and prostomegally. The patient was treated for both diseases and a special treatment protocol including *Chirabilwadi* decoction, *Phala trikadi* decoction, *Tripaluth ranawara* decoction, *Arogya vardhani vati*, *Lekhanadi churna*, Liv.52 tablets and extra virgin olive oil were given for the non-alcoholic fatty liver disease grade 3. After six months of treatment, remarkable improvements and normal liver sonography were found. This case report highlights the treatment effects of Ayurveda interventions in a patient with grade 3 non-alcoholic fatty liver disease.

Keywords: *Kaphaja yakrit dalludara*, *Raktha shodana*, fatty liver, *Yakrut roga*, non-alcoholic fatty liver disease

**MANAGEMENT OF VITILIGO (*SHWITRA*) USING TRADITIONAL TREATMENT
PROTOCOL: A CASE STUDY**

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Vitiligo or *Shwitra* is a chronic skin condition characterized by discolored sharp margined patches in different areas of the body. The visible nature of the white patches interplay between psychosocial factors, quality of life, and the social stigma. The study was carried out to identify the efficacy of traditional treatment protocol in the management of vitiligo (*Shwitra*). A 48 years old female patient presented to the *Shwitra* Clinic, District Ayurveda Hospital, Galle, with hypo pigmented white patches with no skin irritation from elbow to fingers in both hands was selected to the study. After administration of 30ml of *Triphala kwatha* two times a day before meal and 2.5g of *Desandun kalkaya* two times a day after meal for three days, the patient was treated by giving 120 ml of *Kotadimbula* and *Bulu* decoction two times a day after meal for 30 days. Along with this *Kotadimbula* and *Bulu* decoction, patient was advised to apply *Bakuchi oil* on the affected skin area and expose to sun everyday around 8 a.m. The patient was examined for white skin patches before the treatment and every week in the clinic to identify the efficacy of the treatment modality. After the treatment period the patient had shown significant reduction of hypo pigmented patch with replacement of normal skin pigmentation.

Keywords: *Shwitra*, skin patches, traditional, vitiligo

ANALYSIS OF VARIOUS THERMAL TECHNIQUES USED TO PRODUCE ASH, SOOT AND CHARCOAL IN AYURVEDA AND TRADITIONAL MEDICINE

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Ayurveda is an ancient healing science developed to prevent and cure the diseases. For this purpose, it has a vast number of formulations, prepared from plants, animals and minerals resources. The learned sages have devised various pharmaceutical processes to manufacture those formulas. Subjecting to heat or “burning” is one of the unorthodox practices to process the raw materials. This “heat treatment” invariably results in ash, soot and charcoal. Due to heat, these possess exceptional adsorptive capacity and are used as ingredients in medicinal formulas or as standalone medicines. Their medicinal values are significantly proven. In Sinhala language, ash, soot and charcoal are known as “*Alu*”, “*Viyana dumbulu*” and “*Anguru*” respectively. This study aims to investigate various thermal techniques utilized to subject some raw materials to heat for producing ash, soot and charcoal particularly for medical purposes. To compile the data, Ayurveda texts and research articles were extensively used. *Kshara*, is an alkaline medicine prepared from the ashes obtained from the openly burning of “*Apamarga*”, “*Kadali*”, “*Arka*”, etc. medicinal plants with CaCO₃ or otherwise burning in an “*Antardhuma*”. Then, the resulted ashes are subjected to a series of processes, including repeatedly dissolving in water, filtration and evaporation to produce *Kshara*. *Bhasma* refers to finely calcined ashes produced through a meticulous purification and incineration processes involving metals and minerals. Soot forms spontaneously over a hearth or sometimes, intentionally collected from a ghee lamp. Charcoal is produced mainly from the coconut shells and bamboo. Generally, the coconut shells are burned for their activated charcoal. In contrast to coconut charcoal, the thermal technique used for producing bamboo charcoal is quite different, where chipped bamboo is first boiled in water, then dried and either subjected to burning or frying on a hot pan. The ashes, soot and charcoal thus obtained depends upon both the raw materials and the thermal techniques applied to produce them and used for the production of various Ayurveda medicines including Ayurveda beauty products and water purification.

Keywords: ash, soot, charcoal

ANALGESIC EFFECTS OF AROMA THERAPY (*SUGANDHA DRAVYA CHIKITSA*) IN MUSCULOSKELETAL DISEASES: A LITERATURE REVIEW

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Aromatherapy is a method of using essential oils absorbed through the skin or olfactory system to get health benefits. Essential oils are, usually, impulsive, odoriferous oils extracted from parts of plants with distinctive fragrances and therapeutic effects. This can be correlated with "*Sugandha dravya chikitsa*" in Ayurveda where herbal aroma inhalation is used to influence the equilibrium of doshas. Liquid hydrocarbons, alcohols, esters, and phenols of essential oils provide Aroma. The study was conducted with reference to Ayurveda authentic texts and recently published research articles to analyze the therapeutic effects of essential oils in pain management of musculoskeletal disorders which are prevalent in elderly populations. Aroma therapy gives quick pain relief with minimal side effects. According to Ayurveda, pain is mainly due to vitiation of *Vata dosha* and depending on the body constitution and *Dosha* involvement of the disease, severity varies. Among the bioactivities of essential oils, Antioxidant properties help in pain relief. Inhalation through passive diffusion by mist, vaporization and direct inhalation by inhalers, can be used as the modes of administration. As per scientific studies, Once the volatile molecules of essential oils interact with receptors in the nose, electrical signals are generated to the brain that trigger smell perception. This includes responses initiated in the Limbic system and aromatherapy has shown a favorable effect on alleviating the severity of acute pain. Scientific evidence suggests that antinociception (a process of blocking the detection of painful or injurious stimuli by sensory neurons) activity of Aromatherapy. Ginger, Cinnamon, Sandalwood, and Lavender essential oils exhibited antinociceptive properties on acute and chronic pain. Comparative clinical trials and survey studies can be conducted to analyze the analgesic effect of Aromatherapy.

Keywords: aromatherapy, essential oils, limbic system, antioxidant, therapeutic importance

SPORTS MEDICINE FOR HEALTHY LIFE

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Sports is a subject in which medical science is heavily involved. The fundamental requirements for athletes are to maintain their fitness throughout competitions and to have increased physical and mental endurance. The author here seeks to determine how to best harness Ayurveda's potential in the realm of the initial contribution of sports to sports medicine. Medical science has a lot of responsibilities in the modern world, and sports are just one of them. Almost a completely new field of medicine called sports medicine examines the physical and mental health of athletes while taking into account their unique circumstances. Its methodology differs slightly from that of a typical person. One aspect of the sportsman's approach that sets it apart is the extreme degree of mental and physical strain they must endure. Sports medicine seeks to accomplish two objectives. The athlete's health comes first, and treating their athletic injuries comes second. An athlete is considered fit not only when they are in good health but also when they are able to withstand high levels of mental and physical strain. Sports-related injuries are not inherently different from other types of injuries, but it may be necessary to approach the aetiology and treatment plan differently. In addition to injuries, severe exhaustion and related issues are also addressed in sports medicine. In light of the foregoing, the goal of this research is to identify potential benefits of ayurveda in the field of sports medicine. Needless to say, there is very little explicit mention of this in our classics, even though healthy living practices like *Vyayama* (exercise) and *Abhyanga* (massage) are recommended. Nonetheless, a lot of non-medical classics discuss sports like boxing, fencing, archery, etc. Naturally, *Vaidya*, the medical man, was crucial to both injury recovery and conditioning. The present paper intends, in the above context, to identify the possible contributions Ayurveda can make to this field of sports medicine. Obviously, there is hardly any direct reference in our classics to this effect, though measures like *Vyayama* (exercise), *Abhyanga* (Massage) and such others are prescribed for healthy living. However, many nonmedical classics refer to the sporting fencing, archery, boxing etc., and naturally *Vaidya*, medical man used to play an important role for fitness as well as during injury.

Keywords: sports medicine, *Vyayama*, *Abhyanga*, Ayurveda

A CONCEPTUAL STUDY ON NUTRITION: AYURVEDA PERSPECTIVE

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Nutrition is the scientific study of the food and nourishment, including food composition, dietary guidelines, and the role that various nutrients play. Dietary habits established in childhood are often carried into adulthood. As per the modern scientific view the balanced diet should comprise of carbohydrates, proteins, fats, minerals and vitamins. *Ahara* is one of the bases of living being. In Ayurveda, *Ahara* is base of life. As per Ayurveda *Ahara* is the best of all medicines and is considered one of the three sub-pillars (*Trayo-Upasthamba*) of human life and complexion, happiness, voice, life, talent, satisfaction, power, intelligence, etc. depended upon *Ahara*. Food is the necessity of life because food provides energy as well as nutrition. Health depends solely on the food human intake. Health, Strength and life depends on *Agni*. Main objective of this research work was compiled and analyse the data related to nutrition as per the Ayurveda perspective. Data were collected from respective *Samhita*, journals and other lexicons. There were many concepts related to digestion and nutrition like *Agni*, *Ama*, *Ojas* etc. In this context to maintain balance *Agni* is very much to sustainability of healthy life. When considering the long-life and achieve full growth and developmental potential of the human being, it is to a great extent essential adequate intake of food and nutrition. During first six months of infancy, exclusive breast milk feeding and later onwards supplementary and complimentary food will take care of nutrition and caloric requirement of growing baby. Failure of timely introduction of complimentary food obviously results in down fall of growth and development and as a consequence of malnutrition. Different studies had been proved that various lifestyle disorders and numerous diseases occur due to faulty dietary habits. which may be prevented by proper *Ahara* and eating habits. This review study revealed that Ayurveda has explained systematic and scientific way of diet schedule for human being by considering anatomical, physiological, psychological, nutritional facets. Accurately Ayurveda focuses on *Tryoupstambha* like *Ahara*, *Nidra*, *Brihamacharya* by considering protection of the body and considering the curing of the disease conditions.

Keywords: *Ahara*, *Agni*, *Trayoupasthamba*, nutrition

EFFECT OF LOCAL APPLICATION OF *MARHAME RAAL* ON A WOUND OF OPEN SPHINCTEROTOMY: A CASE STUDY

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A chronic fissure (*Shiqaq e Miqad*) is one of the most encountered ano rectal condition and the lateral sphincterotomy is still the optimal and gold standard treatment for this. Sphincterotomy simply means dividing the internal sphincter by surgical incision and left it open to allow for healing by secondary intension. *Marhame Raal* is an Unani formula specially use in the treatment of acute, chronic and non-healing wounds. Here we have taken special type of surgical wound called sphincterotomy wound with removal of chronic fissure tag. This study was conducted on a 34 years male patient after doing his surgery for chronic fissure in ano. The wound was about 3cm× 3cm× 2cm (length/ Width/ Depth) in size and treated with the application of *Marhame Raal*. This ointment applied twice daily on the wound for four weeks of period. Within first seven days there was a constant pain at the site with mild inflammation. Then the pain was gradually disappeared and stated granulation after 2nd week. The wound was completely healed within four weeks without any complication. In this study *Marhame Raal* has proven the better management of this type of surgical wound within four weeks. Maintain the personal hygiene, follow up care was key points of this treatment. Specially hope to evaluate the effectiveness of this formula in larger sample in future clinical studies.

Keywords: sphincterotomy, *Marhame Raal*, *Shiqaq e Miqad*, Unani medicine

OVERVIEW OF *KSHARA KARMA* MENTIONED IN *VAIDYAKA SARARATHA SAMGRAHAYA*

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The "*Vaidhyaka Sarartha Samgrahaya*," attributed to King Buddadasa (362- 409 AD) of Sri Lanka, is a pioneering Ayurvedic text comprising 52 chapters that extensively cover disease diagnosis, treatment methods, and medicinal formulations. Chapter 49 specifically focuses on "*Shalya vidhi chikitsa*," emphasizing surgical procedures compatible to the "*Susrutha Samhitha*," Central to the text is the detailed documentation of "*Kshara*," an alkaline herbal preparation widely employed in both surgical and medical contexts. It differentiates between "*Pratisaraniya kshara*" for external applications and "*Paniya kshara*" for internal use, highlighting its versatile therapeutic applications. This study explores the historical significance of *Kshara* preparations within Sri Lankan Traditional Medicine as presented in the *Vaidhyaka Sarartha Samgrahaya*, emphasizing their profound impact on surgical practices and therapeutic treatments within the Ayurvedic tradition. Additionally, it examines the text's contributions to Sri Lankan medical literature, noting its extensive coverage of *Kshara* utilization across 33 chapters. The text discusses the application of *Kshara*, internally in conditions such as *Mutrakrichchra*, *Mutraghata*, *Mutraashmari*, *Prameha*, and *Hrid roga*, and externally in treatments like *Garbhini chikitsa*, *Stree roga chikitsa*, *Kumara chikitsa*, *Hrid roga chikitsa*, and *Panchakarma chikitsa*, despite its primary contraindications, often used in combination with other therapies. Throughout its narrative, *Kshara* is predominantly employed as a combine intervention rather than a primary intervention. *Yavakshara* has frequently utilized in various therapeutic practices. In conclusion, the *Vaidyaka Sarartha Samgrahaya* provides significant insights into the utilization of *Kshara* in ancient traditional treatments, enriching our understanding of Ayurvedic practices.

Keywords: Ayurveda, *Kshara*, *Pratisaraniya*, *Paniya*, *Vaidhyaka Sarartha Samgrahaya*

**AN EXPLORATORY STUDY ON ADOLESCENT HEALTH AND WELL-BEING: AN
AYURVEDA PERSPECTIVE**

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The adolescent population is important because they have specific health needs and behaviors developed during this time can impact their future health. The adolescent population is important for the development of a society and community, and their health should be given particular attention. Adolescence is a critical link between childhood and adulthood, characterized by significant physical, psychological and social transition. These transitions carry new risks but also present opportunities to positively influence the immediate and future health of young people. Adolescence is a critical developmental stage characterized by rapid physical, mental, and emotional changes. Ayurveda system of medicine offers a comprehensive framework for supporting adolescent health and well-being. Objectives of this research work was to explore the application of Ayurveda principles in managing the unique challenges faced during adolescence, emphasizing personalized care, natural remedies, dietary management, lifestyle adjustments, and preventive strategies. A systemic search was conducted by using classical books, Google Scholar, and other Web of Science databases. The result revealed that the *Prakriti* of the adolescent's was played major role to maintain wellbeing of them. A balanced diet that aligns with their *Prakriti* is crucial. Mental as well as physical well-being is necessary to maintained health of the growing child with the unique implementation of *Dincharya*, *Ritucharya*, Exercise and Yoga. The Ayurveda *Dincharya*, *Ritucharya*, dietary modification in adolescent health offers a comprehensive and personalized framework for managing the unique challenges of this developmental stage.

Keywords: adolescent health, holistic approach, *prakriti*, dietary management, preventive care

AN OBSERVATIONAL STUDY OF *KETAKELA PATTU* ON COLLES FRACTURE

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The Colles fracture is a distal radius fracture with dorsal comminution, dorsal angulation, dorsal displacement, radial shortening. This was an observational study and three patients diagnosed with Colles fractures were selected from the government-registered traditional orthopedic practitioner of the Polgahawela divisional secretarial area. 1st Patient was a 46 years old male patient, present with a left side Colles fracture, 2nd Patient was 41 years old female patient with a right side Colles fracture and 3rd Patient was a 37 years old male patient was with left side Colles fracture. All these three patients had severe pain, stiffness, heaviness, oedema and pricking sensation of the wrist joint. All were applied the *Ketakela pattu* on the fracture site about 2-3 inches thickened. Used 4 long *Pathuru* (bamboo splints) for immobilized the fracture area. Then the 6-inch cotton bandage along with splinting with bamboo and changed every 3 days and rebandaged with fresh materials retaining the optimum position of the limb for 28 days. Observed the fracture area of the patient every 3 days and applied *Pattu* with *Paturu* and rebandaging with fresh materials and clinical features were assessed before and after 28th days of treatment. Improvement of clinical features were graded according to the international scoring system and pain (80.33%), stiffness (33.33%), pricking sensation (50%), and heaviness (83.33%) were reduced and the range of movements (57%) was improved during the treatment period in all three patients. Therefore, it can be concluded that, *Ketakela pattu* is actual for the management of clinical features of Colles fracture.

Keywords: *Ketakela pattu*, colles fracture, *Kanda bhagna*, indigenous medicine

**AN ASSESSMENT OF THE ESTABLISHMENT AND MAINTENANCE PROCESS OF
THE REVERSE OSMOSIS PLANT PROJECT IN THE RIDEEMALIYADDA
DIVISIONAL SECRETARIAT IN BADULLA DISTRICT**

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Chronic kidney disease is one major health burden in the farming communities of Sri Lanka. World Health Organization has mentioned that more than 15% of people in North Central and Uva Provinces have been affected by chronic kidney disease. The Rideemaliyadda area in the Uva province has been affected by the disease. Providing purified drinking water to reduce exposure to contaminated water has been identified as one option to control the disease. The reverse osmosis process is used in water purification and 29 reverse osmosis plants have been established in the Rideemaliyadda for water purification. For the first time, this reverse osmosis plant establishment project and maintenance processes are assessed by this study. All reverse osmosis plants were visited, the maintenance process was observed and photographs were taken. Plant operators were interviewed focusing on the process and issues. Technical details on Total Dissolved Solid (TDS) values of after and before processes were also recorded from maintenance recording books. Technical maintenance and similar daily operation functions were done according to the schedule of the Sri Lankan Navy. Study findings revealed that in terms of the water sources: the highest TDS average level of 608ppm was observed in tube wells and the lowest value was observed in a natural water stream. Various water sources were used in the process and many variations were noticed in before-process TDS values. However, they have reduced to the normal range within the reverse osmosis process. In terms of reverse osmosis plant efficiency: the highest TDS removal efficiency was observed in the reverse osmosis plant located in Nagadeepa and the lowest was observed in Dikyaya however the TDS level of source water is recorded as 39ppm which is significantly lower compared with other water sources. A well-developed wastewater output system was not maintained in any reverse osmosis plant. These results revealed that the reverse osmosis process reduces impurities in water in the Rideemaliyadda area.

Keywords: reverse osmosis plant, total dissolved solids, chronic kidney disease

WOMEN'S HEALTH AND LIFESTYLE

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Complicated interaction between biological, social, and environmental elements affects women's health and lifestyle. By adopting a holistic approach that integrates biological, social, and environmental factors, significant strides can be made in enhancing women's health and well-being across diverse cultural contexts. The aim of this study is to explore how women's well-being is intricately shaped by their lifestyle choices and health status, encompassing physical, mental, and social dimensions. Lifestyle factors such as exercise, diet, and preventive healthcare play crucial roles in mitigating some health problems like musculoskeletal health, cardiovascular fitness, and reproductive health. Mental health is another significant aspect affecting overall well-being, with conditions like anxiety and depression impacting women disproportionately. Social determinants like socioeconomic status, access to healthcare, and cultural factors also exert considerable influence on health outcomes. To address these challenges effectively, a comprehensive strategy is essential. This includes increasing awareness, ensuring access to comprehensive healthcare services that encompass mental and reproductive health, and fostering supportive environments that promote healthy lifestyles. Strategies should be tailored to meet both individual and community needs, emphasizing balanced nutrition, regular health screenings, and promoting physical activity. Policy interventions that support better work-life balance, childcare options, and equitable opportunities in the workplace are critical for improving women's health outcomes globally. Significant progress may be made in enhancing the general health and well-being of women worldwide by tackling these concerns holistically through legislative initiatives, healthcare access, and education. This study emphasizes the significance of a holistic approach to women's health, supporting tactics that empower women and encourage healthier lives in a range of cultural contexts.

Keywords: lifestyle choices, mental health, reproductive health, social determinants, women's health

A CRITICAL REVIEW OF PHARMACODYNAMICS PROPERTIES OF INGREDIENTS OF PATOLA VISHVADI KASHAYA FOR TREATING AMLAPITTA (GASTRITIS)

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Gastritis is an inflammatory disease of the gastric mucosa. According to the World Health Organization, the global prevalence of gastritis was around 1.8-2.1 million cases annually in 2012. In Ayurveda, gastritis can be correlated with *Amlapitta*, which is caused by vitiated *Agni* and *Pachakapitta*. This high prevalence underscores the need to explore diverse treatment options, including traditional remedies like Ayurveda decoctions. This study aims to critically review the pharmacodynamics properties of the ingredients in *Patola vishvadi kashaya*, focusing on their effects on *Amlapitta*. The medicinal prescription was selected from Cakradatta, *Chikithsa Sangraha*, and pharmacodynamics properties collected from authentic texts, previous research, journal articles, and websites. The ingredients include *Dummella* (*Tricosanthus cucumerina*), Dry Ginger (*Zingiber officinale*), *Rasakinda* (*Tinospora cordifolia*), and *Katukarosana* (*Picrohiza kurroa*). The *Rasa* of *Kashaya* contains 50% *Tikta*, 33% *Katu*, and 17% *Kashaya*. Among the *Guna*, 50% are *Laghu*, 38% *Ruksha*, and 12% *Snigdha*. Additionally, 75% of the drugs have *Ushna Veerya*, while 25% have *Sheetha Veerya*. Regarding *Vipaka*, 50% is *Katu*, and the rest is *Madhura*. Analysis reveals properties such as *Tridosha shamaka*, *Kapha pitta shamaka*, *Kushtaghna*, *Krimighna*, *Daha prashamana*, *Agni deepana*, *Ama pachana*, and *Rasayana*. According to modern science, it contains phytochemicals like alkaloids, tannins, glycosides, and flavonoids, which exhibit anti-inflammatory, antimicrobial, anti-ulcerative, and blood-purifying actions. Based on these properties, *Patola vishvadi kashaya* can be recommended for treating *Amlapitta*. Moreover, scientific research and clinical trials are needed to fully understand and maximize the benefits of this valuable medicine.

Keywords: *Patola vishvadi kashaya*, *Amlapitta*, pharmacodynamics properties

DEVELOPMENT AND NUTRITIONAL QUALITY EVALUATION OF *HULANKEERIYA* (*Maranta arundinacea*) FLOUR ENRICHED COOKIES

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Medicinal plants are the major source of disease prevention and treatment. *Hulankeerya* (*Maranta arundinacea*), or arrowroot in English, which belongs to the family MARANTHACEA, is a perennial plant that grows with starch-rich white rhizomes. Starch is a nutrient, an emollient, and a demulcent. *Hulankeeriya* has been used for years due to its easily digestible nature; hence, it is useful in bowel complications such as indigestion, dysentery, skin diseases, and burning sensations. It is used in Sri Lankan traditional medicine as an antidote for food poisoning and venomous snake bites. The present study was conducted to develop cookies using powdered *Hulankeeriya* root and assess their nutritional value. Traditional rice flour, ghee, salt, sugar, vanilla essence, and powdered *Hulankeeriya* root were used to develop herbal cookies based on *Hulankeeriya* flour after several trials to get the proper ratio of the ingredients. The prepared cookies were evaluated to determine the values of the macronutrients such as carbohydrate, protein, fat, moisture, ash content, and energy by proximate analysis methods. The results revealed that the carbohydrate content is 60.8%, protein content is 3.8%, fat content is 27.8%, moisture content is 5.9%, ash content is 1.7% and provide 508.6 kcal/100 g of energy. The preparation of herbal cookies is innovative and novel research in the realm of functional food production. Hence, the creation and utilization of such functional foods will benefit people with various illnesses in addition to improving the population's nutritional status.

Keywords: *Hulankeeriya*, herbal cookie, nutritional analysis

COMPARATIVE STUDY OF SCAVENGING ACTIVITY OF HALOPHYTE, *Xylocarpus rumphii* SEED EXTRACTS, AND ITS PRODUCT *GOPALU GULIYA* BY DPPH ASSAY

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This study investigates the antioxidant properties of two different seed extracts (A₁ and A₂) of halophyte *Xylocarpus rumphii*, along with its traditional medicinal product *Gopalu guliya* (B), which is unique to the Southern Province of Sri Lanka. Despite its traditional uses, there is no scientifically proven evidence of the pharmacological properties of *Gopalu guliya*. The present study focused on the antioxidant activity of three methanol extracts (A₁, A₂ and B) using the 2,2'-diphenyl-1-picrylhydrazyl (DPPH) radical scavenging assay. Seed sample A₁ underwent detoxification via boiling with cow milk before methanol extraction, while seed sample A₂ was directly extracted. All samples were extracted using a rotary evaporator. Antioxidant activity was compared among the samples A₁, A₂ and B methanol extracts using the DPPH assay across varying concentrations. Sample A₁ showed the highest DPPH scavenging activity at 85.3%, followed by A₂ at 83.1%, and B at 55.2% at 50 µg/ml. The extracts from cow milk boiled seeds and *Gopalu guliya* exhibited higher DPPH scavenging activity than the normal seed extract. All extracts have demonstrated significant scavenging activity compared to controls and ascorbic acid, highlighting their potent antioxidant properties. Further research is essential to conduct comprehensive investigations into their potential benefits.

Keywords: cow milk, DPPH assay, seeds, *Gopalu guliya*, *Xylocarpus rumphii*

EXPLORATORY STUDY ON THE UNIQUE CHARACTERISTICS OF DRUG STORAGE METHODS OF AYURVEDA MEDICINE WITH SPECIAL REFERENCE TO STONE VESSELS

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Ayurveda medicine is a science that sources a wide range of pharmaceutical formulas, with detailed rules and procedures, covering from the collection of raw materials to the storage of the finished product. According to traditional and Ayurveda texts, storage vessels such as gold, silver, copper, glass, clay, bronze, and iron are specific to certain formulas, ensuring the quality, safety, and efficacy of the medicine. During a field visit to a traditional Orthopaedic and General physician Dr. K.M.P.S.B. Kangara in Ukuwela, Matale District, Sri Lanka, the researcher observed and documented two stone vessels used to store medicinal oils. They depict a rare methodology found in the ancient Ola Leaf texts in the aspect of preservation and maintaining the efficacy of medicinal preparations for a long time. The stone vessels are oval, measuring approximately 30 cm in height and 20 cm in diameter. The front external surface is engraved with *Brahmi* letters from the 1st century AD. Each vessel is topped with a stone lid about 10 cm in height and 20 cm in diameter. Inside, the vessels have a cylindrical container carved to about 15 cm in depth and 10 cm in diameter. According to the *Brahmi* letters, the herbal oils contained are *Raja tarangani* and *Henaraja* oil. This study aims to provide a comprehensive understanding of how traditional Ayurveda drug storage methods contribute to the authenticity, safety, and sustainability of Ayurveda medicinal practices. The study was done under the coordination of Dr. H.M.J.B. Herath, Commissioner of the Central Province Ayurveda Department.

Keywords: drug storage, Ola Leaf, Brahmi letters, pharmaceutical formulas, *Raja tarangani*

**EFFECT OF SRI LANKAN TRADITIONAL MEDICINE AND AYURVEDA
MANAGEMENT ON ENDOMETRIOSIS AND ADENOMYOSIS: A CASE STUDY**

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Endometriosis affects about 10% of reproductive-age women and girls worldwide. Adenomyosis is a stage of the endometriosis where endometrial glands found deep within the myometrium. This study is aimed to showcase a successful management on endometriosis and Adenomyosis case. This case study is of a patient diagnosed with both endometriosis and adenomyosis with multiple endometrioma in right and left ovaries. She is a 42-year married nulliparous women without other pathologies. BMI-26.8, BP -120/78 mmHg and Pulse:78/min. H/O laparoscopic B/L cystectomy in year 2021. The intervention period was three months while the 1st drug regimen started by OPD management followed by two IPD treatment regimens in 01 month apart. *Sneha sweda, Yoga vasti, Nadi sweda, Udara pattu, Mathra vasti* procedures were conducted with the 2nd and 4th oral drug regimen. In between 3rd drug regimen was continued at OPD level. The dysmenorrhea and dyspareunia were monthly assessed by using Visual Analog Scale (VAS). Before and after assessment of endometriomas and adenomyosis was measured by ultrasound scans conducted by the experts who are blind on the procedure. Other vital signs and menstrual pattern was observed every 2 weeks. After the treatments VAS score of dysmenorrhea was reduced to 0 from 10 and of dyspareunia it reduced to 1 from 4. The ultrasound scan report proved the total cure of the endometrioma and adenomyosis after three months intervention. During the follow up period patients QOL was remain unchanged. In conclusion this case is successfully managed by Sri Lankan traditional and Ayurveda treatments.

Keywords: endometriosis, adenomyosis, Sri Lankan traditional medicine, Ayurveda, case study

A PHYSICOCHEMICAL AND PHYTOCHEMICAL ANALYSIS OF *TRIKANTAKADI KWATHA*

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The *Kwatha kalpana* is one of the most effective and widely used liquid dosage forms in Ayurveda pharmaceuticals. *Trikantakadi kwatha* is a classical formulation mentioned in *Bawaprakasha* under *Jvaradhikara*. The *Kwatha* ingredients are *Nidigdika* (*Solanum xanthocarpum* Schrad & Wendl.), *Shunti* (*Zingiber officinale* Roscoe.) and *Amurtha* (*Tinospora cordifolia* (Thunb.) Miers). It is indicated for *Jeerna jwara*, *Aruchi*, *Kasa*, *Swasa* and *Agnimandya*. As the demand for herbal medicines is increasing, analytical studies of herbal drugs are having great significance in standardization. The present study was designed to execute organoleptic, physicochemical and phytochemical analysis of *Trikantakadi kwatha* according to standard protocols. *Trikantakadi kwatha* was prepared according to the method described in *Sharangadhara Samhitha*. The *kwatha* was freeze dried to obtain the concentrated aqueous extract for the phytochemical analysis. *Trikantakadi kwatha* appeared brownish in color, pleasant odor, bitter in taste and liquid in consistency. *Trikantakadi kwatha* showed a pH of 5.73, specific gravity of 1.02 and total solid content of 1.816% w/v. The preliminary phytochemical screening of the freeze-dried aqueous extract of *Trikantakadi kwatha* exhibited the presence of tannin, alkaloids, saponin, flavonoids and cardiac glycosides. Thin Layer Chromatogram was developed using Ethanol: Water (1:1 v/v%) solvent system and observed under 256nm and 366nm UV light. HPTLC fingerprint revealed eleven peaks (Rf= 0.01, 0.09, 0.18, 0.22, 0.25, 0.34, 0.38, 0.47, 0.61, 0.63, 0.81) for the extract. This physicochemical and phytochemical analysis and HPTLC would provide preliminary scientific evidence for *Trikantakadi kwatha*. Phytochemicals present in *Kwatha* suggest anti-oxidant, anti-inflammatory, anti-microbial and analgesic actions that will be useful in therapeutic applications.

Keywords: *Kwatha kalpana*, *Trikantakadi kwatha*, physicochemical, phytochemical, HPTLC

A SINGLE CASE STUDY OF *DASHANGA LEPA* ON ANKLE SPRAIN

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Ankle sprains are common injuries characterized by ligamentous damage and inflammation. This case study focused on the therapeutic effect of *Dashanga lepa*, an Ayurveda herbal paste comprising a combination of ten medicinal herbs with *Shothahara* (anti-inflammatory) and *Vedanasthapaka* (analgesic) properties, on an ankle sprain. A 30-year-old female patient presented at the Outpatient Department of I Ayurveda Nationa Hospital with a history of a recent ankle injury while playing badminton. Initial examination confirmed severe pain and swelling, tenderness, and restricted range of motion (ROM) consistent with a grade III sprain; an X-ray excluded a fracture. *Dashanga lepa*, was applied topically with tamarind (*Tamarindus indica L.*) leave juice on the affected right ankle once every day for ten days, with supportive measures (rest and elevation). Internal treatments were not prescribed. Outcome measures included pain intensity assessed via Visual Analog Scale (VAS), ankle circumference measurements for swelling, and patient reported functional improvements. Assessment was done on every 5th day. Results indicated a gradual reduction in swelling, pain from severe (VAS score of 8/10) to mild (VAS score of 2/10) and increased ROM within the first five days of treatment. Pain and swelling decreased significantly, with a notable improvement in the ankle ROM observed by the 10th day. This case study suggests that *Dashanga lepa* combined with tamarind leave juice may offer effective therapeutic benefits in managing grade III ankle sprains, potentially due to its *Shothahara* and *Vedanasthapaka* properties. Further research is required to demonstrate randomized, controlled clinical trials to evaluate these findings and explore the mechanisms underlying their efficacy.

Keywords: *Dashanga lepa*, ankle sprain, case study, analgesic, anti-inflammatory

ROLE OF ABRESHAM (*Bombyx morri*) AND GIL E MILTANI (*Solum fullonum*) IN SKIN CARE

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Abresham, or silk cocoon, is an animal-origin byproduct, produced by the silkworm, *Bombyx mori*. These cocoons are composed of fiber proteins, mainly fibroin and sericin. *Gil e Miltani*, also known as Fuller's Earth, is a mineral-origin drug, and a non-plastic form of kaolin. These natural ingredients have been used for their therapeutic properties in skin care for ages. This study aims to explore the scientific value of *Abresham* and *Gil e Miltani* in enhancing skin health. A systematic literature search was conducted using PubMed, Google Scholar, and Semantic Scholar with keywords including *Abresham*, silk cocoon, *Gil e Miltani*, Fuller's Earth, skin care, and cosmetic uses. Thirty-nine articles from the past decade were selected, and the data were synthesized. *Abresham* is noted for its blood-purifying (*Musaffi e Khoon*), resolvent (*Muallil*), and desiccant (*Mujaffif*) properties, while *Gil e Miltani* possesses astringent (*Qabiz*), detergent (*Jali*), and resolvent (*Muhallil*) properties, benefiting skin care both internally and externally. Silk sericin has been proven to possess anti-aging, antimicrobial, antioxidant, tyrosinase inhibition, and UV protective activities. Fibroin also exhibits antimicrobial and wound healing properties. Due to its unique physical properties such as elasticity, glossiness, flexibility, and biocompatibility, it has been incorporated into several skin care products. *Gil e Miltani* is known for its natural cleansing effect, improvement of blood circulation, and its ability to enhance skin glow. As an absorbent, anti-caking, and opacifying agent, it is widely used in cosmetic formulations. Integrating these two ingredients offers a holistic and synergistic effect in skin care. However, further scientific studies are necessary to validate these benefits.

Keywords: *Abresham*, *Gil e Miltani*, skin care, cosmetic uses

**A SYSTEMATIC REVIEW OF SINGLE DRUGS (*MUFRA T E ADVIA*) USED IN
LEUCORRHOEA (*SAYALAN AL RAHIM*)**

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Sayalan al Rahim is a common symptom among females. It occurs due to derangement in quality and quantity of Humors (*Akhlat*) and because of accumulation of excessive morbid material (*mawad e fasida*) in the uterus due to weaken repulsive power (*zoaf e quwat e dafea*). The aim of the study is contributed to enhancing the knowledge based on *Mufrat e Advia* use in *Sayalan al Rahim* as a safe and effective. In this review gathered details from Unani classical books and databases like Pub Med, Google scholar, Research gate, Science direct and the Journal articles to identify mechanisms of actions of *Mufrat e Advia* in treating *Sayalan al Rahim*. Search terms as *Sayalan al Rahim*, *Mufrat e Advia*, single drugs and Leucorrhoea were used for articles published from 2017- 2024. A total of 30 articles were filtered and scrutinized. It has substantial impact on many aspects of quality of life, including reproductive ability, sexual functioning, mental health and the ability to work and perform routine physical activities. There are many *Mufrat e Advia* have been described for the management of *Sayalan al Rahim*. In that *Samage Arbi*, *Anisoon*, *Mazu*, *Shibeyamani* and *Gul e supari* poses anti- inflammatory (*Muhallil*), Anti-bacterial, Astringent (*Qabis*), Analgesic (*Musakkin*), Laxative (*Mullayyin*) and Tonic (*Muqavvi*). These drugs can work through a variety of mechanisms like oral administration, external application and local applications. It is necessary to be treated with these safest drugs and Unani medicine plays an important role in this.

Keywords: *Sailan ur Rahem*, *Mufrat e Advia*, anti- inflammatory, anti- bacterial, astringent

**EFFECT OF AN AYURVEDA TREATMENT PROTOCOL IN MANAGING AUTISM:
A CASE STUDY**

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Autism spectrum disorder is characterized by difficulties with social interaction and communication, with atypical behavior patterns. WHO says, 1 in 100 children worldwide has autism. Management of autism spectrum disorder include speech therapy, occupational therapy, physical therapy. This study focused on the effect of Ayurveda treatment protocol for Autism. Pre-diagnosed, four-year, three-month-old Autism boy was brought to *Balaroga*, Out Patient Department of Ayurveda National Hospital. He exhibited 2-3 single-word speech, communication disturbances, poor eye contact, hyperactivity for 02 years. He was admitted for inpatient treatment. *Trikatukadi kasaya* ¼ *Patha*, *Chandrakalka 1 Madata* with *Mahadalu anupana* were given in 1st week. Then, 14 *Anu thaila pratimarsha nasya* was started, followed by 10 *Shirodhara* and 10 *Shiro basti* with *Divyangnadi* oil. *Vacha choorna* 1.25g, *Kaluduru-thippili leha*, *Brahmi mandukaparni kashaya* ¼ *patha* were given continuously. Finally, 2.5g *Datri choorna* and 5 *Matra basti* were given with 50 ml *Narayana* oil. Progress was noted based on professionals' observations of child's sign and symptoms and mother's comments of child's progress. During *Nasya karma*, significant improvements in child's speech were observed, with 12-15 new words. Child began reading, forming two-word sentences. Attention was improved, hyperactivity was controlled gradually. In autism, changes are in the brain. According to Ayurveda, nose is the entryway to head; medicine reaches the brain, regulate all functions while removing morbid *doshas*, Further, used medicine has *Agni deepana*, *Sroto shodhana*, *Medhya* properties, which control disease by correcting *Agni*, *Tridosha* and enhancing *Dhee*, *Druti*, *Smriti*. This case study demonstrates the efficacy of Ayurveda treatment in managing Autism. Further studies with larger sample are necessary to scientifically validate these findings.

Keywords: Autism, *Nasya karma*, *Anu thaila*, *Balaroga*

**STUDY OF MODAKAYA WITH SPECIAL REFERENCE TO SANJEEWANIE
KAMESHWARI RASAYANAYA**

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Modaka, a preparation in Ayurveda pharmaceuticals involves grinding powdered ingredients with base like bee honey and ghee. This study focuses on *Sanjeewanie kameshwari rasayanaya* which is renowned for its rejuvenative and aphrodisiac properties among *Modaka* preparations. *Sanjeewanie kameshwari rasayanaya* was prepared according to Sri Lankan Ayurveda pharmacopeia following standard operating procedures at the *Sanjeevani Ayurveda Drug Company, Embilipitiya*. Organoleptic analysis, physico-chemical analysis, total sugars, coloring matter, free fatty-acids and aflatoxins detection, microbiological assessments, heavy metal analysis using microwave digestion and chromatographical studies were performed to determine quality and safety of it. The drug sample and standard raw material mixture were extracted into dichloromethane separately for chromatographical studies and developed chromatograms (Ethyl-acetate: Dichloromethane: Cyclohexane 0.1:3.4:1.5) were visualized under 254nm and 366nm UV light after spraying with Vanillin-sulphate reagent. Physically, *Sanjeewanie kameshwari rasayanaya* exhibited a loss on drying of 3.6% and total-ash of 2.8%, meeting standard values. Microbiological assessments revealed, aerobic plate count (1.9×10^4), *Escherichia coli* (absent), *Staphylococcus aureus* (<10), yeast and mould count (<100), *Salmonella* spp. (absent), *Pseudomonas aeruginosa* (<100) were within acceptable limits. Heavy metals like lead, cadmium, arsenic and mercury, aflatoxin B1, B2, G1, G2 and total aflatoxin and synthetic dyes were not detected in the sample. Total sugar content and free fatty acids were 27.7% and 2.0% respectively. TLC fingerprint profile of the drug sample was comparable in terms of R_f values (0.20, 0.27, 0.39, 0.44, 0.50, 0.58, 0.69, 0.78, 0.89, 0.94) and colors to the profile of standard raw material mixture. In conclusion, *Sanjeewanie kameshwari rasayanaya* demonstrates its status as a standard drug by meeting established safety and quality standards.

Keywords: *Sanjeewanie kameshwari rasayanaya*, microbial contamination, TLC

PHYTOPHARMACOLOGICAL EVALUATION OF LEAVES AND FRUITS OF *Morinda citrifolia* L. USED IN SRI LANKAN TRADITIONAL MEDICINE

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Morinda citrifolia L. of family Rubiaceae is a perennial tree commonly known as *Ahu* (noni fruit) in Sri Lanka. It features large leaves, white flowers and green fleshy fruit that turns yellow when ripe. In Sri Lankan traditional medicine, *Gedi vana pilika vedakama* and *Kedum bidum vedakama*, its leaves and fruits are utilized in external applications in form of *Mellum* and *Paththu*. This study aimed to evaluate pharmacological properties of *Morinda citrifolia* L. as per Ayurveda authentic texts and to conduct phytochemical and chromatographical analyses on methanol extracts of its leaves and unripe fruits. The extracts were prepared by agitating the plant materials with methanol for 24hrs, followed by concentration using rotary evaporator at 40°C. Developed chromatograms (Chloroform: Methanol 7:3v/v%) were visualized under 256nm and 366nm UV light. Pharmacological assessments revealed *Morinda citrifolia* L. has sweet and sour tastes, heavy and slimy properties, cold potency and ability to pacify all three *doshas*. Both extracts tested positive for alkaloids, flavonoids, terpenoids and glycosides, while only fruit's methanol extract showing carbohydrates. Previous studies indicated alkaloids, flavonoids, glycosides and terpenoids are effective in orthopedic and wound treatments due to their anti-inflammatory, anti-oxidant, and tissue-regenerative properties. HPTLC fingerprint profile demonstrated similar numbers of peaks in both extracts, although with differing intensities (R_f for leaves 0.00, 0.06, 0.25, 0.66, 0.83, 0.85 and for fruit 0.00, 0.06, 0.16, 0.34, 0.36, 0.86). In conclusion, *Morinda citrifolia* L. exhibits promising pharmacological potential due to rich chemical composition, suggesting therapeutic benefits consistent with its traditional uses in wound care and orthopedics within Sri Lankan traditional medicine.

Keywords: *Morinda citrifolia* L., Traditional medicine, Phytochemicals, TLC, HPTLC

EFFECT OF DEVADARA PASTE ALONG WITH MATRA VASTI ON GRIDHRASI WITH SPECIAL REFERENCE TO SCIATICA: AN OBSERVATIONAL STUDY

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Gridhrasi is one of the most common neurological disorders caused by *Vata dosha*, as described in *Nanatmaja vata vyadhi* in Ayurveda. It is characterized by shooting pain in the lower back area, extending to the leg. Therefore, this study was done to evaluate the effect of a regimen that includes *Thaila abhyanga*, *Devadara Paste*, along with *Matra Vasti* for *Gudhrasi*. *Devadara* paste consisting of *Devadara (Cedrus deodar)*, *Anthadenia sesamoides* Lem, *Ricinus communis* L, *Inula racemose* L., cow milk and Ghee. A 37-year-old female patient diagnosed with *Gridhrasi* for one month was purposively selected for the study. Clinical signs and symptoms were recorded before the treatment. *Devadara* paste was applied to the lower back and kept four hours daily for two weeks after the application of *Kubja parasarani* oil *Abyanaga* with *Dashamul nadi sweda* (fomentation) along with *Kubja prasarani* 60 ml for *Matra vasti*. The weekly assessment was done using the Roland–Morris Disability Scale (RMD) during the two weeks treatment regimen and the clinical findings were recorded on a prepared proforma. At the end of the treatment, it was observed that pain, stiffness, numbness, and heaviness were completely reduced and radiological findings showed remarkable improvements. The external treatment protocol proved clinically effective in managing *Gridhrasi*, and further evaluation with a larger sample size is recommended to generalize its findings.

Keywords: *Gridhrasi, Devadara paste, Matra vasti*

A COMPARATIVE STUDY OF SELECTED BIOACTIVITIES BETWEEN RAW SEEDS AND A PRODUCT DEVELOPED FROM *Strychnos potatorum* PLANT

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Strychnos potatorum, known as the clearing nut tree and “*Igini*” in Sinhalese, is renowned for its ability to purify water and its numerous health benefits. This study evaluated the biological activity of the raw seeds and of a consumable product developed from the seeds in a laboratory setting. The product can be brewed and consumed. Aqueous extracts were prepared by decoction. Both extracts were subjected to several *in vitro* laboratory experiments. The Folin Ciocalteu’s method was used to measure the total phenolic content (TPC) and the Aluminum Chloride method was used to measure the total flavonoid content (TFC) of both extracts. The product extract showed a higher TPC value; 0.826mg/ml GAE/g compared to the raw seed extract 0.542mg/ml GAE/g. The product also showed a higher TFC value, 0.0711mg/ml QE/g than the raw seeds 0.0514mg/ml QE/g. The product demonstrated an anti-oxidant activity of 34.25% for the 2,2-diphenyl-1-picrylhydrazyl (DPPH) assay, while the raw seeds showed a similar activity of 33.50% at a concentration of 1mg/ml. The product reported an antioxidant activity of 33.33% at 1mg/ml for the 2,2’-azino-bis (3-ethylbenzothiazoline-6-sulfonic acid) (ABTS) assay while it showed a slightly lower activity of 27.97% for the raw seeds; where the results of the two assays collaborated. The product extract’s anti-inflammatory activity was reported as 30.94% while the seed extract only showed an inhibition of 17.58% by the human red blood cell (HRBC) membrane stabilization assay at 1mg/ml. For the protein denaturation assay, the product showed an anti-inflammatory activity of 49.09% while the raw seeds showed a maximum activity of 47.36%. These results indicate that the developed product exhibits better biological activities compared to the raw seeds, highlighting its potential for health benefits. Further research will be conducted to analyze additional bioactivity of both extracts.

Keywords: *Strychnos potatorum*, clearing nut tree, anti-oxidant, anti-inflammatory, cytotoxic properties

HEALTH PRESERVATION THROUGH UNANI DIETARY INTERVENTIONS: A REVIEW

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Unani medicine, rooted in Greek and Islamic traditions, emphasizes dietary practices for health maintenance and disease prevention through the concept of *Mizaj* (temperament), classifying individuals and foods as hot, cold, wet, and dry. This review explores how personalized Unani dietary interventions can preserve health. A literature search using Unani classical texts, and databases such as PubMed, Google Scholar, and relevant journals was conducted. The findings indicate that Unani dietary interventions are tailored to individual *Mizaj* to restore and maintain bodily balance. Foods are categorized by their inherent qualities, with specific recommendations to counterbalance an individual's dominant temperament. Hot *Mizaj* individuals often prefer hot foods, while cold *Mizaj* individuals prefer cold foods. Unani literature highlights the importance of aligning food choices with seasons: cold foods in summer and hot foods in winter. Proper digestion is crucial; it is important to avoid eating another meal before the first is digested. Regular intake of sour, sweet, or salty foods can harm health, and certain combinations like milk with fish are discouraged. Careful selection and combination of foods are vital in Unani medicine. This review also emphasizes the importance of food combinations and meal timings in optimizing digestion and overall health. In conclusion, Unani dietary interventions, with their emphasis on personalized nutrition based on *Mizaj*, offer valuable insights for modern health preservation.

Keywords: dietary interventions, health preservation, *Mizaj*, temperament, Unani medicine

SCIENTIFIC INSIGHTS INTO *LAUHA BHASMA* PREPARATION

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Rasa shastra comprehends different valuable drug formulas and preparation methods with significant effects on various diseases. Among Iron-based preparations, in particular, *Lauha bhasma* is important single drug and secondary ingredient for many preparations. Despite its importance, this preparation method has not been studied or standardized. Therefore, it is important to interpret these steps scientifically using physio-chemical properties and nano properties. Preparation of *Lauha bhasma* followed the reference mentioned in authentic Ayurveda text. Each step in this process was analyzed for its physical, chemical, and structural changes using physicochemical methods, FTIR (Fourier Transform Infrared Spectroscopy), UV spectrum analysis, XRD (X-ray Diffraction), SEM (Scanning Electron Microscopy), and AAS (Atomic Absorption Spectroscopy). The analysis confirmed a significant structural, physical, and chemical property incorporating nano features. XRD data is in agreement with the Iron Oxide, UV Vis spectroscopy resulted with peaks between 220 nm -300nm which reveals the presence of Iron Oxide nano particles (IONPs). Furthermore, FTIR resulted with well-defined peaks related to Iron Oxide mainly with 3439, 1638, 938, 632, and 541 cm⁻¹. The evidence of the presence of IONPs is increasing in each step after purification. Therefore, it is concluded that *Lauha bhasma* preparation method would facilitate iron absorption in the human body, forming optimal solubility, size of the molecule, degree of polyherbal, and other facilitators binding to iron. Extensive *in-vivo* and *in-vitro* studies are needed to confirm these results to gain further insights into the therapeutic effects.

Keywords: *Lauha bashma*, nano, scientific, method

BARRIERS TO PROGRESS IN SRI LANKA'S INDIGENOUS MEDICAL SYSTEM: AN ANALYSIS USING MASLOW'S HIERARCHY OF NEEDS

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The progress of Sri Lanka's indigenous medical system, particularly Ayurveda, is hindered by a range of socio-economic challenges faced by practitioners. This observational study explores these barriers through the lens of Maslow's Hierarchy of Needs, a psychological framework outlining human motivation based on a five-tier model of human needs. By analyzing the experiences and challenges reported by Ayurveda practitioners, this study aims to highlight the factors impeding their professional growth. Data were collected from discussions of sample of 60 Ayurveda practitioners, including 30 state-appointed doctors and 30 individuals aspiring for government appointments, who are currently working as consultants in Ayurveda resorts or running private practices. The analysis revealed that 85% of both groups stated financial instability as a primary concern. Furthermore, 92% of respondents indicated that their primary goal was achieving economic stability rather than contributing to the development of the field. Statistical methods, including chi-square tests and logistic regression, were employed to analyze the data, revealing no significant difference between the groups regarding financial instability ($p > 0.05$) and showing a significant association between financial concerns and the lack of professional development goals ($OR = 3.5, p = 0.01$). These findings underscore the urgent need for systemic reforms to provide financial and institutional support to Ayurveda practitioners. Addressing these barriers is crucial for enabling the holistic development of Sri Lanka's indigenous medical system and ensuring its sustainability and growth. Systemic reforms are essential to support the professional growth of Ayurveda practitioners, enabling them to fulfill their basic needs and progress toward higher-level aspirations.

Keywords: Ayurveda, socio-economic barriers, professional growth

**A STUDY OF THE EFFECTS OF A TRADITIONAL TREATMENT PLAN IN THE
MANAGEMENT OF RADIUS BONE FRACTURES “ARASTHI BHAGNA”:
A CASE SERIES**

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Traditional Medicine is a unique heritage of Sri Lanka over centuries and traditional orthopedic treatments are the most popular field in it. In Sri Lanka many patients who became disabled by traumatic conditions initially or later seek Ayurveda or Indigenous treatments. This study aimed to investigate the efficacy of a traditional treatment plan in managing radius bone fractures. A randomized clinical trial was conducted at *Helabima wedamadura*, Hidallana, Rathnapura. Ethical clearance and administrative approvals were obtained, ensuring adherence to ethical standards and protocol. The first five patients confirming the x-ray of radius bone fracture aged 25-75 were selected for treatment, following informed consent procedures. Traditional drugs were prepared according to established methods, including internal and external formulations. The intervention spanned six weeks, with treatments administered in specific regimens targeting pain relief, inflammation reduction and fracture stabilization. Data collection involved assessing clinical features before, during, and after treatments, utilizing a grading scale to assess pain, swelling, numbness, stiffness, discoloration, deformity, and difficulty of movements. Data analysis was done according to the variation of the mean value of each parameter before and after the treatments and after the follow-up period of four weeks. Analysis revealed a significant reduction in pain, numbness, discoloration and deformity post-treatment with complete resolution observed in some patients. Swelling and stiffness showed marked improvement but persisted to a lesser extent after follow-up. Mobility difficulties were significantly reduced but persisted in some cases. Overall, the traditional protocol demonstrated effectiveness in managing radius bone fractures with most patients experiencing complete recovery or significant improvement without any adverse effects.

Keywords: Sri Lankan traditional medicine, radius bone fractures, *Arasthi bhagna*, indigenous orthopedic treatments

**COSMETIC POTENTIAL OF SRI LANKAN HERBS INFLUENCE TO DECREASE
ULTRA VIOLET RAYS - INDUCED PHOTOAGING VIA COLLAGEN SYNTHESIS IN
HUMAN KERATINOCYTES: A REVIEW**

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Skin ageing can occur due to endogenous and exogenous factors, with photoaging caused by Ultra Violet rays being the main exogenous factor. Photoaging results in oxidative damage caused by UVB irradiation of the epidermis and UVA irradiation of the dermis, leading to wrinkles, black spots on the face, and other skin issues. There are many herbs around us in our gardens. However, their ability to prevent photoaging has not been studied extensively. This study aimed to investigate the scientific evidence of the anti-photoaging effects of commonly available herbs in Sri Lanka. Published articles from scientific journals were filtered using search terms such as ‘photoaging’, ‘collagen’, and ‘hyaluronic acid’—the study considered in vivo human skin models, hairless mice models, and in vitro models. The study revealed that these herbs have the potential to decrease collagen degradation and increase moisture retention in the skin through various mechanisms. The functions of the herbs were identified scientifically, showing the potential to increase hyaluronic acid synthase, filaggrin, and collagen type I alpha 1 expression while inhibiting UVB-induced expression of matrix metalloproteinases (MMPs). Herbs like tea leaves, cassia flower, moringa, purslane, *Aswaganda*, pomegranate, Ceylon Atlanta, Ceylon slitwort, carrot, tomato exhibited these potentials differently. These findings suggest that Sri Lankan herbs could enhance the cosmetic potential of skincare products by preventing photoaging. The study provides evidence for the anti-photoaging effects of commonly available herbs in Sri Lanka, highlighting their potential use in cosmetic products to improve skin health and appearance.

Keywords: photoaging, collagen, hyaluronic acid

**MEDHYA ACTION OF JYOTISHMATI
(*Celastrus paniculatus* WILLD.: AN ANALYTICAL REVIEW**

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Jyotishmati is a deciduous vine of the family Celastraceae, commonly known as the Intellect Tree. According to Ayurveda, *Jyotishmati* is regarded as a premier drug for *Medhya karma* or nootropic action. Correspondingly, scattered data from various novel research studies supports this Ayurveda claim. Thus, the objective of this review was to highlight and validate the *Medhya* action of *Jyotishmati* with evidence from textbooks of Ayurveda and modern research studies. For this purpose, relevant authentic Ayurvedic textbooks and modern research papers were extensively reviewed and analyzed. The Sanskrit synonyms of *Celastrus paniculatus*; *Jyotishmati*, *Tejovati*, *Medhya* and *Sarasvati* further elucidate its intellect-promoting property. *Jyotishmati* seed oil is the preferred dosage form for *Medhya* action and the *Prabhava* of *Jyotishmati* is also stated as *Medhya*, along with *Buddhismritikara karma*. According to Ashthangahridaya Samhita; *Buddhi*, *Medha* and *Dhee* are regarded as functions of *Pitta dosha*. The Ayurveda pharmacodynamic properties of *Jyotishmati* include; *Katu* and *Tikta rasa*, *Tikshna* and *Sara guna*, *Ushna virya* as well as *Katu vipaka*, all of which are *Pittakara*, hence conceptually validating its *Medhya* action as per fundamentals of Ayurveda. The nootropic and cognitive enhancing activity of *Celastrus paniculatus* is mainly attributed to its inhibitory action of Acetylcholinesterase, specially by its active ingredients known as Sesquiterpenes. In addition, several modern research papers have reported the neuromodulating, neuroprotective, tranquilizing and antidepressant actions of *Celastrus paniculatus*. Therefore, it can be concluded that the *Medhya* action of *Jyotishmati* is authenticated and validated according to fundamentals of Ayurveda and evidence from modern scientific research studies.

Keywords: *Celastrus paniculatus*, *Jyotishmati*, *Medhya* action

SWOT ANALYSIS FOR IDENTIFYING POTENTIALS TO PROMOTE TRINCOMALEE AS AN AYURVEDA HEALTH TOURISM DESTINATION

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In Sri Lanka, Ayurveda health tourism is particularly popular in the southern and western regions. These areas have developed a strong reputation for offering high-quality Ayurveda treatments and wellness experiences. This sector is contributing significantly to the country's economy by attracting tourists seeking holistic and traditional healthcare treatments. Eastern province, while still developing, has the potential to grow as a destination for Ayurveda health tourism. By leveraging its natural beauty, cultural heritage, and strategic location, Trincomalee has the potential to become a prominent destination for Ayurveda health tourism in Sri Lanka. This survey study carried out in 2024, aimed to identify and prioritize strategies for health tourism development in Trincomalee district. 30 discussions were done with related stakeholders including registered Ayurveda doctors, tourism service providers and tourists. SWOT Analysis method (strength, weakness, opportunity, and threat) was used to formulate strategies by examining both external and internal aspects related to the development of Ayurveda health tourism in Trincomalee. The results imply that weaknesses are more noticeable than its strengths. So, the authorities should make plans to lessen its flaws in order to increase Ayurveda health tourism. To achieve this, creating well-thought-out strategies to draw medical tourists to the wellness centers and hospitals, work to raise hospital and wellness center standards, provide linguistic and communicative skills training for medical staff, and targeted marketing efforts are key factors to be addressed to promote Trincomalee as an Ayurveda health tourism destination.

Keywords: Ayurveda health tourism, Trincomalee, SWOT Analysis

**ROLE OF TREATMENT MODALITY IN THE MANAGEMENT OF AVABAHUKA:
A CASE STUDY**

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Avabahuka is a type of *Vata vyadhi* involving shoulder joint, which significantly restricts the functions of the joint due to the pain and stiffness. The objective of the study to evaluate the efficacy of treatment modality in the management of *Avabahuka*. A 69 years old male patient presented to the *Panchakarma* Out Patient clinic at Ayurveda Central Dispensary, Kahanda, Angulugaha, Galle, with pain, stiffness and restricted movements in left shoulder for 08 months was selected for the study. The treatment period was spread over 90 days with 03 days a week (every Mondays, Wednesdays and Fridays). During the first half of the treatment period, the patient was treated by *Abhyanga* with *Pinda taila*, *Pinda sweda* with *Aba murungadi pottani*, and *Lakshadi lepa* on the left shoulder joint region, along with *Navarathna kalkaya* 2.5g and two pills of *Vata gajendrasingha vati* twice a day, as internal medicine. Then the other half was followed by *Abhyanga* with *Masha taila*, *Pinda sweda* with *Eta pottani*, and *Lepa* with Bone marrow Paste locally on the left shoulder joint region. Visual Analogue Scale (VAS) for pain and ayurveda clinical assessment criteria were used to evaluate the effects of the treatment modality every two weeks during the treatment period. After completion of the treatment stiffness of the left shoulder was completely relieved and pain and the range of movement in the shoulder joint were partially relieved by 66.6%.

Keywords: *Avabahuka*, movements, pain, shoulder

SIGNIFICANCE OF PAPAWE [Carica papaya Linn.] SEEDS IN THE PHARMACEUTICAL AND FOOD INDUSTRY: A SCIENTIFIC REVIEW

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Carica papaya is an economically important sub-tropical and tropical fruit with numerous biological activities. The papaya seeds are edible and nontoxic supplements which are pungent and peppery in taste. The processing of fruit as well as its fresh consumption results in large amounts of waste seeds. However, papaya seeds have been reported for the wide range of applications due to high source of dietary nutrients and phytochemicals. This study aims to explore the value of papaya seeds in pharmaceutical and food industry scientific literature search was conducted using Science Direct, Springer, PubMed and Google scholar using the major key words papaya seeds, pharmaceutical, food industry etc. It was found that papaya seeds are rich in dietary nutrients such as protein, crude fiber and lipids, and are used in various food products. They contain significant levels of phytochemicals such as flavonoids, phenols, saponins, tannins, steroids and terpenoids, which are responsible for their pharmacological properties. These include antioxidant, hypolipidemic, nephroprotective, anticholesterolemic, anthelmintic, anti-amoebic, antiulcerogenic, antiparasitic and antibacterial activity. The alkaloid, carpain helps kill gut bacteria and parasites. Additionally, the high fiber content helps in maintaining a healthy digestive system by regulating bowel movement and removing toxins. papaya seeds are also used to treat roundworms (*Ascaris lumbricoides*) infections, indigestion, diabetes, diarrhea, skin ailments, bleeding piles, Liver and spleen enlargement and hypertension. Papaya seeds products open up new source of income in pharmaceutical and food industry. Their nutritional and therapeutic properties combine with their ability to improve digestive health and treat multiple diseases, highlight their importance as a sustainable and multifunctional ingredient. Future studies on additional therapeutic and pharmaceutical properties, along with integration these findings into novel nutraceuticals, would benefit for the both industries.

Keywords: papaya seeds, pharmaceutical, food industry, nutraceutical

MEDICINAL AND NUTRITIONAL IMPORTANCE OF *Ipomoea batatas* LEAVES

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Ipomoea batatas (L.) Lam. known as “*Batala*” in Sinhala and “Sweet Potatoes” in English, is a perennial, herbaceous vine with starchy, sweet-tasting tuberous roots. It is an important carbohydrate source in the tropical and sub-tropical countries. Sweet potatoes are unrelated to true yams, that belongs to the Convolvulaceae family. This plant bears medium-sized sympetalous blooms and alternating heart-shaped leaves. The young shoots, leaves and roots are edible. Sweet potato leaves provide higher number of dietary fibers, low amount of fat and complex carbohydrates and contain essential minerals of Na, Mg, P, Ca, and K, while trace minerals like Cu, Zn, Mn, and Fe. SPL contain higher contents of vitamins B2, C, E, biotin, and β -carotene. Hence, SPL can serve as a promising natural dietary resource and can be further developed as a sustainable crop. In addition to their nutritional values, sweet potato leaves have been found as a functional food containing various bioactive compounds such as high levels of polyphenols, flavonoids, and carotenoids, that provide a variety of health-promoting benefits. These bioactive compounds exhibit various bioactivities, such as antioxidant, anti-cancer, anti-mutagenic activities, hemostatic, antilithiatic activity, immune modulation, antimicrobial and hepato-protection. In addition, the leaves of sweet potato significantly increase PCV, WBC and Platelet count. Therefore, sweet potato leaves extract can be useful in dengue patients due to its platelet raising effect. Medicinal and nutritional value of *Ipomoea batatas* leaves should be further exploited.

Keywords: bioactive, nutritional, medicinal, sweet potatoes

**CONCEPTUAL STUDY ON MORPHOLOGICAL, METAPHYSICAL AND
METAPHORICAL EXPLORATION OF HUMAN AND COSMOS: AYURVEDA
PERSPECTIVE**

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Loka purusha samya, a cornerstone of Ayurvedic philosophy, proposes a deep interconnectedness between the human body (microcosm) and the cosmos (macrocosm) on structural, functional, and material levels. This study aims to assess the relevance of *Loka purusha samya* for contemporary health understanding by using a critical hermeneutic approach to analyze metaphorical correspondences within Ayurvedic texts and comparing them with modern scientific knowledge and lived health experiences. The study analyzes Ayurvedic texts for microcosm-macrocosm correspondences, validating them against modern science and lived experiences. It also assesses the effectiveness and mechanisms of related remedies. Recent scientific literature reviews reveal over 1,000 metaphorical and morphological correspondences between the human body (microcosm) and the cosmos (macrocosm) in Ayurvedic texts, impacting disease understanding and management. Examples include links between upward movement (*Urdhavagata*) and acid reflux (*Amlapitta*), psoriasis and pollution, tremors (*Kampa*) and earthquakes (*Bhukampa*), alongside Structural functional treatment modals like tree bark for skin ailments and grape morphology for lungs. Additionally, potential correlations between iris movement and vision correction using sliced carrot morphology, along with the use of anatomical models for pre surgical planning, are noted. These comparisons are based on functional, visual, and quantitative assessments. This study provides a valuable foundation for further research into the reciprocal validation of *Loka purusha samya's* metaphorical wisdom and modern scientific understandings of health and therapeutic applications. While some parallels are intuitive, *Loka purusha samya's* extensive metaphorical framework invites exploration in modern medicine, and reciprocal validation holds promise for enriching our understanding of health and the human-cosmos connection.

Keywords: macrocosm, microcosm, metaphorical, metaphysical, morphological, *Loka purusha samya*

AN HERBAL FORMULATION FOR POST-ADOLESCENT ACNE: A RANDOMIZED DOUBLE-BLIND, PLACEBO-CONTROLLED DOSE-RANGING PHASE-2 CLINICAL TRIAL

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Acne vulgaris occurs in both the adolescent and post-adolescent years. There is a need to explore new treatment modalities, and herbal medicines are an option. Dried fruit of *Phyllanthus embilica* and fresh stem of *Tinospora cordifolia* are used traditionally for the treatment of skin diseases. The objective was to assess the efficacy and safety of a proprietary product Link Natural *Swastha amurtha* comprising *Phyllanthus embilica* and *Tinospora cordifolia* in the treatment of acne and to determine the optimum dose. An investigator-led placebo-controlled double-blind dose-ranging randomized study was conducted on 88 volunteers with acne, after obtained the ethical clearance (EC- 22- 069). Link Natural *Swastha amurtha* was used at three different doses, 300 mg, 400 mg, and 500 mg, orally daily, for 90 days and compared with the placebo group. The efficacy was assessed by lesion counts, sebum levels, and safety by adverse event reports, haematology and biochemical parameters. The quality of life was assessed by Cardiff Acne Disability Index (CADI). The reduction of acne lesion counts was correlated with increasing doses of Link Natural *Swastha amurtha*, although the differences were not statistically significant. All three dosage groups showed a marked and statistically significant improvement in their quality of life when compared to the placebo group. The laboratory parameters remained within normal ranges, and no significant adverse events were reported. It was concluded that, Link Natural *Swastha amurtha* was beneficial in mild to moderate acne, and effects were dose related. Improvement in patient perceived quality of life was significant. Link Natural *Swastha amurtha* as an acne medication either alone or as adjunct therapy needs to be explored further.

Keywords: acne vulgaris, clinical trial, placebo-controlled, efficacy, safety

A HOLISTIC APPROACH TO ATHLETE CARE IN SPORTS MEDICINE: AYURVEDA PERSPECTIVE

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Sports medicine is an interdisciplinary subspecialty of medicine which deals with the overall care of an athlete at all levels. Sports medicine or sports and exercise medicine (SEM) deals with “physical fitness, treatment, and prevention of injuries related to sports and exercise.” Ayurveda, an ancient system of medicine holds considerable potential in fostering the health and well-being of athletes through its preventive, promotive, and curative approaches. Main objective of this review study is to explore the myriad benefits of integrating Ayurveda into sports medicine, spanning from injury prevention to performance enhancement. Data were gathered from Ayurveda Samhitas. This study was demonstrations that Ayurveda can play a major role not only in the management of injuries but also in maintaining the physical, psychological, and spiritual fitness by self-healing techniques, *Panchkarma*, the use of *Rasayana* and other herbal drug, proper diet and dietetics, Yogic interventions, seasonal and diurnal routine (*Ritucharya* and *Dinacharya*). Through a combination of evidence-based research and practical insights, this article aims to highlight the valuable role of Ayurveda in sports medicine for promoting a healthy and balanced life among athletes. Additionally, the judicious use of Ayurveda drugs, combined with Yogic practices such as asana, pranayama can serve as effective alternatives to conventional performance enhancing agents, enhancing physical and psychological well-being while fostering concentration and resilience in athletes.

Keywords: Ayurveda, sports medicine, prevention, Yoga, *Panchkarma*

AYURVEDA MANAGEMENT OF ‘PITTAASHMARI’ WITH SPECIAL REFERENCE TO GALLSTONES (CHOLELITHIASIS): A CASE STUDY

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Gallstones (Cholelithiasis) are common and associated with substantial health and economic burden. Globally, 6% of the population have gallstones, with higher rates in females. Gallstone disease is the second most common indication for non-obstetric surgical intervention in pregnancy. High biliary protein and lipid concentrations are risk factors for the formation of gallstones, while gallbladder sludge is thought to be the usual precursor of gallstones. Biliary calcium concentration plays a part in bilirubin precipitation and gallstone calcification. In Ayurveda, the gallbladder is referred to as ‘*Pittashaya*’ (the organ that stores *Pitta*) and ‘*Pittashmari*’ (the stone that forms in it). Vitiated pitta with the help of Vata and get lodges in ‘*Pittaashaya*’ to create ‘*Pittaashmari*’. The study was done in the ‘*Shalya* clinic’ at Bandaranaike Memorial Ayurveda Research Institute, Navinna, Sri Lanka. Two patients presented with severe right hypochondriac pain, nausea and abdominal distention and were treated with *Phalatrikadi* decoction, *Chirabilvadi* decoction, *Panchamooli laghu drakshadi* decoction, *Krimi ghathani vati*, *Arogya vardhani vati*, *Kaishoora guggulu*, *Dhatri choornaya* etc. along with extra virgin olive oil. A 58-year-old female had few gallstones (<4mm) ultrasonographically, which disappeared 08 months after the treatments and a 55-year-old male had a 2.3cm gallstone reduced to 1.43cm after 05 months of treatments. These cases highlight the effects of Ayurveda interventions on patients with gallstones. Further studies should be done.

Keywords: *Pittaashmari*, gallstones, cholelithiasis, gallbladder, extra virgin olive oil

**A REVIEW ON PHARMACOLOGICAL AND PHYTOCHEMICAL PROFILE OF
BANAFSHA (*Viola odorata* Linn)**

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Medicinal plants demonstrate remarkable effects in treating various diseases due to their diverse pharmacological actions. *Banafsha*, scientifically known as *Viola odorata* Linn, is a significant herb extensively used in the Unani medical system. It is commonly referred to as sweet violet, native to Asia and Africa but not Sri Lanka. This review aimed to explore data on phytochemicals and pharmacological actions of Banafsha. This review was conducted using sources such as textbooks, indexed journals, PubMed, and ResearchGate from 2010 onwards, with search terms like "*Banafsha*," "*Viola odorata*," "pharmacological action," and "phytochemicals." Banafsha is a small herbaceous flowering plant in the genus *Viola*. Flowers and whole plant have been considered to be used as a drug in Unani and traditional health care system. It was found to be rich in phytochemicals, including alkaloids, glycosides, saponins, methyl salicylate, mucilage, flavonoids, tannins, coumarins, odoratine, and ascorbic acid. It exhibited various pharmacological actions such as anti-inflammatory, antipyretic, hepatoprotective, analgesic, antioxidant, diuretic, antihypertensive, and antibacterial activities, making it effective for especially respiratory-related disorders and other ailments. It was used to treat conditions like cough, fever, common cold, sore throat, tonsillitis, headache, insomnia, epilepsy, constipation, palpitation, dyspnea, and skin diseases. It was used alone or with other drugs in various forms, including syrups, infusions, confections, decoctions, and solid and semisolid preparations. From this review it can be concluded that *Banafsha* is an important herb with diverse phytochemical composition and beneficial pharmacological actions, underscoring the need for future clinical studies to explore and validate this therapeutic potential.

Keywords: *Banafsha*, phytochemicals, pharmacology, *Viola odorata*, Unani medical system

CONCEPTUAL STUDY ON HEALTHY DIETETIC PREPARATIONS BASED ON
SPECIAL REFERENCE OF *AHARA KALPANA* IN AYURVEDA

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Ayurveda is an ancient personalized natural medicinal system deals with *Prakriti asthapana* (maintaining normality of humor) of human on *Svastha rakshana* (Prevention) and *Vikara prashamana* (Curative) aspects. *Acharyas* has been described various types of concepts which can fulfill both aims of Ayurveda. *Pathya apathya* (Wholesome and non-wholesome) concept is one such exclusive unique concept in this medicinal system which is described about wholesome and unwholesome of life. Main objective of this study was highlight and discuss importance and role of various *Ahara kalpana* in human life. From the ancient period *Ahara* (Diet) has been recognized as an essential limb for protection of *Prana* (Life) and due to that *Ahara* has been described as *Maha bhesaja* (Supreme medicine). Ancient *Acharyas* have been described near about 68 types of *Ahara kalpana* (dietetic preparation methods). These dietetic preparations can be broadly classified in to two as *Kritanna Kalpana* which are used for *Arogya vardhana* (Health promoting) and *Pathya Kalpana* which are mainly used for *Roga sathmaya* (a part of Treatment of diseases). Basic ingredients used for food preparations can be classify in to 12 groups. Using ingredients and method of preparation of all above *Ahara kalpana* are mainly depend on *Prakriti* (constitution), *Agni tathva* (Status of metabolic/ digestive power) and *Koshtha* (Bowel condition) of individual. Ayurveda believes that from the birth to death of human, depends up on the consumed food. Hence it is very important to study and analyze all *Ahara kalpana* for have proper knowledge about their indications.

Keywords: *Ahara, Anna kalpana, diet, food, Pathya*

EFFECT OF *Saraca asoka* ON MENORRHAGIA: A COMPREHENSIVE REVIEW

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Ashoka (*Saraca asoka* or *Saraca indica* (Roxb) belonging to the family Caesalpinioideae is one of the most important herbs extensively used in bleeding disorders in women and most gynaecological disorders have the characteristic feature of menorrhagia. *Ashoka* means no grief in Sanskrit language. Present study has been made an attempt to review the effect of *Asoka* on menorrhagia and emphasis is led on therapeutic properties, phytochemistry, and pharmacological profile. Ayurveda and Unani classical textbooks, online databases such as PubMed, Google Scholar, and ScienceDirect were searched with key words of “*Saraca ashoka*”, “*menorrhagia*” “*Pharmacology*” “*Phytochemistry*” for past ten years and among 120 articles, 65 articles were excluded based on non-relevance, repetition etc. Menorrhagia, is primarily due to the vitiation of *Vata* and *Pitta*. The treatment focuses on predominance of *Kashaya rasa* and properties that pacify *Pitta*. *Sheetha veerya* and *Kashaya rasa* of *Saraca asoka* are significant for its *Stambhana* action, helps in controlling excessive discharge. Studies on therapeutic interventions of *Saraca asoka* showed reduction of uterine bleeding and regularization the intervals between menstrual cycles in menorrhagia with no side effects. Scientific studies validate *Ashoka* contains glycosides, flavonoids, tannins, and saponins with the pharmacological actions of anti-spasmodic, uterotonic, oxytocic, antibacterial, anti-tumor, anti-implantation, anti-progestational and antiestrogenic against menorrhagia. In conclusion, Ayurveda and modern pharmacological properties and phytochemical constituents showing that, *Saraca asoka* has potent therapeutic effects in the management of menorrhagia.

Keywords: *Saraca asoka*, menorrhagia, pharmacology, phytochemistry

ANTI-DIABETIC POTENTIAL OF SIDDHA FORMULATION *KEEZHANELLI CHOORANAM* THROUGH *IN-VITRO* α -AMYLASE AND α -GLUCOSIDASE INHIBITORY ACTIVITY

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Diabetes mellitus is an endocrine disorder that affects the metabolism of carbohydrates. In Siddha literatures, the term *Madhumegam* correlates with the symptoms of diabetes mellitus. *Keezhanelli* is one such herb, mentioned in the Siddha text book, *Gunapadam (Muligai vakuppu)*, Materia Medica. But no scientific evidence had been documented for *Keezhanelli chooranam* indicating its potential. So considering the purview, the study is selected. The present study was to provide an *in-vitro* evidence for the potential inhibitory activity of *Keezhanelli chooranam* on α -amylase and α -glucosidase enzymes. Different concentrations (65.5, 125, 250, 500, and 1000 mg/ml) of samples and standard reference drug were subjected to α -amylase and α -glucosidase inhibitory assay. The absorbance was measured at 540 nm using microplate reader and the percentage of α -amylase and α -glucosidase inhibition activity and IC₅₀ values of samples and standard reference drug were calculated. All experiments were done in triplicates and results represented as Mean \pm SE. One-way ANOVA and Dunnett's test were performed to analyse data. ***p < 0.001 compared to control groups. The *Keezhanelli chooranam* at different concentrations 65.5, 125, 250, 500, and 1000 mg/ml exhibited 13.4, 35.1, 48.87, and 62.56 α -amylase inhibitory activity and 20.87, 31.36, 42.05, 53.66 and 67.54 α -glucosidase inhibitory activity respectively. Standard reference drug, which showed α -amylase inhibitory activity with an IC₅₀ value of 86.93 mg/ml and α -glucosidase inhibitory activity with an IC₅₀ value of 85.36 mg/ml. *Keezhanelli chooranam* has shown enzyme inhibitory activity with IC₅₀ value 271.54 and 420.33 (α -amylase and α -glucosidase). From the results it is evident that *Keezhanelli chooranam* has a significant anti hyperglycemic activity which will be useful in the management of postprandial hyperglycemia.

Keywords: Diabetes mellitus, *Mathumegam*, *Keezhanelli chooranam*, α -amylase and α -glucosidase

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AN OBSERVATIONAL STUDY ON EFFICACY OF AGNIKARMA ON VATAKANTAKA

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Vatakantaka, a condition rooted in the disturbance of *Vata dosha* characterized by localized pain and inflammation, presents a significant challenge in contemporary healthcare. *Agnikarma*, a therapeutic modality deeply rooted in Ayurveda, holds potential for managing a broad spectrum of diseases, including *Vatakantaka*. This observational case study aimed to investigate the efficacy of *Agnikarma* specifically in the context of *Vatakantaka* management. Twenty-five participants diagnosed with *Vatakantaka* were selected using purposive sampling and subjected to *Agnikarma* therapy following classical Ayurvedic principles. The study assessed various parameters such as pain intensity, functional disability, range of motion, and quality of life before and after the treatment. The results revealed a significant reduction in pain intensity, with severe pain decreasing from 68% to 16%, and none of the patients reported an increase in pain post-treatment. Swelling severity reduced significantly, with 76% of patients reporting no swelling after treatment. Tenderness also improved, with the number of patients reporting no tenderness increasing from 40% to 72%. Mobility enhancement was notable, with moderate difficulty in mobility decreasing from 72% to 4%, and 32% reporting no discomfort post-treatment. Radiographic findings corroborated these clinical improvements, indicating structural enhancements in the affected area. Additionally, comorbidities such as diabetes mellitus, hypertension, dyslipidemia, and arthritis were found to influence the healing rate. This research highlights *Agnikarma*'s potential as a viable treatment option for *Vatakantaka*, demonstrating its effectiveness in improving functional outcomes and alleviating symptoms. The findings offer valuable insights into the integration of Ayurvedic modalities into contemporary healthcare practices.

Keywords: *Agnikarma*, Ayurveda, *Vatakantaka*, musculoskeletal disorders, *Vata dosha*

**A SURVEY STUDY ON KNOWLEDGE, AWARENESS OF BREAST CANCER, AND
PRACTICE OF BREAST SELF-EXAMINATION AMONG FEMALE MEDICAL
STUDENTS IN FACULTY OF INDIGENOUS MEDICINE, UNIVERSITY OF COLOMBO**

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Breast cancer is the most common of all female cancers in Sri Lanka. Different studies conducted in Sri Lanka have shown that there were significant deficiencies in knowledge, awareness, and practices of BC in the study population. At the same time, knowledge of breast self-examination was poor. Aim of this study was to determine the knowledge, awareness of BC and practice of BSE among female medical students at FIM, University of Colombo. This cross-sectional survey study was carried out with 218 female students at Faculty of Indigenous Medicine. Data was collected from participants using self-administered questionnaire. The questionnaire data included students' socio-demographic data, knowledge about breast cancer and BSE, personal questions regarding the practice of breast self-examination, and risk factors. Participants were aged between 22-29 years. 9.17% of them reported positive family history of breast cancer. General knowledge about breast cancer is good among students. Although theoretical knowledge about breast cancer is found to be adequate among students, BSE is performed by only 55% of students. Among students who perform BSE, only 25.69% of students perform BSE regularly every month. However, students are still not aware about complications and management of breast cancer and benefits of early diagnosis. In addition to that, students are not aware of the frequency and timing of BSE. Regular practice of breast self-examination will be increased in students if they are sufficiently trained, including steps of breast self-examination practice. This indicates the importance of using a training program to increase the level of awareness about BC that strengthen health promotion in the community.

Keywords: breast self-examination, breast cancer, female medical students

**EFFECT OF TRADITIONAL TREATMENT REGIMEN ON *GRIDHRASI* WITH
SPECIAL REFERENCE TO SCIATICA: AN OBSERVATIONAL STUDY**

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Gridhrasi (sciatica) is one of the most common neurological disorders caused by *Vata dosha*, as described in *Nanatmaja vata vyadhi* in *Ayurveda*. It is characterized by shooting pain in the lower back area, extending to the leg. Sri Lankan traditional practitioners and Ayurveda physicians successfully treat *Gridhrasi* using effective Ayurveda treatment methods. Therefore, this currently experienced treatment method was selected to evaluate the effect of a regimen that includes *Thaila abhyanga*, *Arkadi patra sweda*, and *Arkadi lepa* consisting of seven herbal leaves: *Vitex negundo*, *Nyctanthes arbor-tristis*, *Calotropis gigantea* (L.), *Datura metel*, *Melia azedarach* L., *Moringa oleifera* L., and *Ricinus communis* L. A 31-year-old male patient diagnosed with *Gridhrasi* for the past three months was purposively selected for the study. Clinical signs and symptoms were recorded before the treatment. *Arkadi* paste was applied to the lower back and kept 4 hours daily for 2 weeks after the application of *Nirgundayadi Abyanga* with *Arkadi patra Sweda* (fomentation). The weekly assessment was done using the Roland–Morris Disability Scale (RMD) during the 2 weeks treatment regimen and the clinical findings were recorded on a prepared proforma. At the end of the treatment, it was observed that pain, stiffness, numbness, and heaviness were completely reduced. The external treatment protocol proved clinically effective in managing *Gridhrasi*, and further evaluation with a larger sample size is recommended to generalize its findings.

Keywords: *Gridhrasi*, *Arkadi sweda*, *Arkadi lepa*

**PHYTOCHEMICAL SCREENING AND ANTIMICROBIAL EVALUATION OF
POLYHERBAL GARGLE FORMULATED BY INCORPERATING *TRIPHALA* AND
*TRILKATU***

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Incorporating Ayurvedic principles into oral health care offers a holistic alternative to conventional treatments, providing comprehensive solutions for maintaining oral hygiene and preventing oral diseases. The current study was aimed to formulate a new polyherbal gargle incorporating well-known ayurvedic remedies *Thriphala* and *Trikatu*. The gargle was formulated by heating the herbal ingredients with 6 cups (1440 mL) of water to reduce 1 cup (240mL). Food-grade mint flavor and rock salt were added as additional ingredients. The formulated gargle was evaluated against common pathogens associated with oral cavity and pharynx including, *Staphylococcus aureus*, *Escherichia coli*, and *Klebsiella pneumoniae* using the agar well diffusion method. The Minimum inhibitory Concentration (MIC) was determined by microbroth dilution method. Furthermore, preliminary phytochemical screening of secondary metabolites and Thin Layer Chromatography (TLC) fingerprint was developed for identifying the active compounds responsible for the therapeutic potential of the gargle. Notably, the formulated gargle exhibited remarkable antimicrobial activity against Gram-positive bacteria *Staphylococcus aureus*, with a mean Zone of Inhibition (ZOI) of 19.000± 1mm. The MIC against *Staphylococcus aureus* was found to be 0.125 mg/mL. The preliminary phytochemical screening revealed that the presence of phenolics, flavonoids, saponins, and tannins. Moreover, TLC fingerprinting separated seven different compounds with respective Retardation Factor (Rf) values 0.72, 0.61, 0.34, 0.28, 0.24, 0.94, 0.88 which can be used as a reference standard to ensure the reproducibility and safety. This research presents an innovative approach by integrating the traditional Ayurvedic system with a scientific basis to develop an effective and natural solution for promoting oral hygiene and preventing oral diseases.

Keywords: polyherbal gargle, antimicrobial activity, phytochemical screening, well diffusion assay

**A SURVEY TO ASSESS THE PREVALENCE OF PREMENSTRUAL SYNDROME AND
SELF- MANAGEMENT PRACTICES AMONG THE STUDENTS OF THE FACULTY OF
INDIGENOUS MEDICINE**

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Premenstrual syndrome impacts a significant portion of women globally, underscoring the importance of effective coping strategies. It affects nearly all reproductive-age women, with 3–60% experiencing severe symptoms. Management of premenstrual syndrome includes pharmacological and non-pharmacological methods. This study aims to assess the prevalence of premenstrual syndrome and self-management practices among students of the Faculty of Indigenous Medicine, University of Colombo. A descriptive cross-sectional survey was conducted among 420 female students of Faculty of Indigenous Medicine, University of Colombo. Data were collected through an online Google form questionnaire, administered after obtaining informed consent. Ethical consideration was obtained from the Ethical Review Committee, Faculty of Indigenous Medicine, University of Colombo (ERC No 23/236). Among the participants, sixty-five percentage of students had premenstrual syndrome. Among them seventy-nine percentage of student's daily lifestyles were affected; fifty-three percentage of students used non-pharmacological practices such as heat application (47%), herbal remedy (38%), massage (36%), yoga (12%), and acupuncture (10%) to reduce the syndrome; meanwhile, the forty percentage of students used pharmacological practices. The majority of participants used non-pharmacological practices to get rid of premenstrual syndrome and revealed that it had a positive outcome. The survey highlights premenstrual syndrome as the predominant issue among female university students, significantly impacting their daily lives. These insights aid in educating women on premenstrual syndrome management, enhancing their overall quality of life. Non-pharmacological methods are widely adopted and show promising outcomes, suggesting the need for further research with larger samples to pinpoint causes and improve management strategies, prioritizing women's well-being.

Keywords: prevalence, premenstrual Syndrome, self-management

**A NOVEL *Allium sativum* BIO REPELLENT SPRAY FOR THE LAND LEECHES:
A REVIEW**

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Land leeches pose a significant challenge to health tourism and outdoor activities in Sri Lankan forests. Traditional control methods have proven ineffective, necessitating the exploration of alternative repellents. Garlic (*Allium sativum*), known for its medicinal properties, is investigated for its potential as a natural leech repellent. This review synthesizes information from scientific literature, patents, and traditional knowledge to evaluate the potential of garlic as a leech repellent. It outlines methods for extracting oil from garlic bulbs, preparing a bioactive spray, and testing its efficacy and safety. The chemical composition of garlic, including sulfur compounds, terpenoids, flavonoids, phenolics, and aromatics, is analyzed for anti-leech activity. The review highlights that garlic oil, when combined with distilled water and ethanol, shows promising efficacy against land leeches. Studies indicate a favorable safety profile for *Allium sativum* extract, with no significant toxicity. The formulated garlic-based spray demonstrates potential as a natural repellent, effectively deterring leech bites. The findings suggest that a garlic-based bio-repellent spray could offer a safe and effective alternative to synthetic repellents. The study emphasizes the need for further research to standardize formulations, assess long-term effectiveness, and explore broader applications in leech-infested environments. Additionally, the potential consumer benefits of a natural, safe, and effective repellent are discussed. The review concludes that an *Allium sativum* bio-repellent spray holds promise as an effective and safe means to prevent land leech bites. It recommends ongoing research to optimize formulations and verify their sustained efficacy and safety for wider use, and consider consumer benefits.

Keywords: *Allium sativum*, bioactive spray, efficacy, garlic oil, leech repellent

COMPARATIVE STUDY OF *SHUKTHI* AND *KUKKUTANDA TWAK BHASHMA*

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Rasa shastra is an important pharmaceutical branch in *Ayurveda*. Mercury is the main material in *Rasa shastra*. Other than mercury, different animal materials, minerals, gems, marine- originated materials and some toxic plants are also described under *Rasa shastra*. Among these materials *Shukthi* (oyster shells) and *Kukkutanda twak* (egg shells) are some of the commonly used animal materials. These materials contain Calcium and categorized under *Suda varga*. The objective of this study is to prepare *Shukthi* and *Kukkutanda twak bhashma* according to classical *Rasa shastra* text and to compare pH value, moisture content and calcium percentages of these two *Bhashma*. The boiling and steaming method were used for the purification, and incineration was done by using muffle furnace accordingly at 350°C and 160°C respectively. According to physico-chemical analysis, moisture content of two samples were relatively low (1.3% and 1.4% respectively). Both samples were having an alkaline pH value (8 and 9.5 respectively). The calcium percentage in each *Bhashma* was determined using titration method. Results revealed that all the *Bhashma* are within the standard parameters according to classical texts. The highest calcium percentage was reported from *Kukkutanda twak bhashma* (99.9%) and *Shukthi bhashma* was reported as 99.3%. Therefore, *Kukkutanda twak bhashma* which has the highest calcium percentage can be highly recommended as a nutritional supplement for calcium deficiencies.

Keywords: *Suda varga, Kukkutanda twak, Shukthi*

**KNOWLEDGE, ATTITUDE AND PRACTICE OF BREAST CANCER AND THE
BREAST SELF-EXAMINATION AMONG FEMALE NON – ACADEMIC STAFFS OF
FACULTY OF INDIGENOUS MEDICINE, UNIVERSITY OF COLOMBO**

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Breast cancer is the most common cancer diagnosed among women. Global incidence of breast cancer has been rising over the last few decades. Knowledge about breast cancer is very important in the prevention of the disease. The objective of this study was to assess the level of knowledge and examine the practice of breast self-examination among female non – academic staffs of Faculty of Indigenous Medicine, University of Colombo. An observational cross sectional descriptive study was done from March 2023 to November 2023, after getting approval from Ethics Review Committee, Faculty of Indigenous Medicine. Data were collected using a self-administered pretested close-ended questionnaire. It was circulated to them as Google form. 46 individuals participated in the study. 76.9% of participants acknowledged the lack of breastfeeding as a risk factor, 63.4% identified family history of breast cancer, 32.6% pointed to early menarche, 52.17% to late menopause, and 36.9% were concerned about the use of oral contraceptive pills as a contributing factor to breast cancer. 71.7% of participants had heard about BSE. Among them only 26.9% performed breast self-examination on time. Among non-practicing breast self-examination individuals, 50% mentioned that their knowledge about the breast self-examination technique is very limited. Additionally, 40.91% admitted to not having any knowledge about Breast Self-Examination. As conclusion, there is a gap between awareness and practical application of breast self-examination among the women surveyed. Appropriate educational interventions are urgently required to encourage female non – academic staffs of Faculty of Indigenous Medicine to engage in regular breast self-examination with proper technique.

Keywords: awareness: breast cancer: breast self-examination

**KNOWLEDGE AND PERCEPTION OF INFERTILITY AMONG ADULT MALES WHO
ATTENDING OUT PATIENT DEPARTMENT AT AYURVEDA NATIONAL
HOSPITAL, BORELLA**

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Infertility is not merely a medical issue but also a significant social concern within our society. It imposes a considerable psychological burden on couples due to the challenge of fulfilling the desired societal roles of parenthood. This study aims to assess the knowledge and perception of infertility among adult males who attending the Outpatient Department at the Ayurveda National Hospital, Borella period between January to February -2024 and ethical clearance was obtained from Faculty of Indigenous Medicine (Ref No: ERC: 23/241). A cross-sectional study was conducted, involving 384 participants who completed a pre-tested questionnaire. The mean age of respondents was 39.8 years, with the majority being married and having attained a secondary education. Overall, 63.43% of respondents exhibited good knowledge of infertility, while 89.78% demonstrated a positive perception. Further analysis revealed that respondents over 30 years old displayed a higher percentage of good knowledge (64.98%) compared to those under 30 (59.25%). Similarly, individuals with tertiary education exhibited the highest level of knowledge (66.71%) also individuals who are married were shown better knowledge than others. Regarding perception, those under 30 displayed a slightly higher percentage of positive perception (91.83%) compared to those over 30 (89.02%). Moreover, participants with tertiary education (92.11%) and those who were single (91.43%) showed the highest levels of positive perception. Understanding and perception about infertility vary across the selected population. While some demographics show a strong grasp of the subject, others display noticeable gaps in knowledge, often influenced by prevalent misconceptions and myths. Consequently, there is a pressing need for comprehensive awareness programs aimed at adult males to improve their understanding and perception of infertility.

Keywords: infertility, knowledge, adult male, perception, parenthood

**PREVALENCE OF OBESITY AMONG SECONDARY SCHOOL CHILDREN OF
C/VIVEKANANDA NATIONAL COLLEGE**

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Childhood obesity is an increasing health issue because it causes major adverse health impacts, and the children with obesity are going to become adults with obesity. An imbalance between energy intake and energy expenditure causes obesity. Childhood obesity is a major problem as it leads to several adults' life problems such as non-communicable diseases in future. This study aimed to estimate the prevalence of obesity among secondary school children of C/Vivekananda National College. A school-based cross-sectional study was conducted among a sample of 208 secondary school students representing whole C/Vivekananda National College selected using a cluster sampling method. Body Mass Index for age was calculated using World Health Organization charts. Ethical approval was taken prior to conduct the research (Reference: ERC 23/229). Among the sample most of the students were girls (51.44%). 96.36% were Hinduism. 7.21% were obese. 17.31% were overweight. 44.71% were normal weight. 30.77% were underweight. Most obese students were found in the age group of 16 years (33.33%). On the other hand, there were no obesity finding in the age groups of 11 and 17 years. Obese and overweight students have poor habits of food, physical activity and sleep. 70.59% students' screen time is >2 hours per day. 49.02% of the students exercise less than 3 days in a week and 37.26% don't exercise throughout the week. 43.14% of the students don't involve any kind of leisure time activity. 56.86% of students consume fast food daily. 60.78% of the students drink sugary beverages daily. 68.63% of the students eat fried, fatty foods >3 days per week and daily. 50.98% of the students like outside food over homemade food. 58.82% of the students skip their breakfast. 92.16% of the students take their dinner after 7.00pm. 58.82% of the students sleep after meal at noon. 68.63% of the students' sleeping hour is less than 08 hours per day. No one sleeps more than 10 hours a day. 76.47% of the students travel to school by vehicles. 56.86% of the students have no family history of overweight or obesity and 43.14% have the family history. The prevalence of obesity among secondary school children of C/Vivekananda National College was 7.21% with no gender difference. It's more in female students than the male students. Age between 15 and 16 years has more obese students (60%). Significantly obesity among secondary school children of C/Vivekananda National College is a public health problem. Children's unhealthy lifestyle and habits played a major role in the obesity than the family history. Overweight students were more than two times of obesity students. (17.31% > 2*7.21%). Overweight may lead to obesity in future. And also, obese children may become obese adults.

Keywords: obesity, overweight, school children, prevalence, risk factors

**A STUDY ON THE PREVALENCE OF HYPERTENSION AND ITS RELATIONSHIP
WITH OVERWEIGHT AND OBESITY IN ADULTS IN SAALAMBAI KERNY-02
GRAMA NILADARI DIVISION IN THE AMPARA DISTRICT**

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The relevance of both hypertension and obesity, as important public health challenges, is increasing worldwide. The most common co-morbidity found in overweight adolescents is hypertension, which presents the greatest risk of mortality in adulthood and accounts for 12.8% of mortality globally. This study aimed to assess the prevalence of hypertension and its relationship with overweight and obesity in adults in Saalambai kerny-02 Grama Niladari Division in the Ampara District. A cross-sectional survey was conducted among a hundred adults of both sexes in the age group 20 to 70 years from the randomly selected residence of Saalambai kerny-02 GN Division in the Ampara District, Sri Lanka. Data were collected through a pre-designed and pre-tested Interviewer administered questionnaire after obtaining informed consent from the participants. Ethical consideration was obtained from the Ethical Review Committee, Faculty of Indigenous Medicine, University of Colombo (ERC 23/239). All the necessary anthropometric measurements were collected. Among the participants, twenty-one percentage had hypertension, and thirty percentage were overweight. Among overweight individuals; sixty percentage had pre-hypertension and thirty percentage had hypertension; the age between 41-50 had the highest percentage of overweight individuals; while the age between 20-30 had the lowest. And twelve percentage were obese. Among them seventeen percentage were having pre-hypertension and seventy-five percentage were having hypertension. This survey reveals the fact that there is increasing prevalence of hypertension associated with overweight and obesity. Therefore, these findings have profound implications for public health. Addressing the rising prevalence of overweight and obesity is crucial for preventing hypertension and its associated complications.

Keywords: hypertension, overweight, obesity, *Saman e mufrad, Zaghduddam qawi*

**A SURVEY ON PREVALENCE OF ACADEMIC STRESS AMONG ADVANCED LEVEL
STUDENTS OF P/KADAYAMOTTAI MUSLIM CENTRAL COLLEGE**

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In Sri Lanka, the Advanced Level examination serves as a critical milestone for students, determining their access to higher education and future career opportunities. The rigorous nature of the Advanced Level examination, coupled with societal expectations and intense competition, contributes to heightened levels of stress among students. Therefore, this study aims to find out the level of academic stress among Advanced Level Students of P/Kadayamottai Muslim Central College. A quantitative cross-sectional survey was conducted among 145 Advanced Level students aged between 17-20 years from Science, Commerce and Arts streams. Data was collected through modified academic stress scale questionnaire. The collected data was analyzed using percentage calculations and presented by graphical presentation method. A prevalence rate of 53.5% was identified among the students, with no significant differences observed between streams. While a majority reported no stress, approximately one-fourth of the students cited various stressors 30.3% due to syllabus incompleteness, 27.6% due to competitiveness, 29% due to tough exam papers and time constraints, 24.8% due to financial issues, and 25.5% due to unrealistic parental and teacher expectations. To manage these stressors, 32% of students engaged in various coping strategies. This study provides valuable insights for academic and school administrations aiming to restructure academic programs and implement new student welfare schemes. These initiatives are crucial in reducing psychological stress levels among students and enhancing their ability to cope with stress, particularly during challenging exam periods.

Keywords: academic stress, advance level, students

**POTENTIAL USE OF AYURVEDA MEDICINES TO PROMOTE SUSTAINABLE DAIRY
INDUSTRY IN SRI LANKA**

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This research was conducted to collect information through a questionnaire and secondary data, with the aim of documenting the knowledge of veterinary (cattle) Ayurveda practitioners in Sri Lanka. Based on the findings, cattle are traditionally classified into seven castes (*Raja, Bamunu, Welanda, Govi, Gaja, Situ, and Uposatha*), and they have a large number of *Veppu* (lethargy), *Adappan* (nasal discharge and tremors) diseases, general diseases, hepatobiliary system diseases, diseases of the spinal code, intestines, joints, feet, and the head. *Gopalla, Mangara God Bandara, Kosgama Bandara, Ulapane Kiriamma, and Ayyanayake* are the gods and goddesses associated with cows in Ayurveda and Traditional Medicine. Administration of herbal drugs through the mouth, nose, ear, and anus, stimulation of pressure points, application of drugs to the whole body, chanting (*Yanthra* and *Manthra*), branding, inhalation, and fumigation were observed as common treatment methods for 4488 diseases. A large number of animal Ayurveda recipes, including herbal parts, plant extracts, minerals, and animal products, have been mentioned in several ole leaves and books like “*Gava Veda Potha*”. Especially when applying a brand for infertility, it is used in rear legs, front legs, in between the vertebral column and tuber coccygeal area, and in between the lumber and coccygeal area. In addition, branding is also used at the place of girth for the condition of the retained placenta. Branding is done in different parts of the body for many other diseases, and by conducting further scientific studies on cattle Ayurveda, high progress can be made in Sri Lanka's dairy cattle industry.

Keywords: Cattle, Ayurveda, Infertility, Cattle diseases, Plant extracts

CONTRACEPTIVE ACTIONS OF *Hibiscus rosa -sinensis*: A SYSTEMATIC REVIEW

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Contraception is the deliberate and purposeful use of techniques interfering with the natural process of reproduction to prevent pregnancy as a result of sexual activity. This systematic analysis was carried out to establish the contraceptive capabilities of *Hibiscus rosa sinensis* utilizing PRISMA principles. An extensive search of online databases, including PubMed, BMC, JSTOR, Cochrane, R Discovery and Google Scholar, was performed for previous works published between January 2013 and December 2023. Additional information was obtained by manually examining the reference lists of included research papers. The keywords incorporated "*Hibiscus rosa sinensis* and contraceptive", "*Hibiscus rosa sinensis* and contraception", "*Hibiscus rosa sinensis* and family planning", "*Hibiscus rosa sinensis* and antifertility", "Shoe flower and contraceptive", "Shoe flower and contraception", "Shoe flower and family planning", and "Shoe flower and antifertility". Using the aforementioned search parameters, following research papers were retrieved: BMC (n=14), Google Scholar (n=245), PubMed (n=0), JSTOR (n=1), R Discovery (n=29), and Cochrane (n=0). 16 items were added through a manual search of journals. After deleting the duplicates, there were 288 articles. They were further vetted by reading themes and abstracts, and then by reading entire text. After eliminating the unmatched with the inclusions ultimate review comprised seven articles: control case studies, randomized case studies, and a comprehensive human survey. According to the results, orally administered alcoholic and benzene extracts of flower and the formula contained *kanji bhavitha japakusuma*, exhibited contraceptive actions on both genders such as anti-spermatogenic, anti-implantation, abortifacient, anti-ovulatory, anti-estrogenic, and anti-fertility without any adverse effects.

Keywords: contraceptive actions, *Hibiscus rosa sinensis*, systematic review

**BASIC EXPERIMENTAL STUDIES ON THE EFFECT OF *TADBEER*
(DETOXIFICATION) ON TOXIC CHEMICAL CONSTITUENTS OF *BALADUR***

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Baladur (*Semecarpus anacardium* Linn.), commonly known as Marking nut, belonging to Anacardiaceae, is a poisonous nut that has been extensively used in various Unani formulations like *Majoon e Baladur*. The Unani System of Medicine recommends the administration of *Baladur* only after subjection to a detoxification (*Tadbeer*) process that converts the toxic substances of the drug either into non-toxic or less toxic substances. The objectives of this research study were to evaluate the detoxification by qualitative analysis of chemical constituents in *Baladur* before and after *Tadbeer* process, confirm classical detoxification process is consistent with modern researchers. In the present study, the cap of *Baladur* fruit is removed, and then juice content is squeezed out completely by a heated iron tong in a broad mouth disc, then *Baladur* fruits are boiled in fresh water three times, later boiled in milk, then washed with water and dried. After the detoxification process, the aqueous extraction of detoxified *Baladur* and un-detoxified *Baladur* were analyzed by means of Thin Layer Chromatography (TLC) at 254nm and 366nm in order to quantitatively compare the toxic substances before and after the detoxification. The extent of detoxification was determined by a quantitative comparison of *Semicarpol* and *Bilawanol*, the substances responsible for toxic effects. After detoxification, TLC analyses showed the intensities of the spots that correspond with *Semicarpol* and *Bilawanol* of detoxified *Baladur* were lower than those of un-detoxified *Baladur*. This may be due to the reduction in the levels of toxic substances resulting from the detoxification process.

Keywords: *Baladur*, *Tadbeer*, detoxification process, *Semicarpol*, *Bilawanol*

PHARMACOGNOSTIC AND ANALYTICAL STUDY OF *Plectranthus amboinicus* (Lour.) Spreng. (KAPPARAWALLIYA) AND SELECTED THREE POSSIBLE ADULTERANTS: *Plectranthus forsteri* Benth., *Plectranthus barbatus* Andr., AND *Anisomeles indica* (L.) Kuntze

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Plectranthus amboinicus (Lour.) Spreng. is a medicinal plant belonging to the Lamiaceae family used to treat many diseases in Ayurveda. *Plectranthus amboinicus* tends to get misidentified due to similarities in morphology and characteristic aroma and confusions in vernacular names under the name ‘Kapparawalliya’, with other related taxa: *Plectranthus forsteri* Benth., *Plectranthus barbatus* Andr., and *Anisomeles indica* (L.) Kuntze. This study was focused on morphological, physicochemical, and phytochemical investigations of aqueous and methanolic leaf extracts obtained following cold maceration and Soxhlet extraction. Morpho-anatomical variations, especially in leaf trichome patterns, stomatal complexes, calcium oxalate crystals, stomatal index, palisade ratio, vein-islet, and vein-termination numbers, provided strong evidence for the differentiation of *Plectranthus amboinicus* from the adulterant species. Resulted values for physicochemical parameters, including moisture content, ash values, and extractive values, can be used to indicate the adulterants. A clear difference in fluorescence characters of leaf powders was identified when treated with distilled water and 5% acetic acid. All four species revealed the presence of alkaloids, flavonoids, glycosides, saponins, diterpenes, and triterpenoids in qualitative phytochemical screening. *Plectranthus amboinicus* was clearly separated from adulterant species in TLC fingerprinting profiles developed in toluene: ethyl acetate: acetonitrile (7:2:1 v/v ratio), chloroform: acetone: formic acid: ethyl acetate (18:4:2:1 v/v ratio), chloroform: methanol: water: ethyl acetate (26:13:2:1 v/v ratio), and ethyl acetate: hexane (3:2 v/v ratio) solvent systems. The present study provides a basic outline for the elimination of closely related adulterants of *Plectranthus amboinicus* during raw material collection which needed in the manufacturing of Ayurvedic herbal drug formulations.

Keywords: *Plectranthus amboinicus*, adulterants, pharmacology, Ayurveda

COMPARATIVE ANALYSIS OF AN ANALGESIC OINTMENT PREPARED WITH AND WITHOUT SULPHUR

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Pain is a key focus in discussions about the nervous system because it causes significant discomfort and harm. This has led to a strong demand for quick and effective pain-relief medications to help people manage and reduce their suffering. This study aimed to prepare and comparatively analyze an analgesic ointment. It was prepared using selected herbal materials and Sulphur having analgesic properties according to authentic Ayurveda texts and previous research studies. Two samples of the ointment were prepared, one with Sulphur (sample A) and one without Sulphur (sample B) according to *Taila kalpana* and *Malahara kalpana* in Ayurveda. Selected herbal materials were *Vitex negundo*, *Oroxylum indicum*, *Zingiber officinale*, and *Salmalia malabarica*. Two oil samples were prepared using these materials and subsequently combined with beeswax and synthetic camphor to form an ointment. Methanol extract of both ointments was obtained by heating 20g of each sample with 30ml of Methanol separately and keeping them at -20°C for 12 hours. Organoleptic parameters, pH value, phytochemicals and TLC were separately analyzed in both samples. Sample A appeared dark yellow, while sample B was light yellow. Rest of the organoleptic parameters were the same for both samples, including oily consistency, smooth texture, camphor odor and uniform nature. Both had a pH value of 5, which is favorable for the skin. HPTLC fingerprint of the methanol extract (Toluene: Hexane: Ethyl acetate – 1:1:1) revealed 5 peaks in sample A and 10 peaks in sample B. Tannins, alkaloids and flavonoids tested positive in the methanol extracts of both samples. Presence of these phytochemicals proved that both samples had analgesic properties.

Keywords: analgesic, HPTLC, *Malahara kalpana*, ointment, Sulphur

COMPARATIVE STUDY ON *SHADANGA PANAYA* DECOCTION WITH DEVELOPED USER-FRIENDLY NOVEL DOSAGE FORM AS AN ORAL REHYDRATION POWDER

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Ayurvedic physicians have been using *Shadanga panaya* to treat fever with thirst, detoxification, burning sensations of the body and urination processes and dehydration like conditions. Symptoms of COVID-19 have also been treated with these formulae. Due to the lack of reported standardization and quality parameters, this experimental research focused on a comparative study of *Shadanga panaya* with a developed user-friendly novel dosage form as an oral rehydration powder and a literature study on the method of preparation. Development was carried out using a spray-dryer process with the addition of a filler, considering the pros and cons of other techniques, solubility nature, evaluation of physicochemical and organoleptic properties, some important standardization tests under WHO-2012 guidelines, phytochemical analysis, design and comparison of TLC fingerprinting, HPTLC, electrolytes, heavy metals analysis, microbial contamination, and literature study of oral rehydration therapy. *Shadanga panaya* was developed into a spray-dried product only by adding a filler without any excipients. Organoleptic characteristics fulfilled the standards. Preliminary phytochemical screening revealed flavonoids, carbohydrates, saponin, phenols, and glycosides. TLC was developed, and it was found that the aqueous extract of *Shadanga panaya* showed separation. The solvent system for the TLC was Chloroform: Acetone: Glacial acid (15.2:3:1). The comparative TLC study showed identical components with *Shadanga panaya* and its ingredients. The electrolyte composition (Na⁺, Cl⁻, K⁺, Ca²⁺) and pH of the product didn't meet the composition of the Oral Rehydration Solution provided by the WHO and UNICEF. No heavy metals and microbial contaminations were found according to WHO guidelines for assessing quality of herbal medicine for the finished product. This study paves the way for the integration of Ayurveda into contemporary modern pharmaceutical development for the future advancement in healthcare.

Keywords: herbal product development, oral rehydration therapy, *Shadanga panaya*, standardization, TLC

**PHYSIOCHEMICAL AND PHYTOCHEMICAL SCREENING OF *VYAGHRI TAILA*:
AN AYURVEDA FORMULATION**

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Physico-chemical standards are of great implication in guarantee the quality, authenticity as well as purity and thereby, efficacy of the drug. In the present scenario, the stipulate for herbal products is growing exponentially throughout the world, and major pharmaceutical companies are currently conducting wide-ranging research on plant materials for their potential medicinal value. Therefore, quality control for the efficacy and safety of herbal products is essential. *Vyaghri taila* is a classical formulation mentioned in Bhaishajya Rathnavali under *Nasa rogadikariya*. *Vyaghri taila* consists of *Khantakari*, *Danti*, *Vacha*, *Shighru*, *Sindhuvara*, *Shunti*, *Maricha*, *Pippali* and *Saindava lavana*. An attempt has been made to study the physico-chemical and phytochemical parameters of *Vyaghri taila* in order to develop standard parameters. *Vyaghri taila* was prepared according to the method described in Bhaishajya Rathnavali. According to the results, *Vyaghri taila* appeared viscous in nature, orange in colour with a specific odor. Physicochemical analysis of *Vyaghri taila* showed 1.7871 Acid values, Refractive index is 1.4753, Saponification value 38.0912 mg and 74 Brix value. The present study disclosed that the methanol extract of *Vyaghri taila* and its preliminary phytochemical screening exhibited the presence of various secondary metabolites viz. alkaloids, tannins, phenols, terpenoids, saponin, cardiac glycosides and carbohydrates. This study would provide preliminary scientific evidence for *Vyaghri taila*. Therefore, the Phytochemical and Physico-chemical parameters of *Vyaghri taila* are essential to achieve authentic and standard drug for therapeutic purpose and the built-up of new drug.

Keywords: *Vyaghri taila*, *Nasa rogadikariya*, herbal product, physico-chemical, phytochemical screening

**EFFECT OF AYURVEDA TREATMENT REGIMEN ON VICHARCHIKA:
AN OBSERVATIONAL STUDY**

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Vicharchika, a skin condition described in *Ayurveda* under the *Kshudra kushta* category, shares similarities with eczema in modern medicine, exhibiting symptoms such as itching (*Kandu*), papules (*Pidaka*), blackish-brown discoloration (*Shyava varna*), and excessive exudation (*Bahusrava*). This study was designed to assess the effect of the external application of *Chakramardadi oil*, which consists of *Chakramarda* (*Cassia tora*) and *Krishna Jeeraka* (*Nigella sativa*) as the main ingredients mentioned in Ayurvedic texts, along with internal medicine. In this observational study, a 20-year-old male patient diagnosed with *Vicharchika* at the OPD of the National Ayurveda Hospital, Sri Lanka, with a 6-month history, was enrolled after obtaining consent. All signs and symptoms were recorded before the commencement of treatment. A 120 ml *Triphal guggul* decoction was administered in the morning and evening before meals, along with 5 g of *Manibhadra choorna* internally. *Chakramardadi* Oil was applied after washing the lesions with *Panchavalkala kashaya* twice per day. The size of the lesion, color, texture, and symptoms were recorded weekly during the 21-day treatment period. Over three weeks, the study found an 80% reduction in *Kandu* (itching), a 70% reduction in *Pidaka* (papules), a 60% improvement in normal skin color, and a 78% reduction in *Bahusrava* (excessive exudation). Data revealed that overall, 80% of skin lesions showed clinical improvement. The comprehensive approach, combining internal herbal medicine with topical herbal treatment using *Chakramardadi* oil, shows therapeutic potential in the management of *Vicharchika*. However, it should be clinically evaluated with a larger sample size to generalize its efficacy.

Keywords: *Vicharchika, Chakramarda, Krishna Jeeraka, Kandu, Pidaka*

**A STUDY OF THE ASSOCIATION OF PRENATAL, NATAL AND
POSTNATAL FACTORS ON *BALAKA PAKSHAGHATA***

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Balaka pakshaghatha can be defined under the *Vata vyadhi* in Ayurveda. It is one of the main disorders that shows Impairment of growth and development, delayed milestones and weakness of limbs (*Gathi vikurthi*) in children. It is a non-progressive disorder of posture, movement and coordination often associated with convulsion, mental, visual and hearing impairment. *Balaka pakshagata* can be correlated with Cerebral palsy condition. This study aimed to identify prenatal, natal, and postnatal factors associated with *Balaka pakshgatha*. After obtaining Ethical clearance this study was conducted as a non-interventional case-control design with 33 parental participants at the Ayurveda National Hospital, Borella. Data was collected through surveys of parents of Diagnosed *Balaka pakshgatha* children aged 1-16. Logistic regression analysis was applied for data interpretation. Key findings indicated that 70% of mothers experiencing pregnancy complications had children diagnosed with *Balaka pakshgatha*. Significant factors included maternal health conditions, preterm birth, low birth weight, and birth asphyxia, all contributing to developmental delays observed in *Balaka pakshgatha* cases. Additional factors such as delivery patterns, postnatal infections, seizures, and further developmental delays were identified, aligning with Ayurvedic literature. Future research should expand upon these findings to inform public health strategies to prevent *Balaka pakshgatha* and enhance outcomes for affected children and families.

Keywords: *Balaka pakshaghata*, Causative Factors

**AN OBSERVATIONAL STUDY ON EFFECTIVENESS OF MINDFULNESS
MEDITATION ON SLEEP DISORDER WITH SPECIAL REFERENCE TO INSOMNIA**

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Insomnia is the most common sleep disorder. Prevalence estimates ranging above 20% of the adult population. A number of contributory factors have been concerned of sleep disorders, including psychological condition. Objective of the study was to determine the effectiveness of mindfulness meditation on insomnia presented in students especially period of the examination. Ethical clearance for this study was taken from Ethical Review Committee, Faculty of Indigenous Medicine, University of Colombo with Reference number of ERC 23/275. A single group pre and post-test design was conducted with age from 22 to 28 years. 25 insomniac students (Faculty of Indigenous Medicine, University of Colombo) were chosen after screening 77 subjects using the Regensburg Insomnia Scale (RIS). The intervention group observed three times a week for 12 weeks. The primary outcome was assessed by using standardized sleep quality indicate, (RIS), administered at baseline and post-intervention. There was a considerable increase in the mean score of Mindful Attention Awareness Scale (MAAS), from 0.25 at baseline to 0.97 post-intervention, reflecting enhancement attention and awareness. Regarding RIS, the mean score decreased from 0.9 at baseline to 0.3 post-intervention, indicating a reduction in insomnia tendencies. The mean difference of 0.73 underscores the significant improvement following the intervention. The mean difference of 0.6 reflects a positive change after the intervention. It was notable that baseline score was relatively low compared to Insomnia and MAAS. Preliminary results indicate a significant improvement in sleep quality in the intervention group, as evidenced by reductions in RIS scores, anxiety and fear ($p < 0.001$). The study highlights the potential benefits of a holistic approach to addressing insomnia in university students, emphasizing the intervention of mindfulness as gold standard multicomponent treatment improving sleep quality and enhancing overall quality of life.

Keywords: sleep disorder, insomnia, Regensburg Insomnia Scale, meditation, anxiety

**STUDY ON AMLAPITTA AMONG PATIENTS VISITING AYURVEDA NATIONAL
HOSPITAL, SRI LANKA**

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Amlapitta can be correlated with the disease gastritis. Gastritis is a general term for a group of conditions that involve inflammation of the stomach lining. According to Western science, the signs and symptoms of gastritis include burning ache or pain (indigestion) in the upper abdomen that may become either worse or better with eating, nausea, vomiting, and a feeling of fullness in the upper abdomen after eating. This study aimed to investigate the relative effects of sociocultural and individual behavioral factors contributing to *Amlapitta* disease among patients visiting the Ayurveda National Hospital, Borella. It mainly focused on identifying the causative factors of *Amlapitta* and the commonly used home remedies to alleviate the disease condition. A descriptive cross-sectional survey was conducted involving 120 *Amlapitta* patients (52.5% male, 47.5% female) aged 20-60. Data were collected through structured interviews (ERC 23/282), focusing on identifying causative factors and commonly used home remedies. Major findings revealed that high levels of stress (74.16%), sleep deprivation (56.6%), irregular meal patterns (69.16%), skipping meals (57.5%), and the consumption of alcohol (52.5%) and tobacco (41%) were significant contributors to *Amlapitta*. Home remedies commonly used by patients included *Sau* (65.83%), *Thambili*/King Coconut [*Cocos nucifera* var. *aurantiaca*] (60.83%), *Komarika*/Aloe vera [*Aloe barbadensis* miller] (55.83%), Lunukada/Rice Porridge (42.5%), *Diyabath* (37.5%), and *Diyaberaliya keda*/Common Water Hyacinth [*Eichhornia cordifolia*] (27.5%). The study concludes that dietary habits, particularly skipping meals, consuming spicy or fatty foods, and lifestyle factors such as stress and sleep patterns, significantly influence the occurrence of *Amlapitta*. Dietary modifications were favored as a treatment approach, with natural remedies like *Thambili*/King coconut and coconut water being preferred. These findings highlight the importance of addressing sociocultural and behavioral factors in managing *Amlapitta* and suggest avenues for holistic treatment.

Keywords: *Amlapitta*, gastritis, causative factors, risk factors, home remedies

EFFECT OF *DHUMA PANA* (HERBAL SMOKING) FOR *KAPHAJA SHIRAH SHULA* (SINUSITIS): AN OBSERVATION CASE STUDY

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Kaphaja shirah shula is a condition characterized by headache, heaviness, and nasal discharge, resembling sinusitis in modern medicine. Ayurveda and Traditional Medicine in Sri Lanka have successfully treated *Kaphaja shirah shula* with *Dhuma pana* (herbal smokes). Hence, this study aimed to evaluate the effects of *Duma varti*, prepared using a Sri Lankan traditional recipe from *Thalpathe piliyum*. The preparation comprised eight herbal ingredients: *Brassica nigra*, *Elettaria cardamom*, *Saussurea lappa*, *Cuminum cyminum*, *Carum carvi*, *Acorus calamus*, *Cinnamomum verum*, and *Curcuma longa*. A 26-year-old female patient diagnosed with *Kaphaja shirah shula*, experiencing headache, nasal discharge, sore throat, and head heaviness for five months, was purposively selected from the Out Patient Department at the *Kayachikitsa* and *Deshyachikitsa* Professorial Unit, Ayurveda National Hospital, Borella. The *Dhuma pana* was smoked daily by each nostril for 3 times after the application of *Nirgundayadi abyanga* with *Nika patra sweda* (fomentation). After 12 days of treatment, effects were evaluated using a standard grading scale and recorded on a prepared proforma. It was observed that headache reduced by 75%, and heaviness of the head, nasal discharge, postnasal discharge, nasal obstruction, and facial pain were completely relieved, attributed to the anti-inflammatory, antibacterial, and antioxidant properties of *Duma pana*. This treatment protocol proved clinically effective in managing *Kaphaja shirah shula* and further research on a larger scale is needed to evaluate its therapeutic potential.

Keywords: *Kaphaja shirah shuala*, sinusitis, traditional herbal formula

**A STUDY ON THE RELATIONSHIP BETWEEN *KASHTARTAVA* (DYSMENORRHEA)
AND *DEHA PRAKRITI***

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Kashtartava is defined as painful menstruation, either primary or secondary that a woman may experience during or around menstruation. This study is focused on primary dysmenorrhea or *Udavartini yoni viyapad* explained in Ayurveda. The study was aimed to identify the specific body constitutions susceptible to develop *Kashtartava*. The data was collected by a survey from 77 females, age 18 - 45 years, diagnosed with *Kashtartava*. Prior to the study, ethical clearance was obtained from ERC-FIM and administration permission was acquired from two selected Ayurveda hospitals. Simple Random Sampling method was adopted. *Deha prakriti* and menstrual pain intensity were assessed through interviewer-administered questionnaire and analyzed by SPSS. The result revealed the majority was between 25 to 29 years, unmarried (81.8%), Sinhalese (93.5%), Buddhist (88.3%), and have completed their tertiary education (89.6%). The prevalence of pre-menstrual symptoms, including depression, anxiety and emotional upset before periods, is noteworthy (50.6%). The most common pain descriptors experienced by *Kashtartava* patients are aching (74%) and cramping (62%). The results also indicated a potential relationship between *Deha prakriti* and *Kashtartava* with *Pitta-Vata prakriti* (49%) being the most prevalent among participants. However, correlation analysis revealed that characteristics of the individual three *Dosha* may not significantly determine the intensity of pain experienced by individuals. The study emphasizes the importance of personalized approaches to pain management based on individual *Deha prakriti*. Future research directions should explore additional factors influencing pain intensity and interactions between different *Deha prakriti* and pain experiences to enhance targeted interventions for individuals with dysmenorrhea.

Keywords: *Kashtartava*, dysmenorrhea, *Deha prakriti*, Ayurveda, pain management

**A STUDY ON AWARENESS AND ATTITUDE ABOUT
AYURVEDA HAIR OIL**

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Ayurveda hair oil is popular in hair care product in Sri Lanka. In current scenario certain other hair care products also available at the market. This study is aimed to search awareness and attitude about Ayurveda hair oil. For this survey participants were selected from Faculties of University of Colombo except Faculty of Indigenous Medicine. 100 undergraduate students of age between 20 -30 years were participated to the study. Ethical approval was obtained from the ethics review committee of faculty of indigenous Medicine (ERC NO 23/264). Google form was distributed among the selected participants and obtained data were analyzed and presented. Majority of participants use Ayurveda hair oil regularly (96%), participants use oil few times a weekly (36%). The majority perceive Ayurveda hair oil as somewhat effective (58%), particularly for hair growth, nourishment, strength and prevent from hair fall. Most people consider about brand reputation (somewhat important 45%) and natural ingredients (very important 50%). Most participants trust Ayurveda hair oil as a natural and safe (93%), concerns about its smell (72%). Research findings highlight the importance of addressing issues related to product quality, user experience and awareness of Ayurveda practices to improve customer acceptance and satisfaction. Further research for product development could facilitate the start using of Ayurveda hair oil among people.

Keywords: hair oil, Ayurveda, awareness, attitude

**PREVALENCE AND PREFERENCE OF TREATMENT METHODS FOR CRACKED
HEEL (*PADADARI*) AMONG STUDENTS AND STAFF AT THE FACULTY OF
INDIGENOUS MEDICINE**

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Ayurveda is traditional and ancient Indian medical science which means “The science of life”. Ayurveda aims to protect and maintain the health of the healthy person treat the disease and give relief to sick person. *Padadari* is one of the minor diseases in Ayurvedic Authentic texts. It can be correlated with heel fissures as per modern medicine. This study was based on the prevalence and preference of treatment methods for cracked heel conditions (*Padadari*). The study was carried out from November 2022 to May 2023 after obtaining an ethical clearance (ERC 22/181). The sample consists of 210 participants at the Faculty of Indigenous Medicine, University of Colombo. They were selected by the Stratified sampling method. Data was collected from self-questionnaire and E-survey. The dump as well as participants diagnosed with diabetic ulcer or any other diagnostic disease recently or frequently other than cracked heel on foot, were excluded from the study. 18-70 years participants will be included in this survey. According to the survey, the female prevalence of cracked heel condition was 54% and the male prevalence was 52%. Therefore, *Padadari* is more prevalent among female as per the survey. Ayurvedic external preparations, Ayurvedic internal preparations and both preparations together considered as treatment methods. That percentages were 53%,12%,35% respectively. Accordingly, most preferred treatment method was Ayurvedic External preparations.

Keywords: Cracked heel, heel fissures, Diabetic ulcer, *Padadaari*, Survey

**A LITERATURE REVIEW ON EXTERNAL PHARMACEUTICAL FORMULATIONS
FOR ARSHAS IN AYURVEDA AND SRI LANKAN TRADITIONAL MEDICINE**

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Hemorrhoids (*Arshas*) are a prevalent lifestyle disease causing significant discomfort. Globally, 50.85% of individuals aged 45-65 suffer from hemorrhoids, with prevalence rates as high as 75% in India and 39% in Sri Lanka. Ayurveda and traditional Sri Lankan medicine offer promising treatments for *Arshas*, contrasting with modern medicine's limited efficacy and recurrence issues. This study involved a comprehensive review of Ayurveda, and traditional texts to identify external pharmaceutical formulations for *Arshas*. Key sources included "*Charaka Samhita*," "*Sushruta Samhita*," and "*Talpate Piliyam*." The pharmacodynamic properties of these formulations were analyzed using Ayurveda *Shska Samgraha*, etc. The review identified 31 external formulations for *Arshas*, categorized as follows: *Pralepa (Pattu)* - 49, *Thawili pottani* - 18, *Dhuma* - 11, *Awagaha* - 8, *Mallum* - 6, and *Thaila* - 6 (*Cha. /Chi./14, Su. /Chi./2, Thalpathe Piliyam 2-14*). Key ingredients commonly used included *Beli*, *Thippili*, *Sathakuppa*, *Karal heba*, and *Niyagala*. Predominant pharmacodynamic properties of the studied drugs include *Katu rasa* (taste), *Laghu guna* (quality), *Ushna veerya* (potency), and *Katu vipaaka* (post-digestive effect). These properties contribute to their efficacy in treating *Arshas* by reducing complications, severity, and recurrence through external application. Ayurveda and traditional Sri Lankan medicine provide effective external treatments for *Arshas*, with formulations such as *Pralepa*, *Thawili pottani*, and *Dhuma* showing significant potential. These findings highlight the latent for these traditional methods to offer more sustainable and effective solutions. Further clinical studies are warranted to validate these formulations' efficacy and safety.

Keywords: *Arshas*, Ayurveda, external formulations, hemorrhoids, Traditional Medicine

DEVELOPMENT AND ANALYSIS OF AYURVEDIC HERBAL UNDER-EYE CREAM

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Ayurveda emphasizes holistic beauty through natural skincare and individualized lifestyle practices. This study explores the formulation and evaluation of an Ayurvedic herbal under-eye cream, utilizing ingredients of *Pterocarpus santalinus* (*Rakthachandana*), *Rubia cordifolia* (*Manjishtaa*), and *Glycyrrhiza glabra* (*Yashtimadhu*) from Charaka Samhitha *Varnya gana*, complemented by virgin coconut oil, shea butter, beeswax, aloe vera gel, liquid germall plus, and rose essential oil. *Rakthachandana* reduces pigmentation, *Manjishta* rejuvenates the skin, and *Yashtimadhu* inhibits melanin deposition. These herbs, exhibit *Tikta* (*Bitter*), *Kashaya* (*Astringent*), and *Madhura* (*Sweet*) *Rasa* (*Taste*), along with *Guru* (*Heavy*), *Ruksha* (*Rough*), and *Snighdha* (*Unctuousness*) *guna* (*Quality*), *Ushna* (*Heat*) *Virya* (*Energy*), and *Madhura* (*Sweet*) *vipaka*, offer *Pittahara* (*pacifying Pitta*) *Prabhava* (*After taste*) properties, ensuring comprehensive skin care. The organoleptic evaluation revealed a pleasant odor, smooth texture, and suitable pH for healthy skin. Chemical analysis showed a moisture content of 26.3%, a total ash value of 7.8%, acid-insoluble ash of 1.2%, and water-soluble ash of 2.05%. Phytochemical screening indicated the presence of alkaloids, flavonoids, tannins, phenols, saponins, cardiac glycosides, and terpenoids, which confer antibacterial, antifungal, and antioxidant properties. Thin-Layer Chromatography (TLC) and High-Performance Thin-Layer Chromatography (HPTLC) further confirmed these bioactive compounds. This research validates the cream's efficacy, merging ancient Ayurvedic wisdom with contemporary scientific analysis, thus contributing to the development of effective herbal skincare solutions.

Keywords: skincare, herbal under-eye cream, natural beauty

**ANALYZING THE REPORTED POST COVID-19 VACCINATION COMPLAINTS IN
RELATION TO THE PRAKRUTI AMONG PARTICIPANTS AT FACULTY OF
INDIGENOUS MEDICINE, UNIVERSITY OF COLOMBO AND AYURVEDA
NATIONAL HOSPITAL, BORELLA**

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The COVID-19 pandemic has significant morbidity and mortality globally. COVID-19 vaccination is considered one of the most effective ways to control the virus's spread. However, like all vaccines, they can have side effects or post-vaccination complaints. This study was conducted at the Faculty of Indigenous Medicine, University of Colombo, and the Ayurveda National Hospital, Borella, from November 2022 to May 2023 to explore the relationship between post COVID-19 vaccination complaints and *Prakruti* after obtained ethical approval (ERC 22/183). Data were gathered using a self-administered questionnaire. A total of 210 participants were selected using a stratified sampling method. Most participants were female, and the 27-38 age group reported the most complaints. Analysis showed that individuals with *Vata*, *Pitta prakruti* had the highest number of post-vaccination complaints. However, there was no significant correlation between the majority of complaints and the participants' *Prakruti*. Other factors, such as body immunity, might influence post-vaccination responses. The study suggests a possible correlation between *Prakruti* and a minority of post COVID-19 vaccination complaints, particularly among those with *Vata pitta prakruti*. The lack of a direct correlation for the majority of complaints indicates that additional factors may affect an individual's response to the vaccine. Understanding these factors can aid in tailoring vaccination strategies for better outcomes. This study highlights the complexity of vaccine responses and the potential influence of individual *Prakruthi*. Further research is necessary to explore other factors affecting post-vaccination responses to enhance personalized vaccination approaches.

Keywords: Ayurveda, COVID-19, immunity, *Prakruthi*, side effects, vaccination

**KNOWLEDGE, ATTITUDE AND PRACTICE OF BREAST CANCER AND THE
BREAST SELF EXAMINATION AMONG FEMALE SUPPORTIVE STAFFS AT
AYURVEDA NATIONAL HOSPITAL, BORELLA**

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Despite considerable efforts aimed at boosting awareness about breast cancer, the practice of breast self-examination remains notably low among the population in Sri Lanka. The purpose of this study was to evaluate the level of knowledge regarding breast cancer and breast self-examination among female supportive staffs working at Ayurveda National Hospital. Ethical clearance was obtained from the Ethics Review Committee, Faculty of Indigenous Medicine, University of Colombo (ERC 23/228). A cross-sectional study was conducted by distributing a self-administered, pre-validated, and pre-piloted questionnaire to 80 female supportive staff members at the Ayurveda National Hospital, Borella. The data collected was analyzed using the SPSS version 8. In this study 65.3% acknowledged the lack of breastfeeding as a risk factor. 81% of sample didn't recognize changes in skin over the breast and recent onset nipple retraction are symptoms of breast cancer. Despite the high awareness of BSE with 69.3% of participants acknowledging its importance, only 38.7% reported actually performing the examination. Among those who performed breast self-examination, only 13.8% knew the proper timing for conducting the examination, indicating a gap between awareness and practical application of breast self-examination among the women surveyed. The current status of awareness of breast cancer in female supportive staff members at the National Ayurveda Teaching Hospital and their use of breast self-examination are insufficient. To address this, comprehensive educational interventions are urgently required. These interventions should aim to raise awareness about the importance of regular breast self-examination, provide detailed instructions on how to perform breast self-examination correctly, and emphasize the benefits of early detection in improving treatment outcomes and survival rates. By implementing such educational programs, empower women to take proactive steps in monitoring their breast health.

Keywords: awareness, breast cancer, knowledge, breast self-examination

**PHYTOCHEMICAL PROPERTIES AND CHROMATOGRAPHIC PROFILE OF
Dioscorea alata L. TUBERS**

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Dioscorea alata L. is a tuber with increased consumer demand especially among diabetic patients, due to its low sugar content. However, very few pharmacological and phytochemical investigations have been reported for *Dioscorea alata* extracts. This study aimed to determine the phytochemical properties and chromatographic profile of *Dioscorea alata* tuber extracts. Phytochemical screening was performed using both water and ethanol extracts. The total phenolic content (TPC) and total flavonoid content (TFC) of water and ethanol extracts of *Dioscorea alata* were determined by Folin-Ciocalteu method and Aluminum Chloride colorimetric method respectively. In addition, phytochemical fingerprints were developed by Thin Layer Chromatography (TLC) and High-Performance Liquid Chromatography (HPLC) techniques. Several secondary metabolites and reducing sugar were present in both water and ethanol extracts of *Dioscorea alata*. However, very low contents of TPC and TFC were reported for both ethanol and water extracts of *Dioscorea alata*. In TLC fingerprint different spots were observed under 254 nm and 366 nm bearing R_f values of 0.89, 0.82, 0.72, 0.60, 0.53, 0.37, 0.20. In HPLC profile, several peaks were observed which responsible for some phyto-constituents. In conclusion, the findings of the present study, (a) exhibited the presence of phytochemical constituents including carbohydrates, flavonoids, sesquiterpenes, phenols, reducing sugar, alkaloids, tannins and (b) developed the chemical fingerprints via TLC and HPLC of *Dioscorea alata* tuber extracts.

Keywords: *Dioscorea alata* L., Sri Lanka, phytoconstituents, TPC, TFC

**AYURVEDA MEDICINE AND LIFESTYLE MODIFICATION FOR THE
MANAGEMENT OF AMLAPITTA**

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Amlapitta, a common ailment in the present era, is characterized by excessive secretion of the *Amla guna of Pitta*, leading to symptoms such as burning sensation, loss of appetite, nausea, and sour or bitter belching. Modern lifestyle and dietary habits contribute significantly to its prevalence. Despite the availability of various allopathic treatments, these often come with adverse effects, prompting a shift towards Ayurvedic medicine and home remedies. This study aims to identify the most prevalent causes of *Amlapitta* and to explore lifestyle modifications and Ayurvedic treatments effective in managing the condition, with a focus on practices in Sri Lanka. The study consists of two parts: a literature review and an observation. Scientific databases, including PubMed and Google Scholar, were analyzed to gather data on the properties and ingredients of Ayurvedic medicines used for *Amlapitta*. Additionally, a structured questionnaire survey was conducted among voluntarily selected university and school students suffering from *Amlapitta*. The literature review highlighted the effectiveness of Ayurveda formulations such as *Avipattikara churna*, *Navarathna kalka*, *Shathavari gritha*, *Amalaki churna*, and *Bhashmikara lavana* etc. The survey revealed that stress and improper dietary habits—such as the consumption of spicy, sour, and salty foods, as well as irregular eating patterns—are the main causative factors for *Amlapitta*. The evidence supports the integration of Ayurvedic medicine and lifestyle modifications to manage *Amlapitta* effectively. Patients are encouraged to adopt these changes to become healthier and manage their condition better amidst a busy life schedule.

Keywords: *Amlapitta*, Ayurveda Medicine, Life style modification, Dietary habits, Preventive measures

**A STUDY ON BREAKFAST PRACTICES OF CHILDREN IN A PRIMARY SCHOOL IN
BIYAGAMA**

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School-going children frequently skip breakfast for various reasons, including lack of time. Evidence indicates that breakfast consumption is more beneficial than skipping breakfast following a long overnight fast. This study aimed to investigate the breakfast habits of primary school children and their parents' attitudes on the nutritional needs of their children about breakfast. After obtaining the ethical clearance (ERC 23/234) this survey was conducted in a primary school in Biyagama. Data was collected using a questionnaire and height and weight were measured to assess the nutritional status of children. The results of 218 students' findings were analyzed. 44% of children skipped breakfast at least once a week. 30% had their breakfast 1-2 days per week. Adding fruits with breakfast at least one day per week was 74%. The majority of children consumed a local meal based on wheat flour. Fast foods were identified as the preferred food items. A significant number of students did not take any drinks in the morning. According to the findings, parents knew the importance of breakfast and 86% stated that it should be a balanced diet with vegetables and fruits. The commonest reason for missing the morning meal was lack of time. Suggestions were given to the school to arrange a time for breakfast for the students before starting academic activities.

Keywords: breakfast, primary school children, body mass index, food

**EXPLORING THE ROLE OF WELLNESS TOURISM IN COMMUNITY
DEVELOPMENT IN SRI LANKA**

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Wellness tourism, characterized by travel aimed at enhancing personal well-being through physical, psychological, or spiritual activities, is increasingly recognized for its potential to drive community development. In Sri Lanka, wellness tourism leverages the country’s rich traditions in Ayurveda and Hela Wedakama, offering holistic treatments that attract international visitors. This research explores how wellness tourism can support local economies while preserving cultural authenticity and environmental sustainability. The research objectives are fourfold: To analyze the economic benefits of wellness tourism for local communities; To evaluate its cultural role in preserving and promoting local traditions; To identify challenges faced by local communities; To propose strategies for maximizing its positive impacts while ensuring sustainability. A qualitative research design was employed, with data collected through 25 in-depth, stakeholder, keyholder and participant observations and document analysis. Thematic analysis was used to identify recurring themes and patterns related to the economic, social, and cultural impacts of wellness tourism. The findings indicate that wellness tourism significantly contributes to economic development through job creation, income diversification, and support for local businesses. Culturally, it plays a vital role in preserving traditional practices and promoting cultural exchange. However, challenges such as inadequate infrastructure, lack of training, and insufficient regulatory support need to be addressed. Recommendations include improving infrastructure, implementing skills development programs, promoting sustainable practices, and fostering community-based tourism models. The study concludes that wellness tourism has significant potential to drive community development in Sri Lanka, provided that a holistic approach integrating economic, social, and environmental considerations is adopted.

Keywords: wellness tourism, community development, Sri Lanka, economic benefits, cultural sustainability

MANAGEMENT OF DEMENTIA BY HERBAL MEDICINES: A SYSTEMATIC REVIEW

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Dementia is a multifactorial, neurodegenerative, complex brain condition marked by memory loss, personality shifts, and declining cognitive abilities. While the exact cause remains elusive, recent research suggests that lifestyle, diet, environment, and genetics play roles in its development. Aim of this study was to review key evidence available for the management of dementia by herbal medicines. This Current systematic review conducted by adhering to PRISMA guidelines. A comprehensive search was carried out using, two electronic databases named PubMed and Google Scholar. Each electronic database was explored for articles published from since 2010 -2024. Only the articles based on randomized and non-randomized clinical studies which published in English language were included in the present study. These Aforesaid studies have specifically conducted to investigate the use of herbal medicine as a treatment approach with the patients diagnosed with various forms of dementia. The search utilized the keywords, "Herbal medicine for dementia," "Herbal medicine for Alzheimer's disease," "Traditional medicine and dementia," and "Herbal treatments for dementia". As per the inclusion criteria, nine (09) studies were subjected to present systematic review. Based on the current review, the current reviewed reported research works, do not strongly support the effectiveness of herbal medicines for managing dementia in the scientific background even though some positive findings are observed. The studied herbs are *Withania somnifera*, *Bacopa monnieri*, *Centella asiatica*, *Curcuma longa* and *Ginkgo biloba*. *Ginkgo biloba* has proved effective for effectivity of cognitive functions and memory improvement. Further, randomized clinical trials need to clarify the effectiveness of herbal drugs in dementia of herbal drugs mentioned in current this study and especially for other herbal medicines that were not included in this present review. For this study, two electronic databases will be comprehensively searched. Each electronic database searched for articles published from 2010-2024. Only articles published in English language were included in this review. The review includes a range of original clinical studies such as randomized and non-randomized trials. These studies specifically involve patients diagnosed with various forms of dementia and explore the use of herbal medicine as a treatment approach. Following the exclusion process, 09 studies met the criteria and were ultimately incorporated into this systematic review. According to the findings of present review, it can be concluded that herbal medicines may provide promising results as adjunctive therapies for the management of dementia. management. However, more researches are needed to establish their efficacy, safety, and optimal use extensively. Until then, it's essential to approach their use cautiously and collaborate with healthcare professionals.

Keywords: dementia, systematic review, herbal medicine

**DEVELOPING INDIGENOUS HEALTH PRACTICES AS A TOURISM PRODUCT:
CASE OF VADDA COMMUNITY IN SRI LANKA**

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The integration of indigenous health practices into tourism offers a unique opportunity to promote cultural preservation and sustainable development. This research focused on the *Vadda* community in Sri Lanka, examining how their traditional health practices can be developed into a health and wellness tourism product. Using a qualitative approach, data were collected through observations with *Vadda* community members, government officials, tourist guides, academic experts, and tourists. Thematic analysis revealed key findings aligned with three main research objectives. Firstly, the study identified that *Vadda* health practices, including herbal medicine, spiritual healing, and dietary customs, are deeply rooted in their cultural and spiritual beliefs. These practices, transmitted through generational teaching and community involvement, are suitable for integration into tourism when presented authentically and respectfully. Secondly, effective strategies for promoting these practices were identified. Educational tours, hands-on workshops, and digital media campaigns can engage tourists, while specialized wellness packages incorporating *Vadda* methods can cater to the growing demand for holistic health experiences. Collaboration with tourism agencies and wellness resorts is essential to enhance visibility and appeal. Lastly, several challenges and barriers were analyzed. Ensuring cultural sensitivity, avoiding misrepresentation, and balancing commercial interests with cultural preservation are critical challenges. Addressing logistical and regulatory challenges, such as infrastructure development and legal protection of intellectual property rights, is crucial. The study recommends engaging the *Vadda* community in planning and implementation, developing comprehensive training programs, implementing sustainable tourism practices, leveraging digital and media channels for promotion, and protecting intellectual property rights. These steps can ensure that the integration of *Vadda* health practices into tourism benefits both the community and the tourism.

Keywords: *Vadda* community, indigenous health practices, wellness tourism, cultural preservation, sustainable development

**FORMULATION AND STANDARDIZATION OF AN EXTERNAL DRUG FORMULA
FOR YUWANA PIDAKA**

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Yuwana pidaka (acne vulgaris) is a common disease with prevalence 9.4% special among adolescents. In Ayurveda texts have been mention *Raktha shodhana*, *Kapha pitta shamaka* treatment and in modern perspective anti-microbial action. Objective of this study to formulate and standardization a product for this skin condition. It consists with *Manjistha* (*Rubia cordifolia*), *Nimba* (*Azadirachta indica*), *Haridra* (*Curcuma longa*), *Chandana* (*Santalum album* L). Shea butter use as the base for this product. This cream was prepared by heating, mixing and filtering with homogenization. It was screen for Phytochemicals and positive for saponin, tannin, flavonoids: pH, spread ability and thermal stability were assessed as the standardization parameters, results shown the pH value (5.8) is benefit for skin, 2217g cm/s of spread ability, the pass test for thermal stability confirms the standard level of the product. TLC and HPTLC profiles performed {solvent system; Toluene: Ethyl acetate (7:3v/v)} as result shown with five peaks shown which evidences quality of the preparation. *Kapha pitta shamaka* and *Rakta shodhana* properties of these ingredients with anti-microbial action all of these ingredients have anti-bacterial beneficial for treat *Yuwna pidaka*. This preparation is good for *the Yuwana pidaka*. Further study is recommended to the efficacy standard product to this disease condition.

Keywords: *Yuwana pidaka*, standardization, *Raktha shodana*, *Kapha pitta shamaka*

**A REVIEW OF *AHIPHENA* (*ABIN/OPIUM*) CONTAINING DRUG PREPARATIONS
WITH SPECIAL REFERENCE TO AYURVEDA PHARMACOPOEIA AND *THALPATHE
PILIYAM***

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A remarkable increase in global healthcare has arisen towards plant-based medicine. *Ahiphena* (*Papaver somniferum*) stands out as a significant focus of interest. *Ahiphena* is semi-poisonous and after proper purification it acts as a potent remedy for many diseases for centuries. The objectives of this study were to find out, compile and analyse different formulations containing *Ahiphena*, its system-wise indications and preparatory methods to analyse the Opium percentage in formulae in Ayurveda Pharmacopoeia and *Thalpathe Piliyam*. The study was carried out as a literature review, reviewing selected authentic books, Vṛhat-trayi, textbooks of *Dravyaguna Vignana* and selected modern texts. The data collected from the prescriptions were analyzed using graphs and charts. As per results, there were 778 drug preparations with *Ahiphena* as an ingredient, an *Anupana* (fluid vehicle) as well. The majority of drug formulations in both books act on the *Anna vaha samsthana* (GIT), 65.38% in Ayurveda Pharmacopoeia, 56.20% in *Thalpathe Piliyam*. Also, it acts on diseases of other systems: muscular skeletal diseases, skin diseases and eye diseases. Among drug preparatory methods, *Guli* (pills) was the most common form that included *Ahiphena*. Other formulations included *Kalka*, *Kaṣaya*, *Churna*, *Lepa/Paththu*, and unique Sri Lankan traditional preparations like *Basna*, *Vedu*, and *Dhuma*. The *Ahiphena* content was less than 5% in most formulations, indicating that small amounts can act very efficiently in different disease conditions. This literature review provides a way forward to further chemical and clinical studies and encourages society to use drugs containing *Ahiphena* under medical supervision.

Keywords: *Ahiphena*, drug formulations, Ayurveda pharmacopoeia, *Thalpathe Piliyam*.

**COMPARATIVE MORPHOLOGICAL, PHYTOCHEMICAL AND PHYSIOCHEMICAL
STUDY OF *DARCHINI* (*Cinnamomum verum*) AND
SALIKHA (*Cinnamomum cassia*)**

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Darchini (*Cinnamomum verum*) and *Salikha* (*Cinnamomum cassia*) are two morphologically similar plants belonging to the family Lauraceae. *Darchini* is known as Ceylon cinnamon, which is native to Sri Lanka whereas *Salikha* is known as Chinese cinnamon, native to China. Though the two drugs are morphologically alike their therapeutic potential is different. Further, in order to get the desired therapeutic effect, it is necessary to identify the genuine drug. Therefore, the aim of this study is to explore and elucidate the similarities and differences between these two species to gain a comprehensive understanding of their potential applications in medicine. *Darchini* and *Salikha* were collected and authenticated. Morphological and phytochemical differences were analysed through a literature review. In addition to that organoleptic evaluation and preliminary physicochemical evaluation were carried out in both samples. The study revealed that bark of the *Darchini* is light yellowish brown, about 0.5 mm thick, single, and double quills are packed inside one another as compound quills whereas bark of *Salikha* is dark brown externally and reddish brown internally, 1 to 3 mm thick, with single quills and channeled pieces. Cinnamaldehyde is the main active component in both varieties but *Salikha* contains higher amounts of coumarin than *Darchini*, which may have implications for liver toxicity in large doses. *Salikha* contains less eugenol and more mucilage than *Darchini*. Results of physicochemical of *Darchini* showed moisture content 14.8 %, cold extractive value 10.2 %, hot extractive value 27.5mg/g, and swelling index 3 whereas in *Salikha* 11.2 %, 7.8 %, 32.5mg/g and 5 respectively. As per the results, there are many differences between *Darchini* and *Salikha* with regards to their morphological, phytochemical and physicochemical characters. Hence, the results of this study would be helpful to identify genuine *Darchini* and *Salikha* in order to get the anticipated effect.

Keywords: *Darchini*, *Salikha*, *Cinnamomum verum*, *Cinnamomum cassia*

**COMPARATIVE PHARMACEUTICO – ANALYTICAL STUDY OF KARAVIRADYA
THAILAYA AND ITS MODIFIED FORM OF KARAVIRADYA PASTE**

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Karaviradya thailaya is an Ayurvedic classical formulation used for various diseases like *Kushta* (Type of Skin disease), *Bhagandhara* (Fistula), *Nasarsha* (Nasal polyps), and *Indralupta* (Alopecia). To avoid the overspreading on unexpected skin areas due to have *Teekshna guna* (Sharp potency), *Usna veerya* (Hot potency), *Katu vipaka* (Pungent), *Lomashatana* (depilation) and *Lekhana* (scraping) effect. To take maximum benefits, such as adhere better to the skin surface, ensuring prolonged contact with the affected area of active ingredients, *Karaviradya* oil was modified as a *Karaviradya* Paste form. *Karaviradya thailaya* was prepared by following reference of *Rasatarangani* chap 24, *Vishopavishadi vijnaniya tharanga* 493-494 with the desired properties of *Sneha paka* as per the Sharanghadhara Samhitha and *Karaviradya thailaya* was converted to *Karaviradya* paste as per the reference of *Gandhaka malahara kalpana* mentioned in *Rasatharangani*. Repetitively prepared three samples of *Karaviradya thailaya* and *Karaviradya* paste were comparatively subjected to Physio-chemical and Phytochemical analysis. Paste has shown a thicker consistency and less moisture content than *Thailaya*. pH determination 6.5, total ash value 25.95%, acid-insoluble ash value 37.67%, and water-soluble ash value 11.348% proved all the parameters are in the standard range. Phytochemical analysis of tannin, saponin, alkaloid, phenol, and TLC, proved that comparatively *Karaviradya* paste exhibited similar chemical properties as *Karaviradya thailaya*. Antimicrobial studies, shelf-life studies, and product safety and efficacy studies are suggested. In conclusion, a modified dosage form of *Karaviradya* paste can be considered as the standard product similar to *Karaviradya thailaya* and more consumable.

Keywords: *Karaviradya thailaya*, *Karaviradya* paste, dosages form modification, skin disease

**A STUDY ON THE PRIMARY ORAL HEALTH OF CHILDREN IN A SCHOOL IN
KOLONNAWA**

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Oral health supplies a significant contribution for the physical and psychological wellbeing of the children. Primary oral health consists of the early detection of oral diseases, dental health care promotion and referral to the specialists when appropriate. The aim of this study was to explore the common oral health issues, related risk factors and the awareness of the health care practices among a sample size of 115 students, in primary section of WP/JAYA/ ST. Joseph’s College, Kolonnawa. After getting ethical approval, data was collected from the students by examining their oral cavity by inspection and using a questionnaire given to their parents. Dental caries was the most remarkable oral disease since 62% of the population was presented with untreated decayed teeth. 13% of students were presented with ulcers in gum, 25% were presented with bleeding when brushing. When considering the oral care practices, 81% of students were brushing teeth only once per day, 65% were presented with usage of less than pea size of toothpaste, 37% were spending less than 2 minutes time period for brushing, 56% were recorded less frequency of dental checkups and also the high frequency of sweet food intake per day presented among 54% of students. The research findings related to the oral health care malpractices also indicate the necessity of oral health care awareness for the primary students. Several awareness sessions were conducted for the students and their parents in order to upgrade oral hygiene.

Keywords: primary oral health, dental caries, oral health care practice

**DIETARY SUPPLEMENTS FOR BREAST CANCER PATIENTS: A SYSTEMATIC
REVIEW**

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Breast cancer is the most commonly diagnosed cancer among women worldwide after the colorectal and lung cancer. There is increasing evidence that diet and lifestyle plays a decisive role in breast cancer biology. Aim of this study to review key evidence available for dietary supplements for breast cancer patients. The methodology for this review involved the PubMed and Google Scholar from 2013 to 2023 using the key words “dietary supplements and breast cancer”, “dietary supplements and breast carcinoma”. Based on the review, higher intake of soy products, vegetables (like leafy vegetables, deep orange/yellow vegetables, tomatoes, kale), fruits (like apples, banana, grapes, orange and vitamin c rich fruits), fish, green tea, coffee, magnesium, calcium, iron, vitamin D like nutrients are beneficial effect for breast cancer patients. According to these articles highly refined cereals, dairy products, pulses, meat, cold nuts, alcohol, nuts and almonds, iron, vitamin B₁₂, antioxidants (vitamin C, A, E, Carotenoids, co enzyme Q10) are increased the risk of breast cancer But further studies are needed to draw more conclusions and to clarify their role in patients with an established diagnosis of breast cancer, because there was no clear idea about the effect of iron, if it is good or bad for the breast cancer patients. It was concluded that, there was a need of studies to prove the effect on the breast cancer to improve their quality of life and must be carefully designed due to the many confounding factors and heterogeneity of the population.

Keywords: breast cancer, breast carcinoma, dietary supplements

**INTEGRATING HELA WEDAKAMA INTO SRI LANKA'S WELLNESS TOURISM:
OPPORTUNITIES AND CHALLENGES**

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Hela wedakama, the indigenous medical system of Sri Lanka, holds a prominent place in the nation's heritage. This study investigates the potential for integrating *Hela wedakama* into wellness tourism, aiming to promote economic development and community empowerment in Sri Lanka. The objectives are to identify ways of integrating *Hela wedakama* into tourism, understand the challenges of incorporating *Hela wedakama* into tourism and develop strategic recommendations to enhance the infrastructure and sustainability of wellness tourism initiatives. Using a qualitative research approach, data were collected from industry stakeholders, selected through purposive and snowball sampling, and observations in wellness and indigenous medical centers in the Western, North Central, and Central provinces. The findings reveal that wellness tourists are drawn to *Hela wedakama* due to its holistic health benefits and personalized treatments using special herbs and unique healing practices. They appreciate its proactive approach to health, addressing the whole person rather than just symptoms. However, the sector faces several challenges, such as limited resources, lack of standardization in practices, and insufficient marketing strategies. These barriers hinder the effective integration of *Hela wedakama* into the wellness tourism sector. Additionally, there is a need for more robust infrastructure to support wellness tourism and facilitate access to *Hela wedakama* practices. Integrating *Hela wedakama* into wellness tourism can strengthen the economy and empower communities, offering significant socio-economic benefits. Strategic measures, including infrastructure development, effective marketing, sustainable practices, and government support, are essential to overcome these challenges and enhance the overall appeal of wellness tourism based on *Hela wedakama*. Promoting *Hela wedakama* more widely can result in greater economic opportunities and cultural preservation.

Keywords: *Hela wedakama*, Indigenous medicine, wellness tourism, cultural preservation, sustainable development, Sri Lanka

**AN OBSERVATIONAL CASE STUDY ON THE EFFICACY OF AYURVEDA REGIME
FOR SURYAVARTA WITH SPECIAL REFERENCE TO FRONTAL SINUSITIS**

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Suryavarta is a *Shiroroga* with symptoms of frontal headache starts with sunrise, peaks at noon and subsides with sunset, along with tenderness on the floor of frontal sinus, Nasal discharges, and inflamed nasal mucosa. According to Acarya Sushruta this condition is mainly *Vata* and *Pitta* predominant whereas *Vata* and *Rakta* predominant as per Acarya Charaka. The clinical features of *Suryavarta* are similar with Frontal sinusitis in modern medicine. *Nasya* and *Shirolepa* are effective and mostly used procedures for this condition in Ayurveda. Therefore, this case study focuses on evaluating the efficacy of *Iramusuadi lepa* (*Iramusu Mul, Manel Ala, Welmee, Suwanda Kottan, Siyambala*) and *Gasbulathadi nasya* (*Gasbulath, Lashuna*) referenced from *Thalpathe Piliyam* text and *Pathyakshadhatree kashaya* (*Aralu, Bulu, Nelli, Binkohomba, Viyalikaha, Kohombapothu, Rasakinda*). The patient was 30-year-old male diagnosed with *Suryavarta* and was given *Gasbulathadi nasya* treatment as a *Shodana* treatment during Day 1-5 and then *Iramusuadi lepa* and *Pathyakshadhatree kashaya* as *Shamana* treatment on Day 5-14. The patient's condition was followed up for 14 days to find any complication after the treatment. The improvement of the treatment was assessed by observing X' ray para nasal sinuses water's view and by comparing the changes of clinical symptoms of the patient before and after the treatment using an international grading scale. The patient reported a significant improvement in reduction of symptoms during the treatment. The frontal sinus tenderness and severe headache starts with sunrise which peaks at noon and Nasal discharges has reduced fully on the patient and yet the Nasal blockage stayed same. According to the observations of this case study suggests that *Iramusuadi lepa*, *Gasbulathadi nasya* and *Pathyakshadhatree kashaya* can be an effective treatment for *Suryavarta* (Frontal sinusitis).

Keywords: *Suryavarta*, frontal sinusitis, *Iramusuadi lepa*, *Gasbulathadi nasya*, *Shiroroga*

**REVIEW ON MEDICINAL FORMULAE USED TO MANAGE *DANTA SHOOLA*
(TOOTHACHE) MENTIONED IN *THALPATHE PILIYAM* BOOK SERIES**

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Danta shoola (toothache) is caused when the nerves of the tooth are irritated due to decay, infection, tooth injury etc. Toothache is usually not life-threatening, but in some cases, they can be signs of serious conditions that require immediate effective medical treatment. Objective of the present study is to compile, categorize and to logically analyze the effectiveness of external medicinal formulae used in the management of *Danta shoola* mentioned in *Thalpathe Piliyam* book series. The data were collected from 21 *Thalpathe Piliyam* book series, authentic Ayurveda and modern texts and web search. The observations were recorded and the results were analyzed by percentage. Among 39 formulae, 07 plants were selected as the commonly used medicinal plants which were *Sesamum indicum* DC., *Calotropis gigantea* Linn., *Zingiber officinale* Roscoe., *Ferula northax* Bioss., *Glycyrrhiza glabra* Linn., *Terminalia chebula* Retz., and *Piper longum* Linn. These medicinal plants possessed with *Katu rasa* (38.46%) predominantly while *Amla* and *Lavana rasa* were absent. *Laghu guna* (26.31%), *Ushna veerya* (85.71%), *Madhura vipaka* (71.42%) and *Vatahara dosha karma* (42.8%) were the most prominent properties. *Shoolahara* (analgesic), *Balya* (strength promoting) and *Rasayana* (rejuvenation) were the most prominent *Guna karma* which are responsible in curing pain and retaining the healthiness of tooth. *Shoola* is mainly associated with *Vata dosha*. The pharmacological attributes and Ayurveda pharmacodynamic properties of the majority used ingredients of the formulae are responsible in pacification of vitiated *Vata dosha* mainly. Hence it can be concluded that the formulae are logically effective in the management of *Danta shoola* which can be clinically proved with large sample clinical trials.

Keywords: *Danta Shoola*, decay, *Shoolahara*, toothache

**STANDARDIZATION OF MODIFIED FORMULATION OF *PATHYADI KWATHA* IN
THE MANAGEMENT OF *URDHWAJATHRUGATHA ROGA***

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Pathyadi kwatha is used for the *Urdhwajathrugata roga*. This study mainly focused to modify it in to a palatable and convenient dosage form. The *Pathyadi* syrup was prepared with different sweetening agents viz. sugar (sample 01), palmyrah sugar candy (sample 02) and sugarcane jaggery (sample 03) and evaluated organoleptic parameters and standardization parameters of each sample separately as per the standard process. Organoleptic parameters such as colour, taste, odour, and consistency were examined on the manufactured date and also after 4 months from the manufactured date. Remarkable changes of the organoleptic parameters were found in the sample 01. According to the analysis of standard parameters, specific gravity was 1.319, 1.399 and 1.300 respectively. Refractive indexes were 1.47037, 1.47285, 1.47535 and total solid contents were 76.165%, 78.639%, 79.883% in all samples respectively. All the samples showed acidic pH value. (3.85, 4.73, 4.19). Methylated syrups were subjected to qualitative phytochemical analysis, TLC and HPTLC. Phytochemical screening revealed that, the presence of tannins, phenols, terpenoids, alkaloids, cardiac glycosides. The ratio between Toluene: Ethyl acetate: Methanol: Glacial acetic acid (7:2:3:0.5) was found as the suitable solvent for the TLC and HPTLC analysis. Rf values of all the syrup samples compared with previously published Rf values of the *Kwatha*. Remarkable similarity in Rf values were identified with the syrup sample 03. It can be concluded that, standardization parameters revealed the syrup prepared by using sugarcane jaggery was the most suitable adjuvant for the modification of the *Pathyadi kwatha* in to a syrup.

Keywords: Dosage modification, HPTLC, *Pathyadi kwatha*, *Pathyadi* syrup, TLC

**PRALEPA FOR MANAGEMENT OF VATARAKTA IN AYURVEDA AND SRI LANKAN
TRADITIONAL MEDICINE**

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Vatarakta is a *Vata pradhana*, *Tridoshaja vyadhi* where *Rakta* is main *Dushya*. On the basis of symptomatology, it has resemblance with Gout in modern medical science. *Daha* (Burning sensation), *Ruja* (Pain), *Raga* (Redness), *Supti* (Numbness) and *Sphutana* (Cracking) of *Hasta pada* are the main clinical features of *Vatarakta*. The main purpose of this study was to investigate the knowledge and principles behind *Pralepa* for managing *Vatarakta* in Ayurveda and Sri Lankan Traditional Medicine and to evaluate the effectiveness of some selected *Pralepa* formulae in alleviating *Vatarakta* symptoms based on pharmacodynamics properties. The data were collected from *Vruhatraya* and *Thalpathe Piliyam*. There were 27 *Pralepa* formulae mentioned for *Vatarakta* and selected 4 formulae due to availability of drugs and fair cost of preparation. The key ingredients of those formulae were *Glycerrhiza glabra* Linn., *Nelumbo nucifera* Gaertn., Cow's Milk, Ghee, *Hordeum vulgare* Linn., *Ricinus communis* Linn., *Sesamum indicum* Linn., *Boerhavia diffusa* Linn., *Rubia cordifolia* Linn., *Coscinium fenestratum* Gaertn. *Santalum album* Linn. Data were analyzed according to the pharmacodynamics properties of them and there was predominantly *Madhura*, *Kashaya* and *Thikta rasa*, *Guru* and *Snigdha guna*, *Sheeta veerya*, *Madhura vipaka* and *Vata-pittashamaka dosha karma*. Present study showed evidence those ingredients of selected *Pralepa* formulae having pharmacodynamics properties which can alleviate *Vatarakta* symptoms and can be used for further studies.

Keywords: *Vatarakta*, *Pralepa*, Gout

**ASSOCIATION OF PREGNANT MOTHERS AHARA AND VIHARANA WITH THE
CHILD'S DEVELOPMENT: AYURVEDA VIEW**

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In present society mental development defects like Anxiety problems, Hyperactive disorders, autism spectrum disorders, depression and other mood disorders etc. or physical development defects like cerebral palsy, muscular dystrophy, dwarfism, neural tube defects etc. in babies are more common birth defects. From these, many birth defects are preventable. The physical and mental stress of the mother, *Dauhrida avamana*, exposure to electromagnetic fields, mother's behaviours and food patterns in the pregnancy period will directly affect the foetus as the physical and mental development of the baby is mainly developed in that period. This study aims to identify this association and provide insights into preventive measures to improve affected children's health and quality of life. After getting ethical approval (ERC 23/259), a non-interventional, cross-sectional descriptive survey was conducted at the Ayurveda National Hospital in Colombo, involving 50 parents of children with developmental defects. Data was collected through interviews and questionnaires, with logistic regression used for analysis. This survey study was conducted with analyzing prenatal food habits and behaviours of mothers separately. The results indicated that most of the mothers whose children with Developmental Defects used *Tikta rasa* and *Katu rasa* during their pregnancy period and there's a relationship between indulging in Sexual Intercourse, being Grief and being Intolerant during their pregnancy period with Children with Development Defects. These findings suggest a possible correlation between the mother's *Ahara* and *Viharana* during pregnancy and the development of birth abnormalities in children. Implications include the need for further research and education on preventive measures to address developmental defects.

Keywords: developmental defects, pregnancy, mothers' behaviour, food patterns, Ayurveda

THE DUAL NATURE OF *KAMESHWARI MODAKA*: THERAPEUTIC INSIGHTS AND MISUSE IN SRI LANKA

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Kameshwari modaka, a renowned Ayurvedic preparation, is praised for its aphrodisiac and rejuvenating effects, prominently featuring cannabis as a primary ingredient. Classical Ayurvedic texts, such as Bhaisajja Ratnavali and Rasa Ratna Samuchchaya, delineate various recipes and underscore *Kameshwari modaka*'s therapeutic efficacy. However, the presence of psychoactive compounds, mainly due to its high cannabis content, raises concerns regarding misuse and consequent public health implications. This literature survey study delved into *Kameshwari modaka*'s traditional formulations, therapeutic applications, and its pharmacological and psychoactive attributes. The study was carried out during the period of January to March 2024 with secondary data sources. A total of 28 articles were reviewed, with 71.4% discussing the therapeutic effects and 28.6% addressing the misuse of *Kameshwari modaka*. Comprising 24 ingredients, *Kameshwari modaka* found use in treating conditions such as sexual dysfunctions, *Grahani*, emaciation and mental health enhancement. The presence of cannabis as a main ingredient in *Kameshwari modaka*, suggests potential psychoactive effects, this is due to the cannabinoid such as delta-9-tetrahydrocannabinol (THC). Reports indicated the misuse of *Kameshwari modaka*, particularly among the youth in Sri Lanka, owing to its psychedelic properties. This misuse underscores the urgency for regulatory interventions to ensure safe therapeutic usage while mitigating associated risks. Furthermore, there is a notable gap in research concerning *Kameshwari modaka*'s psychoactive effects, necessitating further investigation to comprehensively understand its pharmacological profile. In conclusion, while *Kameshwari modaka* holds promise in Ayurvedic medicine for its therapeutic benefits, its psychoactive nature necessitates cautious use and regulatory oversight. Addressing these concerns is crucial to harnessing *Kameshwari modaka*'s therapeutic potential while safeguarding public health.

Keywords: *Kameshwari modaka*, Cannabis, psychoactive, misuse

COMPARATIVE STUDY ON CARDINAL RESPIRATORY SYMPTOMS OF 1 TO 5 YEARS OLD CHILDREN LIVING IN URBAN (SLAVE ISLAND GRAMA NILADHARI DIVISION, COLOMBO) AND RURAL (PALLAMADU GRAMA NILADHARI DIVISION, MANNAR) AREAS

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Respiratory infections are the commonest infection with high mortality and morbidity among the children under the age of 5 and improper management can cause severe complication. This study determines to find the association between several risk factors such as air pollution, overcrowding, urbanization, immunity, parental smoking, geography, mother’s education with respiratory symptoms in both urban rural areas. This study was designed as cross-sectional questionnaire-based survey on children (1-5 years) living in urban (Slave Island *Grama Niladhari* Division) and rural (Pallamadu *Grama Niladhari* Division) areas. Samples were collected randomly and data is analyzed using simple analyzing techniques. The children with respiratory disorders and non-consenting subjects were excluded and written proxy consent was obtained. The age of 4-5 years children gets more cough phlegm episodes in the urban and 1-2-year children often affected in rural. Furthermore, higher percentage of children are exposed to parental smoke in rural than urban. Moreover, mothers’ education level doesn’t affect the results of the study and parameters like wheeze, chest pain, expectoration, indoor air pollution are higher in rural area than urban area. Although Urban area is surrounded by all risk factors such as air pollution, overcrowding, urbanization, immunity, parental smoking, geography, mother’s education, comparatively respiratory symptoms recurrence was higher in the children living in rural area. Despite inconsistencies, the results of these study could be used as a base to design larger epidemiological investigations to address the problems, reduce uncertainties and improve health system.

Keywords: respiratory symptoms, urban area, rural area, children

**MANAGEMENT OF INTESTINAL WORM INFESTATION BY INDIGENOUS
PRACTITIONERS OF AMPARA DIVISION**

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In Sri Lanka, most of the rural population relies on traditional and natural medicines for their primary health care. Intestinal worm infestation (*Panu roga* in traditional medicine) is one of the diseases mentioned in Sri Lankan traditional medical system which affects both children and adults. Therefore, this study is focused on the management of intestinal worm infestation by indigenous practitioners in Ampara divisional secretariat. This cross-sectional survey conducted in 21 *Grama Niladhari* areas of Ampara Divisional Secretariat. The registered all traditional practitioners were taken as the sample which is 18 in number. Ethical approval (ERC 23/231) was obtained and written informed consent was secured. Personal interviews were conducted to collect data through set of questionnaires. The results revealed that the traditional practitioners utilize a range of herbs such as *Ganja (Cannabis sativa)*, *Walangasal (Embelia ribes)*, *Gotukola (Centella asiatica)* and *Batakirilla (Erythroxylum moonii)* to treat intestinal worm infestation. These medicines-based remedies have been given to children and adults for more than three generations and they have been found effective against intestinal worm infestation. They administer various dosage forms based on age, including decoctions, juices and porridges. Additionally, they advocate hygiene and dietary habits for prevention of both groups. It was observed that they have been using some medicinal preparations and practices for 3-5 generations to treat intestinal worm infestation among both groups due to their effectiveness. A pharmacological review of the medicines used revealed that these medicines possess anthelmintic actions. It is necessary to validate the effectiveness of these prescriptions using randomized control trails to prove their effectiveness in humans scientifically.

Keywords: intestinal worm infestation, traditional medicine, traditional practitioners, *Panu roga*

REVIEW STUDY ON MENTAL HEALTH CONDITIONS OF UNDERGRADUATE STUDENTS IN SRI LANKA – INTEGRATIVE APPROACHES USING AYURVEDIC PRINCIPLES AND MODERN SCIENCE

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Ayurveda, the ancient science of life, emphasizes the balance between the body, senses, mind, and soul for optimal health. Recent studies indicate significant mental health challenges among Sri Lankan undergraduates, including depression, anxiety, and suicidal thoughts, necessitating an integrated approach to understanding and addressing these issues. This literature survey was conducted from January to April 2023, aimed to identify the causes of mental health problems among Sri Lankan undergraduates and suggest solutions based on Ayurvedic principles and contemporary mental health practices. A comprehensive review of books, peer-reviewed articles, and recent reports reveals that 10% of Sri Lankan undergraduates exhibit major depression symptoms, with higher prevalence among first-year female students. Causes include academic pressure, financial pressure, substance abuse, and inadequate coping mechanisms. Ayurveda's holistic approach, emphasizing the balance of 'Doshas' and the *Triguna* concept (*Sattva, Rajas, Tamas*), offers effective strategies for managing stress. Ayurveda management of depression includes medications, counselling, emotional and cognitive interventions, lifestyle management, and spiritual practices like yoga and meditation. These components of lifestyle medicine (*Pathya viharana*), including exercise, recreation, relaxation techniques, sleep hygiene, socialization, and cessation of harmful habits, are integral to Ayurvedic treatment protocols and have shown effectiveness in managing depression. Integrating Ayurvedic principles with modern mental health practices can provide comprehensive solutions to the mental health challenges faced by Sri Lankan undergraduates, enhancing their well-being, promoting a supportive academic environment, and contributing to their overall success and personal development.

Keywords: Ayurveda, mental health, Sri Lankan undergraduates, stress management

DEVELOPMENT OF DIFFERENT DOSAGE FORMS OF *KALASHAKADI KWATA*

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Kalashakadi kwata is a traditional decoction formulation which is mentioned in Ayurveda Pharmacopoeia of Sri Lanka, contains ingredients of *Murraya koenigi* (L.), *Terminalia chebula* (Retz.), *Zingiber officinale* (Roscoe.), which is used for treating many digestive disorders. Decoctions must be freshly prepared due to their short shelf life. Moreover, difficulties to ensure the continuous availability of raw materials and as a time-consuming procedure, people are seeking more effective herbal preparations with quality and easy to use dosage forms. Hence objective of this study is to prepare user friendly decoction sachet. *Kalashakadi kwata* was converted into powder form by using freeze-drying technique and *Ghanasara* method. Then standardization parameters were taken to all the products. As results, Freeze-dried form of *Kalashakadi kwata* and *Ghanasara* form of *Kalashakadi kwata* all had acidic pH. *Ghanasara* form of *Kalashakadi kwata* had the highest moisture content (18.2%) and ingredients of *Kalashakadi kwata* had highest ash value (7.45%). Phytochemical screening revealed the presence of tannins, alkaloids, terpenoids and reducing sugar in all dosage forms. In TLC profile, similar patterns can be observed in the decoction and other dosage forms under a common solvent system. Also, in HPTLC 3D spectra, similar peak levels were observed confirming similarities between decoction and other dosage forms. This present work carried out a preliminary study which is a initial step to develop user friendly decoction sachet using novel technologies. These results can be used as a reference standard for quality control of the novel products and to keep the batch consistency.

Keywords: *Kalashakadi kwata*, freeze-dried form, *Ghanasara* form

A SYSTEMATIC REVIEW OF AYURVEDA INTERVENTION IN MANAGING FOOD POISONING

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Food poisoning, also known as foodborne disease, is a gastrointestinal infection or irritant that is transmitted by food or beverages and frequently carried through bacteria, viruses, and parasites. According to World Health Organization food poisoning causes 420,000 deaths annually, with Sri Lanka experiencing an increase in cases. Ayurveda offers holistic prevention and management strategies. The objective of this study was to review Ayurveda intervention in managing food poisoning. Based on inclusion and exclusion criteria, 45 complete paper publications published between 2013 and 2023 were analyzed using the systematic review approach. "Ayurveda food poisoning", "*Vishama ahara*", "*Garavisha*", and "Ayurvedic treatment of food poisoning" were the keywords used. According to the findings, the results showed that under the headings of *Vishama ahara* (inappropriate food combinations), *Garavisha* (chronic poisons), and *Viruddha ahara* (incompatible foods), there were references to the concepts of food poisoning, treatments, and preventative measures. According to the study, Ayurveda discussed *Prashastha mahanasa lakshana* (characteristics of a proper kitchen), *Vishaktha bhojana pariksha* (toxic food tests), *Visha datha* (foods that present as toxic), *Vishaktha ahara-drava lakshana* (features of food and water with toxins), treatment, and *Prativisha* (antidote). Causes for food poisoning include improper food combinations, contaminated food, improper cooking methods, and overeating or under-eating. Panchakarma procedures are used as detoxification methods. Ayurveda mentioned various antidotes to each poison some are herbal ingredients and some are minerals. Ayurveda emphasizes having light, easily digestible foods, avoiding incompatible food combinations, following proper cooking methods, and maintaining proper hygiene.

Keywords: Ayurveda intervention, food poisoning, systematic review

A STUDY ON SEA TURTLES OF SRI LANKA WITH HIGH AYURVEDA VALUE

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This study was conducted to explore the importance of sea turtles in Ayurveda, benefits related to their current conservation status, nesting practices, population, uses of their products such as eggs, meat and shells in Dehiwala and Kosgoda coastal districts of Sri Lanka. In this structured questionnaire survey conducted among randomly selected villagers from both areas, it was found that Kosgoda is famous for Green and Olive Ridley turtles and Olive Ridley turtles are abundant in Dehiwala. It has been observed that certain body parts like turtle fat and bones are used to treat several diseases, especially asthma, fever, high blood pressure, cough, colds, epilepsy, bone fractures in children and paralysis. Majority of the respondents (80%) and age group of 18 to 30 years (52.5%) had a favorable view of turtle conservation and 15% of the respondents in Kosgoda area had a high consumption preference. Majority of the respondents in Kosgoda area (95%) had sufficient knowledge about the nesting behavior of turtles while respondents in Dehiwala had less (35%) knowledge about the nesting behavior. Turtle awareness and conservation projects have been initiated by None Government Organizations in collaboration with the Sri Lanka Coast Guard on the west coast of Sri Lanka, focusing on nesting areas such as Wellawatta, Dehiwala, Mount Lavinia and Panadura. This study can recommend the need for coordinated conservation initiatives, stricter enforcement of protective measures and increased community participation to ensure the long-term survival of turtles in Sri Lanka's coastal areas.

Keywords: Ayurveda medicine, sea turtle conservation, community participation, Sri Lanka, nesting behavior

**A MARKET SURVEY ON EXTERNAL APPLICATIONS FOR PREMATURE
GREY HAIR**

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Premature hair greying is one of the main problems found now a days in the society. Therefore, many products have been introduced to the market. Hence this study was conducted to review the concept on *Palithya* in Ayurveda and conduct a market survey on available solutions. In Ayurveda, premature greying of hair is mentioned as *Akala palita* under the *Shiro roga* by the Acharya Vagbhata and under the *Kapala roga* by Acharya Susruta when he mentions about the *Kshudra roga*. *Palithya* is known as the depigmentation of hair. The common etiological factors that are mentioned in the Ayurvedic texts are physical strain, mental stress, excess anger, excessive weeping, *Pitta kopa ahara viharana sevana*, *Pitta prakrti* etc. *Pitta dosha* in the body gets aggravated and this affects the hair root to depigment the hair. This depigmentation occurs according to *Dosha* predominance; If *Vata* dominant hair become rough, dry and brownish color, if *Pitta* predominant hair become yellowish and burning sensations occur, if *Kapha* dominant hair become whitish and thicker. The market survey was conducted in 21 shops; 08 Ayurvedic shops, 08 Supermarkets and 05 Pharmacies in Gampaha town with due permission. 37 Ayurvedic products and 04 modern products; oils, shampoos, hennas, hair serums, hair tonics etc. were found. When considering their ingredients, they seem to have used basically the similar ingredients with some other additional drugs. Coconut, *Mukunuwenna*, *Kikirindiya*, *Gotukola*, *Sevendara*, *Kohomba*, *Nelli*, *Uluhal*, *Nilavariya*, *Marathondi* were the most common herbal ingredients. And the *Rasaadi panchakaya* of herbal drugs are most commonly *Madhura rasa*, *Guru*, *Snighdha guna* and *Sheeta veerya* and these herbal ingredients have the potential to manage *Akala palita* specially by pacifying *Pitta dosha*.

Keywords: *Akala Palita*, Market survey, External products, *Rasadi panchakaya*, Product ingredients

**TRADITIONAL MEDICAL PRACTICES USED TO ENHANCE THE HEALTH AND
VITALITY OF ELEPHANTS IN SRI LANKA**

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Sri Lanka has a well-developed traditional veterinary system for elephants. This study aims to collect and preserve the ancient knowledge and practices of “*Hasthi Ayurveda*” through a pre-tested questionnaire. In addition to the famous elephant medical practitioner generations of Miyanapalawa, Hathpotha, and Giridara Kapugoda, there are currently nine other generations in Sri Lanka. This research followed a qualitative approach, involving traditional veterinary physicians and ayurvedic doctors in the western province, utilizing primary and secondary data from literature and native therapists. The findings revealed that poor hygiene in an environment with no housing and daily bathing facilities is the primary cause of many diseases in domestic elephants, necessitating management practices like adequate water, rest, and sleep, nutritious food, appetite-enhancing drugs, and anti-helminthic medication. Currently, 250 species of medicinal plants, 28 minerals, and animal products are used for 472 elephant diseases. Through generations, elephant handlers pass down about 20 specific terms and several phrases (*Daha, Deri daha, Hadari, Harima*, etc.) to instruct their elephants. Approximately 12 well-known “Elephant Mantras”, 50 “*Hela hasthi vedha gata kavi*”, and 45 “*Hasthi chikitsa gattapada kavi*” which include classes of medicines suitable for various diseases related to prescriptions and preparation methods, are currently in use. Modern-day ayurvedic physicians treated and cured the elephant “*Buruma raja*” of the Temple of Tooth, which was unresponsive to the care of western veterinarians, demonstrating the remarkable efficacy of traditional veterinary medicine in Sri Lanka. Therefore, scientific improvement and conservation of this elephant Ayurveda is a timely need in Sri Lanka.

Keywords: *Hasthi* ayurveda, Sri Lanka, traditional medical practitioners, *Hela hasthi vedha gata kavi*, elephant *Mantra*

**CRITICAL ANALYSIS ON USING *KUMBAL MATI* AND *HUMBAS MATI* IN
TRADITIONAL MEDICINE WITH SPECIAL REFERENCE TO *THALPATHE PILIYAM***

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Various types of mud have been used since ancient times in the indigenous medical systems globally including Sri Lanka. Sri Lankan traditional medical system has given prime importance for *Kumbal mati* and *Humbas mati* related to therapeutic purposes. *Kumbal mati* refers to the clay derived from the nest of the potter wasp: an insect of the Hymenoptera order and Eumeninae subfamily. *Humbas mati* is the mound clay formed by termites: an insect of the Blattodea order and Isoptera infraorder. Both types of mud are considered *Parthiva dravya* (substances originating from earth). They include the minerals like Sodium, Potassium, Magnesium, Iron and Calcium etc. The objective of this research was to critically analyze the use of *Kumbal mati* and *Humbas mati* in Sri Lankan traditional medicine with special reference to *Thalpathe Piliyam*. The information was gathered from the *Thalpathe Piliyam* book series. A total of 22 traditional prescriptions containing various types of mud were collected and analyzed from 10 books of the *Thalpathe Piliyam* series. Accordingly, out of the 22 prescriptions, 22.72% included *Kumbal mati*, while 18.18% included *Humbas mati*. These prescriptions were most commonly indicated for the treatment of *Gediwana* (22.72%), *Sanni* (9.09%) and *Ratha roga* (9.09%). Therefore, it is clear that due to the abundant medicinal qualities, owing to their biological and physio-chemical properties, *Kumbal mati* and *Humbas mati* has been used since the ancient times for the therapeutic purpose, and can also be utilized in the present day as cost-effective methods, for long term treatments.

Keywords: *Humbas mati*, *Kumbal mati*, mud therapy, traditional medicine

**PREVALENCE OF SELF MEDICATION PRACTICES FOR ACNE, FACIAL CARE AND
ITS ASSOCIATED FACTORS AMONG THE UNDERGRADUATE STUDENTS OF
FACULTY OF INDIGENOUS MEDICINE, UNIVERSITY OF COLOMBO**

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Self-medication practices for acne and facial care are being increasingly popular among young adults especially with the background of medical knowledge. Self-medication gains a significant importance to emphasize the proper knowledge and to establish the proper practicing methods for self-medication among them. The main objectives of this study were to explore the prevalence of self-medication and its associated factors such as sociodemographic characteristics, attitudes, risks and the adverse reactions among the students of Faculty of Indigenous Medicine, University of Colombo. After obtaining Ethical approval from Ethics Review Committee, Faculty of Indigenous Medicine (ERC 23/249), the relevant data were collected by using a structured Self-administered questionnaire. Total study population was 323. The prevalence rate was 84.5%. 81.1% of participants were suffering from acne and other facial skin problems; where 73.4% were female. Study reveals, the primary source of information for self-medication (65.9%) were obtained by internet and social media. 93.5% given preference for external therapies, specifically traditional home remedies. And they were concerned on formulae compositions (78.3%) and side effects (73.4%). 77.4% were aware of adverse reactions. Among them either 64.7% endorse consulting doctors or 92.9% lifestyle changes respectively. Self-medication for Acne is prevalent among undergraduates. When selecting the recipe for self-medication, Students prioritize about authenticity, side effects, and suitability for skin. The identified influencing factor for their use of self- medication are based on their medical knowledge, social media, and cost of the products. Participants were generally concerned about risks seeking medical help, and changing their lifestyle. Promoting health education can foster responsible self-medication practices.

Keywords: prevalence, self-medication, acne and facial care

**EVALUATION OF BIOACTIVITY OF ANANDABHAIRAVA RASA: INDIGENOUS
HERBO MINERAL PREPARATION**

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Ayurveda, an ancient medical system, utilizes herbal, mineral, and mercurial preparations, including Rasa preparations, in addition to herbal methods. *Anandabhairava rasa* is one of the key *Rasa ouashadhi* stated in the Ayurvedic medical system. Especially, ABR was indicated for *Athisara* (diarrhea) and *Jwara* (fever). *Hingula* (cinnabar) and *Vatsanabha* (*Aconitum ferox*) are key ingredients in *Anandabhairava rasa*. It has a reddish-colored, specific-smelling substance. Methanol extract was used to evaluate its bioactivity. The antioxidant properties of ABR were evaluated using various tests, including DPPH free radical scavenging and Ferric reducing ability of plasma (FRAP) assays, Anti-inflammatory properties of the ABR were investigated using vivo assay cell viability and proliferation, Alpha amylase assay for antidiabetic properties, and well diffusion method for antimicrobial properties. The antioxidant property of *Anandabhairava rasa* methanol extract and BHT standard DPPH was shown to have an IC₅₀ value of 368.7±20.98 (µg/ml), 138.7±21.24 (µg/ml), and 501.2±14.19 (µg/ml), 154.8±24.25 (µg/ml) for FRAP, respectively. The anti-inflammatory properties of *Anandabhairava rasa* and standard aspirin IC₅₀ values are 449.5±04.25 (µg/ml) and 1102±06.25 (µg/ml), respectively. The typical antidiabetic assay properties for *Anandabhairava rasa* and acarbose are 84.90±20.46 (µg/ml) and 135.4±19.12 (µg/ml), respectively. *Anandabhairava rasa* has shown a better zone of inhibition against *Escherichia coli* (*E. coli*) of antimicrobial assay. *Anandabhairava rasa* possesses significant anti-inflammatory, antioxidant, and some antidiabetic qualities when these data are considered. Therefore, it can be prescribed for various *Jwara* (fever) and *Athisara* (diarrhoea) diseases efficiently in Ayurvedic treatment.

Keywords: *Anandabhairava rasa*, antioxidant properties, anti-inflammatory properties

**A COMPREHENSIVE REVIEW OF AYURVEDA *DINACHARYA* IN THE PREVENTION
OF NON-COMMUNICABLE DISEASES**

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An ancient medical system known as Ayurveda has its roots in India and extends back more than 5,000 years. Its main goals are to treat, prevent, and promote health. Ayurveda *Dinacharya* consists of a regular, healthy lifestyle. Non-communicable diseases are chronic illnesses that cause 41 million deaths annually, which means 74% of global deaths. The objective of this study was to study the role of Ayurveda *Dinacharya* in the prevention of non-communicable illnesses. Among of the 1,030 publications published between 2010 and 2024, this study used the systematic literature review technique to select 25 full papers for analysis. The "Ayurveda *Dinacharya*", "Ayurvedic lifestyle" and "prevention of non-communicable illnesses" were the keywords utilized. Ayurveda *Dinacharya* is a holistic health concept with an emphasis on maintaining healthy physical functioning, enhancing immunity, boosting metabolism, and reducing stress. Crucial aspects of this approach include a healthy diet, consistent exercise, dental care, early wake-up hours, yoga, meditation, and adequate sleep. Proper nutrition enables one to prevent obesity, maintain a healthy weight, manage blood sugar levels, and reduce the risk of metabolic disorders. Regular exercise improves cardiovascular fitness, accelerates the metabolism, and reduces the chance of heart disease. It's critical to get adequate sleep to maintain overall health, regulate metabolism, and manage stress. Ayurveda dietary guidelines stress foods that are unique to each *Dosha* and season to promote optimal metabolic health and glycemic control. The significance of integrating Ayurvedic practices into contemporary preventive healthcare is further proven by the scientific rationale of these practices to preserve health and prevent chronic illnesses.

Keywords: *Dinacharya*, non – communicable diseases

**A STUDY ON THE PREVALENCE OF *DAWALI* (VARICOSE VEIN) AMONG
TEACHERS IN ZAHIRA COLLEGE, ANURADHAPURA AND ZAHIRA MAHA
VIDYALAYA, WELIGAMA AND ITS ASSOCIATED RISK FACTORS**

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Varicose veins, termed "*Dawali*" in the Unani system, are prominent dilated veins attributed to the accumulation of abnormal bodily fluids. Various factors contribute to their development, including heavy lifting, hot environments, obesity, pregnancy, age, lifestyle, and family history. This study aimed to determine the prevalence of *Dawali* (varicose veins) among teachers in Zahira College- Anuradhapura and Zahira Maha Vidyalaya-Weligama and to identify the associated risk factors contributing to the development of *Dawali* (varicose veins) among teachers in these educational institutions. A descriptive-cross sectional study was conducted at Zahira College, Anuradhapura, and Zahira Maha Vidyalaya, Weligama, to investigate varicose vein prevalence among 65 teachers. Participants aged 25-60 years were randomly selected, and data on varicose vein history, demographics, and lifestyle were collected through self-administered interviewer questionnaire and physical examinations. Among 65 subjects, 27.7% had varicose veins, with higher rates in females (24.6%) and the 46-55 age group (44.1%). Overweight individuals (Body Mass Index 25.0-29.9 kg/m²) and *Bulghami Mizaj* teachers showed elevated prevalence (48.1% and 48.7%, respectively). Despite this, only 16.7% of affected teachers engaged in regular exercise. Varicose veins occurred equally across varying work hours and experience levels. Notably, genetics did not influence occurrence, despite many lacking a family history (66.7%). It was concluded that this study highlights significant varicose vein prevalence among teachers, particularly in specific demographics. Lifestyle modifications are crucial, given the low exercise engagement observed. Further research is necessary to develop effective prevention and intervention strategies tailored to this population.

Keywords: *Dawali*, Unani, prevalence, teachers, risk factors

**EFFECT OF SRI LANKAN TRADITIONAL HERBAL FORMULAE WITH AGNI KARMA
ON KHADARA WITH SPECIAL REFERENCE TO CALLUS: AN OBSERVATIONAL
CASE STUDY**

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Khadara, recognized as "*Kshudra roga*," initially presents as painless but can become painful over time, resembling corns and calluses in allopathic medicine due to skin hyperkeratosis. This observational study aims to scientifically validate the efficacy of a combined treatment protocol using *Agni Karma* and a Sri Lankan traditional wilted herbal formula for *Khadara*. A 62-year-old male with a 15-year history of pain and hardness on the ventral aspect of the left foot, near the 3rd and 4th metatarsophalangeal joints, measuring 2 cm by 2.5 cm, presented at the Ayurveda National Teaching Hospital was purposely enrolled in the study. Before the treatment, all clinical features were recorded using a standard proforma. *Agni karma* was applied in and around the hyper-keratinized area using a heated copper *Shalaka* while applying the gel of *Aloe barbadensis* miller. This was followed by applying a wilted herbal formula comprising *Capparis zeylanica*, *Curcuma longa*, *Madhuca longifolia*, *Cocos nucifera*, and salt to the cauterized area. The treatment lasted 4 weeks, with *Agni karma* performed weekly and the wilted herbal formula applied daily for 4 hours throughout the treatment period. Signs and symptoms were recorded before and after the treatment, and the data was analyzed. It was observed that there was a 100% reduction in pain, size, and hardness of the lesion. The *Ushna*, *Theekshana*, and *Sukshma* properties of *Agni karma*, combined with the *Tikta*, *Katu*, *Lagu*, *Rukshana*, *Lekhana* properties, and *Ushna veerya* of the herbal formula, contributed to its anti-inflammatory, analgesic, and healing effects. This study suggests that the combined Ayurvedic treatment of *Agni karma* and the traditional herbal formula is effective in managing *Khadara*. While initial results are promising, further studies are necessary to confirm these findings.

Keywords: *Khadara*, callus, corns, *Agni karma*, Sri Lankan traditional wilted herbal formula

**BASIC EXPERIMENTAL STUDIES ON THE EFFECT OF *TADBEER*
[DETOXIFICATION] ON TOXIC CHEMICAL CONSTITUENTS OF *DATURA*
(*Datura metel*)**

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Datura (Datura metel), commonly known as Jimsonweed, is a poisonous plant that has been widely used in different Unani compound drugs such as *Habb-e-Shifa*, *Habb-e-Zeequn nafas* with unique therapeutic effects that cannot be achieved by any other drug. As a result, Unani medicine or traditional medicine suggested *Datura* after undergoing a detoxification process that changes the drug's poisonous constituents to nontoxic or less toxic chemicals, making it more useful and effective as a medicine. In the present study, *Datura* was subjected to a detoxification process performed by tying the seeds in the form of *Pottali* and cooking it in *Dol Janther* by adding milk for 3 hours. After the detoxification process, the detoxified and no detoxified *Datura* were analyzed by means of Thin Layer Chromatography (TLC) and phytochemical screening of chemical constituents in order to qualitative compare the chemical constituents before and after the detoxification of *Datura* samples. In TLC, significant Rf (Retardation factor) values were obtained before and after detoxification of *Datura*. Before purification, Rf values were 0.34, 0.37, 0.43, 0.55, 0.77, and 0.98 using the solvent systems dichloromethane, ethyl acetate, and cyclohexane. After detoxification, Rf values were reduced to 0.30, 0.35, 0.41, 0.48, 0.62, and 0.90, respectively with solvent systems of ethyl acetate, methanol, and cyclohexane. The phytochemical screening revealed that non-detoxified samples contained tannins, alkaloids, terpenoids, and reducing agents, while those chemical components were significantly absent in the detoxified sample. As a result, the reduction or lack of chemical elements in the detoxified sample could be due to the detoxification (*Tadbeer*) process.

Keywords: *Datura metel*, detoxification, phytochemical screening, *Tadbeer*, TLC

**PREVALENCE OF DANDRUFF IN UNDERGRADUATE STUDENTS OF SELECTED
UNIVERSITY SETTINGS**

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This study addresses the prevalence of dandruff among a demographic that has been historically overlooked in dermatological research, specifically undergraduate students. Dandruff is a common yet under-researched condition that can have significant impacts on individuals' quality of life. The study aims to assess the prevalence of dandruff in undergraduate students of selected university settings. Conduct a structured survey with a questionnaire related to Dandruff prevalence, including potential causes such as lifestyle factors, hair care practices and stress levels to collect data. Sampling technique is stratified random Sampling based on gender, age groups and academic disciplines. Data were collected after obtaining the Ethical clearance from Faculty of Indigenous Medicine, University of Colombo (ERC 23/265). Calculated Sample size is 62. In order to enhance statistical power and increase representativeness, surveyed 100 undergraduates (06 Faculties from the University of Colombo) surpassing the calculated sample size. Individuals who exhibit at least 04 diagnostic criteria are categorized as subjects with Dandruff. Analysis revealed potential links between dandruff and the associated factors. The findings reveal a Dandruff prevalence of 60% among undergraduate students of selected university settings. Indicating that, Dandruff is a significant concern within this demographic. This prevalence rate is notably higher compared to some other populations studied globally. The study extended beyond to prevalence to explore associated causes identified through questionnaire responses. This high prevalence underscores significance among of Dandruff as a common dermatological concern and highlight the need for increased awareness, improved preventive measures and more assessable treatment options to need of the population. It can improve the wellbeing of undergraduate students affected by Dandruff.

Keywords: Dandruff, *Darunaka*, prevalence, undergraduate students

A LITERATURE REVIEW ON ANTICANCER PROPERTY OF HONEY (ASAL)

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Honey is one of the most important and valued natural product introduced to humankind since ancient times. Honey is used not only as a nutritional product but also in health described in Unani system of medicine as well as other medical systems. The aim of this review was to emphasize the anticancer property of honey in order to help the researchers for their further research, the medical practitioners for their clinical practice and for the students to upgrade their knowledge. Systemic literature review was carried out to gather the authentic information from various authentic sources such as classical text books, research papers, journals, google scholar and pub med. The collected data were organized in systematical order as per the research guidelines provided by the subcommittee for research project. In Unani system of medicine Honey has several actions such as anti-inflammatory, blood purifier, wound healer, antioxidant, antiseptic, digestive, de obstruent, expectorant. These specific actions of honey and the chemical constituents like flavone, chrysin shows anti-proliferative, anti-oxidant activity and lower the risk of free radical induced pathologies. The main treatment for cancer is using chemotherapy and radiotherapy which are toxic to other viable cells of the body. Honey can be used in cancer due to Apoptotic activity, Anti Proliferative activity, Anti-inflammatory activity, Immunomodulatory activity, Antioxidant activity, Anti-mutagenic activity and Estrogenic modulatory activity.

Key words: honey, anticancer, activity, actions, anti-oxidants, tumor, free radicals

**SYSTEMATIC REVIEW ON THERAPEUTIC VALUES OF FIVE SELECTED
MEDICINAL PLANTS DURING COVID-19 OUTBREAK**

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The Corona viral outbreak is a major public health disaster caused by SARS-CoV-2. There are no established effective preventive or therapeutic treatment. Medicinal herbs were successfully used to prevent severe symptoms during outbreak. Therefore, this study aimed to highlight the active principles and therapeutic values of five selected medicinal plants, such as *Ferula asafoetida*, *Glycyrrhiza glabra*, *Tinospora cordifolia*, *Curcuma longa* and *Zingiber officinale*. Kamil Al Sana Fil Tibb, Al Qanoon Fil Tibb, Kitab al-Mansoori, Kitab Al Hawi, were reviewed to find the actions and classical views of those drugs. Systematic review was carried out with the leading scientific databases. Relevant scientific articles were filtered and systematic review was conducted. Many scientific studies have shown that above plants have been exhibited numerous therapeutic values of antiviral, anti-inflammatory, antioxidant through amazing active principles. Oleo gum resin of *Ferula asafoetida* contains α - Pinene, Diallyl-sulphide, Ferulic acid, Luteolin, Vanillin and Azulene. Curcumin in *Curcuma longa* and Glycyrrhetic acid, Glabridin and Liquiritin in *Glycyrrhiza glabra* have been shown to have a degree of inhibitory activity against SARS-CoV-2. Cordifolioside A, Tinosporin, in *Tinospora cordifolia* shown inhibitory activity against SARS-CoV-2. *Zingiber officinale* contains Gingerol, Paradol, Shogaol can affect key fundamental processes participating in the COVID-19 pathogenesis due to its anti-viral, anti-inflammatory, immunomodulatory and antioxidant properties. This systematic review spotlights the active principles and the possible therapeutic values of five selected medicinal plants that inhibit COVID-19 pathogenesis. It is necessary for further clinical trials to be carried out to evaluate these five selected plants in the management of COVID-19.

Keywords: COVID-19, SARS-CoV-2, immunomodulatory, antioxidant

**A PHYSICO-CHEMICAL ANALYSIS OF A TRADITIONAL POLYHERBO-MINERAL
FORMULATION: VATHAGAJENDRASINGHA VATI AND INGREDIENTS**

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Vathagajendrasingha vati is an important polyherbo-mineral formulation that deals under Rasa shastra. It is used to prevent *Amavata* and severe stages of Paralysis. This drug contains plant-based and mineral-based ingredients. Selected chemical and physical parameters of the raw materials and the final products were analyzed. Moisture and ash content of the plant ingredients were determined using the recommended methods by AOAC. The moisture and ash contents of the plant ingredients varied in a range from 10.32±0.01% to 34.68±0.14%, 1.20±0.20% to 14.37±0.07% respectively. The total alkaloid content was analyzed by the Harborne method. It ranged from 1.53±0.23% to 39.73±0.28%. The antioxidant activity was determined by using the DPPH radical scavenging method. IC₅₀ values for every sample were calculated to determine the antioxidant activity. It ranged from 0.0058–0.1894 mg/mL. The metal composition was analyzed using an AAS. It has varied in a very broad range from 0.68-27071.80 µg/g. Mineral-based ingredients were also analyzed using conventional and nonconventional methods. A comparative study of physico-chemical parameters was conducted with the three different brands of the final product. The moisture, ash, and alkaloid contents of the final product ranged from 5.33±0.19% to 6.37±0.31%, 23.48±0.32% to 26.51±0.34%, and 14.58±0.62% to 17.56±0.28% respectively. All three samples show high antioxidant activity. The values obtained for the physico-chemical parameters can be used to maintain the consistency of the product and quality parameters during the large-scale manufacturing process.

Keywords: *Vathagajendrasingha*, physico-chemical analysis, alkaloid content, antioxidant activity, metal composition

**A SYSTEMATIC REVIEW OF APPLICATION OF ARTIFICIAL INTELLIGENCE (AI)
IN YOGA PRACTICE FOR NEUROLOGICAL DISORDERS**

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Adoption of Artificial Intelligence (AI) in healthcare has contributed significant changes in healthcare delivery. Neurological illnesses cover a wide range of conditions affecting the nervous system varies in severity from mild conditions like mild neurocognitive disorders to complex conditions like multiple sclerosis and Parkinson's disease. The present study aims to revisit prevailing literature on application of AI in yoga for neurological illness and find future opportunities. The search of literature was done using key terms of “Artificial Intelligence”, “Yoga” and “neurological disorders” between 2019 to 2023 using data base such as google scholar, PubMed, etc. Twenty total articles were found in search and out of them fourteen articles were assessed more thoroughly for eligibility. Among 14 pertinent papers (n = 9) were interventional studies, case studies (n = 3) and review articles (n = 2). Data synthesis revealed advances of AI which enabled innovative treatment plans and awareness of these conditions such as analyzing brainwave in brain computer interface (BCI), using surface based (EEG) Electroencephalography, producing treatment protocols with “digital twins” for customized yoga therapy and using Intellectual Internet of Medical Things (IIOMT) like wearable smart belt and neural circuits. Further, machine learning algorithms for brain signal classification assess the impact of yoga in neurological disorders and finalizing prognosis and explore neurophysiology. In conclusion, Yoga is an effective treatment for neurological disorders and enhance overall nervous system function healthy. Future research directions focus to develop validate algorithms for personalized yoga routine, predictive models for treatment and longitudinal study.

Keywords: Artificial Intelligence, neurological disorders, systematic review, Yoga

**A STUDY OF THE CHEMICAL PROPERTIES OF PASPANGUWA DECOCTION AND
THE RAW MATERIALS COLLECTED FROM SELECTED AREAS**

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“Paspanguwa” is a combination of five ingredients including *Zingiber officinale*, *Solanum xanthocarpum*, *Coriandrum sativum*, *Coscinium fenestratum* and *Hedyotis corymbosa*. In this study selected chemical and physical parameter of ingredients and “Paspanguwa” decoction were analyzed. Here, *Zingiber officinale* was collected from Gampaha, Kurunegala, Kegalle, Matale and Rathnapura districts. *Coscinium fenestratum* were collected from Gampaha, Kurunegala, Kalutara and Rathnapura districts while *Solanum xanthocarpum* were collected from Kurunegala and Kilinochchi districts. Indian samples of *Solanum xanthocarpum*, *Coriandrum sativum* and *Hedyotis corymbosa* were used for the analysis. The moisture content and the ash contents of ingredients as per AOAC methods, ranged from $10.94 \pm 0.63\%$ to $28.04 \pm 0.43\%$ and $1.49 \pm 0.20\%$ to $12.67 \pm 0.74\%$ respectively. The mineral contents of ingredients and “Paspanguwa” decoction were analyzed using FAAS. The alkaloid contents of ingredients as per Harborne method, ranged from $2.94 \pm 0.60\%$ to $0.93 \pm 0.05\%$. The phenolic contents of ingredients and “Paspanguwa” decoction were analyzed using Folin-Ciocalteu colorimetric method. IC₅₀ value for the DPPH radical scavenging assay of the “Paspanguwa” decoction was obtained as 0.002 ± 0.001 mg/mL and the ingredients ranged from 0.157 mg/mL to 1.929 mg/mL. According to this study, all the analyzed chemical parameters of the same raw material collected from different areas do not comparable indicating they possess different qualities based on the area where they were grown. The pH of the “Paspanguwa” decoction indicates that it is slightly acidic, and conductivity of “Paspanguwa” decoction indicates that it contains a considerably lower number of soluble ions.

Keywords: *Paspanguwa*, Alkaloid content, Total phenolic content, Antioxidant activity, Metal

**OBSERVATIONAL CASE STUDY FOR EVALUATE THE EFFECT OF SELECTED
TRADITIONAL PASTE (MALLUMA) FOR SIRAAJA GRANTHI (VARICOSE VEIN)**

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Siraja granthi is a clinical condition described in Ayurveda and it can be correlated with Varicose Veins. Udugama Gamage Wedaparamparawa is a medical tradition in Galle District, Sri Lanka, has successfully treated *Siraja granthi* with its unique herbal *Malluma* (wilted herbal formula) composed of *Olinda kola* (*Abrus precatorius*), *Beli kola* (*Aegle marmelos*), *Balatana* (*Eleusine indica*), *Ītana* (*Cynodon dactylon*), *Amu Kaha* (*Curcuma longa*) and *Talatel* (*Sesamum indicum*). An observational case study was conducted to assess the efficacy of the Traditional *Malluma* on *Siraja granthi*. Four patients with *Siraja granthi* who visited the Out Patient Department, Department of *Kayacikitsa* and *Deshiya Cikitsa*, Ayurveda National Hospital were purposively enrolled to the study. The duration of the treatment was 21 days, and all the signs and symptoms were recorded in a prepared Performa. The effect of the treatment regimen was evaluated using the VCSS (Venous Clinical Severity Score) considering the symptomatic relief of each patient separately. During the course of treatment, Case 01, Case 02, and Case 03 reduced presentations of VCSS by 75%, 66.6%, and 44.4% respectively. According to Ayurveda *Siraja granthi* is caused by *Vata* and *Pitta doṣa*. Ingredients of the formula can pacify vitiated *Vata* and *Pitta doṣa*. The anti-inflammatory, antioxidant, and anti-coagulant properties of formula ingredients are scientifically proven. The Case 4 reduced presentation of VCSS was 0%. According to Acarya Sushruta painless and fixed *Siraja granthi* are *Asadya*. By analyzing the observational data, it can be concluded that *Malluma* effectively manages *Siraja granthi* but more exhaustive clinical trials and larger control studies are needed to standardize its findings.

Keywords: *Siraja granthi*, *Malluma*, Sri Lankan traditional medicine, varicose veins

**PHARMACOGNOSTIC AND ANALYTICAL EVALUATION OF *GONIKA-WEL* IN
DIFFERENT GEOGRAPHICAL REGIONS IN SRI LANKA**

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Gonika/Gonu ke kola is widely used in the Sri Lankan Traditional Medical system, yet it is hard to find textual references in the Ayurveda medical system. The occurrence of the plant is low in the natural habitat as it is removed from the environment due to being unaware and incorrect identification. The present study is made to evaluate the selected Pharmacognostical features of *Gonika wel* plant to compare the morphological differences of the plant according to the different geographical regions. Plant specimens were collected by the name ‘*Gonika*’ from four different districts to represent four different geographical regions of Sri Lanka. Pharmacognostical parameters were established for all the samples to evaluate the features of the plant. The dried samples were subjected to microscopic evaluation and Soxhlet extraction using Methanol was used to analyze Physico-chemical and chromatographic features of the samples. Methanol, Ethyl acetate, and Hexane in 4: 5: 2 were used for chromatographic separation and analysis. Two botanical entities, *Psychotria sarmentosa* and *Hoya ovalifolia* are being used as ‘*Gonika* plant’ in different regions in Sri Lanka. Microscopic and phytochemical features were wide-ranging and physicochemical parameters were placed within the range. Similar chemical compounds were found in all HPTLC fingerprints of the samples. The sample collected from the Kandy district showed vast differences in morphology and chromatography. The study was limited to four geographical regions and future studies can be done for other geographical regions. Phytochemical quantification and clinical trials are essential to uncover the variations of pharmacological properties and the therapeutic efficacy of the plant.

Keywords: *Gonika*, *Psychotria sarmentosa*, *Hoya ovalifolia*, traditional medical system

**PREVALENCE OF POLYCYSTIC OVARIAN SYNDROME AMONG ADOLESCENT'S
DEMOGRAPHY OF C /FATHIMA MUSLIM LADIES COLLEGE, COLOMBO-12**

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Polycystic ovarian syndrome (PCOS) is one of the most common endocrine disorders affecting females in the reproductive age group. The exact cause of PCOS is unknown and is mainly considered a lifestyle disorder. According to Unani medicine, PCOS occurs due to the predominance of *Ghair e thabai balgham* in the body. As there was a lack of studies on the prevalence among the adolescent demography, this study was carried out among the adolescent demography of C/ Fathima Muslim Ladies College. A cross-sectional epidemiological survey study was undertaken among female students aged 16 to 20 years at C/ Fathima Muslim Ladies College, Colombo-12. A sample of 155 participants was selected using a random sampling method, and data was obtained through structured questionnaires with the participant's consent. The Summary was prepared using Excel World to analyze the questionnaire. Statistical analysis was performed. Considering parameters such as Body Mass Index according to World Health Organization guidelines, global acne grading system and mFG score. The prevalence of PCOS among this population was preliminarily evaluated based on the Rotterdam criteria. Among 155 students, the probable prevalence of PCOS using Rotterdam criteria was found to be 9.03%. Specifically, 05 students (3.23%) presented with clinical H (Hirsutism), 78 students (50.32%) exhibited A (acne), 23 students (14.8%) had IM (Irregular Mensuration).1.93% demonstrated combined H+IM, 8.37% displayed A+IM, and 1.23% exhibited IM+A+H. Conclusion: The Prevalence of PCOS among adolescent demography of C/ Fathima Muslim Ladies College was determined to be 9.03%. Early diagnosis, lifestyle modification and educating the adolescent demography will help to prevent complications in future.

Keywords: polycystic ovarian syndrome, adolescent demography, Rotterdam criteria

**A STUDY ON THE EMPIRICAL USES OF *SUDAB (Ruta graveolens)* IN THE LIGHT
OF PHARMACOLOGICAL ADVANCES**

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Herbal plants have been used in the Indigenous systems of medicine to check and cure a number of illnesses. The knowledge of the medicinal use of plants was gained by the observations and experimentations. This insight has been passed on from generation to generation and is still used up to now. Garden Rue (*Ruta graveolens*), known in Unani as *Sudab* is an herb that has been used in traditional medicines for a long time for the relief of pain, eye problems, rheumatism and dermatitis. Therefore, this study is focused on validating the empirical uses of *Sudab* through recent pharmacological advances. Unani classical texts and research articles were thoroughly reviewed with regard to their pharmacological findings. *Sudab* has been empirically used for various skin diseases, multiple sclerosis, cutaneous lymphomas, rheumatic arthritis. Modern researches discovered phytochemicals which have pharmacological actions. In *Sudab* phytochemicals like rutin, quercetin, psoralen, methoxypsoralen, rutacridone, rutacridone epoxide, gravacridondiol coumarins and many more have been discovered. This plant has pharmacological effects such as anti-inflammatory, anti-cancer, antidiabetic and various other effects in the body. This study validates the empirical use of *Sudab* through modern pharmacological advances, to enhance the usage of *Sudab* by recent research findings. By utilizing this knowledge, helps to bridge the gap between the use of the empirical use of *Sudab* and its scientific validation in modern medicine. As same as helps to facilitate the popularization of this herb worldwide and also this helps for further research on *Sudab*.

Keywords: *Ruta graveolens*, *Sudab*, validation, phytochemicals, Unani

**DEVELOPMENT OF *NAWAKA GUGGULU* CONTAINED MEDICATED CHOCOLATE
TO THE MANAGEMENT OF *MEDOVRRDDHI* (HYPERLIPIDEMIA)**

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Hyperlipidemia, characterized by elevated triglycerides and cholesterol levels in the bloodstream, is a significant health issue linked to silent killer diseases such as stroke and coronary heart disease. Ayurveda identifies hyperlipidemia as *Medhovrddhi*, categorized under *Medoroga*, with comprehensive accounts of its etiology, pathogenesis, types, signs, symptoms, and treatment modalities in authentic texts. This study aims to develop a novel medicated chocolate to prevent hyperlipidemia using *Nawaka guggulu*, renowned in Ayurveda for managing lipid levels and obesity. After referring several authentic texts, *Nawaka guggulu* was chosen under the reference Bhaisajjya Rathnawali. The formulation includes *Harada*, *Vibhithaki*, *Amalaki*, *Pippali*, *Maricha*, *Shunti*, *Musthaka*, *Vayu vidanga*, and *Chithraka* as herbal ingredients, and *Shoditha guggulu*, which exhibit *Medahara* and *Lekhaniya* actions. Chocolate was chosen as the delivery medium due to its potential cardiovascular benefits and ability to reduce hypertension. Equal quantities of the powdered drugs and *Shoditha guggulu* were combined according to the authentic text to prepare *Nawaka guggulu*. The chocolate mixture was then prepared and incorporated with the above prepared formula. Results of organoleptic parameters revealed that the developed medicated chocolate has a blackish-blue color, a bitter taste, a smooth texture, and no specific odour. This study will investigate the clinical effectiveness of medicated chocolate in managing hyperlipidemia, combining Ayurveda principles with contemporary approaches to address this common health concern.

Keywords: *Nawaka guggulu*, *Medoroga*, medicinal chocolate, *Lekhana*, *Medahara*

**COMPARATIVE STUDY OF ANTI-INFLAMMATORY POTENCY OF AQUEOUS
EXTRACTS OF ROOTS AND WHOLE PLANTS OF *Alysicarpus vaginalis* (L.) DC.
AND *Desmodium gangeticum* (L.) DC.**

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Owing to limited availability of *Desmodium gangeticum* in Sri Lanka, Ayurveda physicians often use *Alysicarpus vaginalis* as a substitute in *Dashamoola* group of medicines. Therefore, objective of this study was to compare anti-inflammatory potency and screening of major phytochemicals of aqueous extracts of roots and whole plants of *Alysicarpus vaginalis* and *Desmodium gangeticum*. Aqueous extracts of plant materials were prepared as per Ayurveda system. Their anti-inflammatory potency was evaluated by egg albumin denaturation assay, and major phytochemicals were quantified. The results revealed that, in egg albumin assay, *Desmodium gangeticum* showed highest potency with IC₅₀ values of 107.89 ± 0.71 µg/ml (whole plant) and 210.37 ± 0.39 µg/ml (root), outperforming diclofenac sodium (826.04 ± 0.27 µg/ml). *A. vaginalis* had lowest efficacy (1336 ± 0.14 µg/ml whole plant, 3162.28 ± 0.63 µg/ml root). Phytochemical analysis revealed *Desmodium gangeticum* whole plant had highest phenolic (0.587 ± 0.69 mg GAE/g), flavonoid (0.196 ± 0.41 mg QE/g), tannin (0.416 ± 0.61%), and alkaloid (0.405 ± 0.91%) contents, while *Alysicarpus vaginalis* root had lowest: phenolics (0.280 ± 0.39 mg GAE/g), flavonoids (0.102 ± 0.17 mg QE/g), tannins (0.083 ± 0.06%), and alkaloids (0.149 ± 0.53%). *Desmodium gangeticum* root had highest saponin content (0.308 ± 0.51%), *Alysicarpus vaginalis* root lowest (0.228 ± 0.38%). Significant differences (p < 0.05) were found between plant extracts and reference drug in these assays. It was concluded that, *Desmodium gangeticum* exhibits higher anti-inflammatory potency and greater phytochemical content compared to *Alysicarpus vaginalis*. Thus, *Desmodium gangeticum* is more suitable, rendering the substitution practice in Sri Lanka inappropriate.

Keywords: Phytochemicals, *Alysicarpus vaginalis*, anti-inflammatory potency, *Desmodium gangeticum*

**COMPARATIVE PHARMACEUTICAL ANALYSIS OF *KANCHANARA GUGGULU*
MENTIONED IN SHARANGADHARA SAMHITA AND BAISAJIYA RATNAVALI**

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Kanchanara guggulu is a type of a *Guggulu kalpana* mainly used for *Galaganda roga* in Ayurveda system of medicine. Standardization and the Pharmaceutical analysis are an important task to make quality standard for herbal medicines. Two formulations can be identified as *Kanchanara guggulu* with different ratios in authentic Ayurveda texts, Sharangadhara Samhita, Baisajya Rathnavali, Yogarathnkara and Bhavaprakasha. Hence, this study was designed to prepare the *Kanchanara guggulu* with different ratios mentioned in Sharangadhara Samhita and Bhaisajjya Rathnavali according to the standard methods and compare the differences. Two samples of *Kanchanara guggulu* were prepared as per the references and pharmaceutical analysis was carried out according to the Ayurveda Formulary of India and World Health Organization guidelines. The study consists of parameters like organoleptic characters, moisture content, total ash value, weight variation, hardness, friability, disintegration time, pH value and HPTLC. Both prepared pills were blackish brown in colour, has aromatic odour and bitter taste. Weight variation, friability (10*100 rpm=0 for both samples), hardness (58.2N for Baisajya Rathnavali sample and 51N for Sharangadhara Samhita sample) disintegration time (4h and 25min for both samples), were comparable with the standard values mentioned in Ayurveda Formulary of India. The two formulae of *Kanchanara guggulu* contains same ingredients with different Ratios. In two formulas, most weighted ingredients are *Shodhita gugul (Commiphora mukul)* and Bark of the stem of the *Kanchanara* plant (*Bauhinia variegata*). TLC and HPTLC fingerprint patterns were detected by using Chloroform: ethyl acetate: formic acid – 4:3:0.15. as the solvent system. Both samples showed similar HPTLC fingerprint patterns. Results revealed the similar standards in both preparations and this developed standard can be used to assess the quality and detection of any adulteration for raw materials of *Kanchanara guggulu*.

Keywords: *Kanchanra guggulu, Gugul*, pharmaceutical analysis, HPTLC

**EVALUATION OF ANTIOXIDANT ACTIVITY IN *Gracilaria verrucosa* FROM
JAFFNA COASTAL WATER**

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Gracilaria verrucosa, a red seaweed from Mathagal and Kankesanthurai Beaches in the Jaffna coastal waters of Sri Lanka, was studied for its antioxidant properties. While seaweeds are known for their bioactive compounds and antioxidant potential, the specific antioxidant profile of *Gracilaria verrucosa* in Jaffna has remained unexplored. Our research involved the systematic collection and verification of *Gracilaria verrucosa* samples through morphological analysis, followed by detailed analyses using the 2,2-diphenyl-1-picrylhydrazyl (DPPH) assay, Total Phenol Content (TPC) analysis, and Total Flavonoid Content (TFC) analysis. The DPPH Radical Scavenging Activity of *Gracilaria verrucosa* was recorded at 14.899 ± 0.032 for a concentration of 50 $\mu\text{g/ml}$ compared to L-ascorbic acid. The TPC was found to be 4.165 ± 0.049 mg TA/g, while the TFC was 3.356 ± 0.044 mg RE/g. These results indicate that the extract of *Gracilaria verrucosa* has moderate antioxidant activity, which can be attributed to its substantial phenolic and flavonoid content. The findings suggest that *Gracilaria verrucosa* can be a valuable source of natural antioxidants. Previous studies have demonstrated the efficacy of *Gracilaria* species as functional foods and health supplements aimed at mitigating oxidative stress. For example, *Gracilaria* has been incorporated into health drinks, snack bars, and capsules in the United States. In South Korea, *Gracilaria* is used in food products such as seaweed salads and soups, marketed for their health benefits. This study provides insights into the antioxidant potential of *Gracilaria verrucosa* in the Jaffna region, paving the way for further research, development, and sustainable utilization of these marine resources.

Keywords: *Gracilaria verrucosa*, red seaweed, antioxidant, Jaffna, bioactive

**PHYSICO-CHEMICAL AND PHYTO-CHEMICAL EVALUATION OF UNANI
COMPOUND FORMULATION *HABB E MUDIR*: A PRELIMINARY STUDY**

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Habb e Mudir is a poly herbal formulation used in Unani medicine. Mainly it is useful in amenorrhoea (*Ihtebas e Tams*) and other irregular menstrual problems. Amenorrhoea can occur due to the weakness of *Quwwat e Dafia al badan* (depletion power in the body), *Su-e- mizaj e maddi* (abnormal humour); abnormality in the quality and the quantity of *Madda*. Irregular menstruation is common among females due to lifestyle modifications and behavioural changes. *Habb e Mudir* contains *Aloe barbadensis* (*Sibr*), *Crocus sativus* (*Zafran*) and Ferrous Sulphate (*Heerakasees*). This study was carried out to establish the standardization of *Habb e Mudir* to ensure the physicochemical, phytochemical parameters, and organoleptic characteristics of this compound preparation. All the ingredients were bought from the market and authenticated by the experts at the *Dravyaguna Vignana* Department, Faculty of Indigenous Medicine and the medicine was prepared in the Unani pharmacy, Faculty of Indigenous Medicine. The drug was subjected to the organoleptic character, physicochemical, and phytochemical parameters. The results revealed that the organoleptic characteristics of the final product showed dark brown colour, aromatic odour, bitter and astringent taste. The experiments revealed loss of weight in drying at 105°C was 7.00% and the total ash value was 22.55%. The phytochemical screening indicates the presence of alkaloids, glycosides, tannins, phenols, flavonoids, proteins, reducing sugars, terpenoids, and fixed oils. Data gathered in this study may be used in development for the standardization of this compound formulation.

Keywords: *Habb e Mudir*, Unani, Phytochemicals, *Zafran*, *Ihtebas e Tams*

AN AYURVEDIC APPROACH ON BLEEDING DISORDERS

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Bleeding disorders are a serious medical issue in the world due to its severity. They are presented with abnormal bleeding from different parts of body as a result of the defective haemostasis. *Raktapitta* and *Jvara* types with haemorrhagic state mentioned in Ayurveda are seem to be having a similarity in clinical presentation with the bleeding disorders. *Raktapitta* is a bleeding disorder occurring mainly due to vitiation of *Pitta dosha*. It is considered as *Mahagada* because of its severity among other diseases. Also, the Acharyas have mentioned that the bleeding can occur from *Urdhavagata*, *Adhogata* or *Ubhayagata marga*. Apart from *Raktapitta*, the *Jvara* types such as *Raktadhatugata jvara*, *Raktashthivi sannipata jvara*, *Sannipatika jvara* and *Pitta jvara* are also presented with bleeding as a symptom. The present study was carried out to review the Bleeding disorders in Ayurveda by studying the aetiology and pathogenesis according to Ayurveda concepts. The data was collected from the Authentic Ayurveda texts, modern pathology books, previous research articles and related websites. The results showed that the clinical presentation and pathophysiology of bleeding disorders are having similarities in both Ayurveda and Modern aspects, but the etiological factors show a high variation. The results showed a significant relationship between *Raktapitta* and *Jvara* with Haemorrhagic state in the aspects of their *Samprapthi* according to the concept of *Nidanarthakarabhava*. Based on the results, the study concluded that it is not possible to completely correlate the Ayurveda and Modern concepts of bleeding disorders.

Keywords: *Raktapitta*, *Jvara*, hemorrhagic state, bleeding disorders

**A REVIEW ON *BHANGA* (*Cannabis sativa*) CONTAINING DRUG PREPARATION
WITH SPECIAL REFERENCE TO “*VATIKAPRAKARANAYA*”**

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Recently, there seems to be an unpretending attention and interest in the plant-based medicines worldwide. “*Cannabis sativa*” which is considered as one of the most widely used recreational drug. This is an annual herb which belongs to the Cannabinaceae family is found in large number of Ayurveda as well as Traditional medical recipes. Through this study, number of drugs containing “*Cannabis sativa*” as a major or a minor ingredient was identified in “*Vatikaparakaranaya*”, the different synonyms used for the plant were found, the parts of the plant which are commonly used in drug preparations were analyzed, the *Rasadi panchakaya* is reviewed and the commonest dosage form was analyzed. In this study the authentic traditional book of “*Vatikaparakaranaya*” was used to fulfill the objectives, other than that, published data, websites, journals were analyzed. As results, out of 319 drug preparations, 129 preparations containing “*Cannabis sativa*” as a major or a minor ingredient were found, which 40.4% of the total count. Since this doesn’t exceed 50% the results indicate that the majority of the drug preparations in “*Vatikaparakaranaya*” do not contain “*Cannabis sativa*” as an ingredient. The texts written in poetry form were further analyzed and 38 total number of indications were found in “*Vatikaparakaranaya*” which uses “*Cannabis sativa*” as an ingredient. Out of those, this is widely used for fever, diarrhea, nausea, *Krimi* and convulsions of both children and adults. Least used for *Agnimandya*, *Wiyaru balu rogaya* (Rabies) and *Prasutha vedana* (labour pains). No preparations were indicated for *Mutradaha*, *Vrana* and *Bhagandara*. Throughout the text three synonyms have been used for “*Cannabis*” as “*Kansa*”, “*Vijaya*”, and “*Thun lo Jayagath kola*”. Commonest used part of the plant is the juice taken from the leaves. Commonest dosage form is “*Guli*” out of “*Guli*” and “*Kalka*”. Finally, the study was carried out to show there’re plenty of 3 drugs that can be used for very common indications which can be prepared easily with the use of “*Cannabis sativa*”, instead of high cost imported medicine. Also, the multi variability of the use of this drug is depicted through this study as it’s used for *Ullogam*, *Sarpa visha*, *Balaka grahani*, *Apasmara* which “*Cannabis*” is not known to be used in common practice.

Keywords: *Cannabis sativa*, *Vatikaparakaranaya*, traditional medicine

PHARMACOGNOSTICAL AND PHYTOCHEMICAL STUDY OF *USHEERA* (*Vetiveria zizaniodes*) ROOTS AS A SUBSTITUTE FOR *RAKTHACHANDANA* (*Pterocarpus santalinus*)

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In the absence of a desired genuine first choice medicinal herb, classical Ayurveda text recommends use of a functionally similar substitute. Fresh roots of *Vetiveria zizaniodes* is recommended as a substitute for *Pterocarpus santalinus* in Bhava Prakasha. The study's strategy was to use modern Phytochemical and Pharmacological methods to test the two herbs for pharmacognostical similarities and differences and literally studies to compare their Ayurvedic properties. Phytochemical, physicochemical and microscopical analysis, HPTLC fingerprint profile, Determination of extractives and comparing of *Rasa panchaka* properties were done for both plants. Phytochemical analysis was done for both concentrated Aqueous extracts of *Rakthachandana* and *Usheera* by using various chemical tests. All the tests gave positive results for saponins, tannins, steroids, phenols and flavonoids except the Alkaloid test. TLC was done by using methanolic extracts, with the solvent system, Toluene 5: Ethyl acetate 4: Methanol 0.9: Formic acid 0.1. HPTLC fingerprint patterns showed different paths, but a similar area could be identified. Average moisture content percentage of fresh *Usheera* roots (65.140%) were higher than the value of *Rakthachandana* (5.727%). The average ash content percentage of *Usheera* (2.288%) was higher than the value of *Rakthachandana* (0.299%). In determination of extractable matters according to the cold and hot methods, the percentage values for *Rakthachandana* (5.6% ,5.72%) were higher than *Usheera* (3.8%,3.84%) respectively. *Rasa panchaka* of both plant materials were compared. They were almost similar except *Laghu* and *Guru guna* of *Rakthachandana* and *Usheera* respectively. According to the Bhavaprakasha, *Rasa panchaka* of both plants were similar. Further chemical studies and analysis need to prove the similar properties of these plants before named fresh *Usheera* roots as a substitute for heartwood of *Rakthachandana*.

Keywords: *Abhava pratinidhi dravya*, *Rasa panchaka*, drug substitution

**A CRITICAL REVIEW ON PHARMACODYNAMICS PROPERTIES OF SWEDA
DAURGANDHAHARA LEPA MENTIONED IN SHARANGADHARA SAMHITHA AND
INTRODUCING AS A REMEDY FOR BROMHIDROSIS**

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In Ayurveda, *Athisthaulya* (obesity), *Shonitha dushti* (vitiation of blood), and *Sweda vaha srotho dushti* (vitiation of channels carrying sweat) are considered causative factors of *Sweda daurgandhya*. In modern medicine, this condition is known as bromhidrosis. This study aims to identify the pharmacodynamics properties of ingredients in a selected *Daurandhahara lepa* and propose it as a remedy for bromhidrosis. The medicinal prescription was sourced from Sharangadhara Samhitha, and pharmacodynamics properties were gathered from authentic texts, previous research, journal articles, and websites. The medicinal paste includes *Bulath kola* (*Piper betel*), *Suwadakkottan* (*Saussurea lappa*), and *Aralu* (*Terminalia chebula*). The pharmacodynamics properties of these ingredients include: *Rasa* (taste): 30% *Tikta*, 30% *Katu*, 20% *Madura*, 10% *Amla*, 10% *Kashaya*, *Guna* (quality): 50% *Laghu*, 33.34% *Ruksha*, 16.66% *Thikshna*, *Veerya* (potency): 100% *Ushna*, *Vipaka* (post-digestive effect): 67% *Katu*, 33% *Madhura*. Most ingredients have *Kaphavata Shamaka* and *Tridosha Shamaka* actions. The paste exhibits *Daurgandhahara* (deodorant), *Deepana* (appetizer), *Pachana* (digestive), *Kushtaghna* (anti-leprosy), *Krimighna* (anti-parasitic), *Twakprasadana* (skin conditioning), *Srothoshodana* (channel cleansing), and *Rakthashodana* (blood purifying) properties. Active compounds include flavonoids, alkaloids, glycosides, saponins, tannins, and terpenes, contributing to antibacterial, antifungal, antioxidant, anti-inflammatory, analgesic, and immune-modulatory effects. As per the references selected *Lepa* balances *Tridosha*, cleans obstructed *Srotas*, controls bacterial and fungal infections, reduces inflammation, improves complexion, and eliminates body odor, making it a promising remedy for bromhidrosis. Therefore, it can be concluded that *Sweda daurandhahara Lepa*, with its diverse pharmacodynamic properties, offers potential as a natural remedy for bromhidrosis. Future chemical analyses are required to confirm its efficacy.

Keywords: *Sweda daurgandhahara Lepa*, pharmacodynamics properties, Ayurveda, bromhidrosis

**PRELIMINARY ASSESSMENT OF PHYSICOCHEMICAL AND PHYTOCHEMICAL
PARAMETERS OF THE LOTION DEVELOPED FROM MANGOSTEEN PEEL**

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Mangosteen which is known as *Garcinia mangostana* L. (family- clusiaceae) is a tropical evergreen tree with an edible fruit commonly found throughout India, Sri Lanka and Southeast Asia. The pericarp of mangosteen-fruit has been used as a medicinal agent by Southeast Asians for centuries in the treatment of skin infections and wounds. Previous researchers have proven that the mangosteen peel extract (MPE) has ability to cure the inflammatory conditions. Further, it's beneficial in making an anti-inflammatory application to be applied on skin. This study is focused to develop a ready to use anti – inflammatory lotion in combination with the extract of dried mangosteen peel and seed oil of *Madhuca longifolia*. This seed oil was added in to MPE in order to improve the anti - inflammatory properties of the lotion. Beeswax was used as the base of the lotion. Hexane extraction (MPHE) was prepared from the dried mangosteen pericarp. Dried powder of MPHE was mixed with the oil of the seeds of *Madhuca longifolia*. Finally, both extracts were mixed with bees wax in 5: 4: 3 ratios. Physicochemical and phytochemicals of MPHE were tested. Moisture and total ash value showed 64.3% and 8.4 % respectively. Phenols, flavonoids, tannins and saponins were detected from the qualitative phytochemical analysis. This preliminary study was able to develop some physicochemical and phytochemical characters for the prepared lotion. Further studies should be carried out to develop the standard pharmacognostical parameters, skin sensitivity test and biological activities to validate as a user friendly, non-irritant product.

Keywords: *Garcinia mangostana*, *Madhuca longifolia*, physicochemical and phytochemical properties.

**A COMPREHENSIVE ANALYSIS OF DRUG FORMULAS, INGREDIENTS, AND
METHOD OF PREPARATION OF MAHA TUVALA TAILAYA**

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Maha tuvala tailaya is an Indigenous polyherbal externally applied oil formula traditionally used by Indigenous physicians for treating acute and chronic wounds, orthopaedic conditions, and animal-inflicted injuries. This study aims to conduct a comprehensive analysis of the drug formulas, ingredients, and methods of preparation of *Maha tuvala tailaya* as documented in literary sources. A systematic literature review was undertaken, focusing on primary sources such as the Caraka Samhita, Sushruta Samhita, and Aṣṭanga Hṛdaya, with more emphasis on *Sneha shatakaya*, *Taila panca shatakaya*, *Talpate Piliyam*, and modern authoritative texts like Svadeshiya Bhaisajya Vishvakoshaya. Texts were selected based on historical authenticity and relevance. Data extraction involved identifying specific ingredients, formulation details, and preparation methods for *Maha tuvala tailaya*. The results revealed that out of the ingredients used from selected 4 different formulas, 17 were the same for all formulas, and the base liquid was used as grated pulp milk of *Cocos nucifera* (L.) species. The main plant parts used are bark, leaves, endosperm, seed, pericarp, flower, arillus, bulbil, and stem exudate. The plant *Reru* was identified as *Premna tomentosa* Willd. (Lamiaceae) and *Hakuru illa* as *Callicarpa tomentosa* (L.) L. (Lamiaceae), verified through the Ayurveda Pharmacopoeia of Sri Lanka, Indigenous literature, and human resources. The preparation method for the selected formulas was consistent, utilizing different ratios of coconut milk, and followed moderate processing or *Madhyama paka* quality. Additionally, this study underscores the importance of classical texts in guiding the formulation and promotion of traditional formulas for common use.

Keywords: *Maha tuvala tailaya* polyherbal oil, indigenous medicine, Ayurveda, systematic literature review

**EVALUATION OF ANTI-MICROBIAL, ANTIOXIDANT AND ANTI-INFLAMMATORY
EFFECTS OF *ROGHANE KHAS***

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Antimicrobial resistance is a critical global health challenge necessitating new therapeutic agents. This study evaluates the traditional Unani formulation *Roghane Khas*, composed of *Edaru* leaves (*Ricinus communis*), *Vara* leaves (*Calotropis gigantea*), *Aththana* leaves (*Datura metel*), bee's wax, *Girisindura* (Red lead), *Keppetiyala lakada* (Resin of *Coccus lacca*), and sesame oil, known for its antimicrobial, antioxidant, and anti-inflammatory properties. *Roghane Khas*'s antimicrobial efficacy was tested against bacterial strains such as *Staphylococcus aureus*, *Escherichia coli*, *Bacillus subtilis*, *Pseudomonas aeruginosa*, *Streptococcus pyogenes*, and *Proteus mirabilis*, as well as the fungus *Candida albicans* using the well diffusion method. The antioxidant properties were assessed using DPPH (2, 2-diphenyl-1-picrylhydrazyl) and FRAP (Ferric Reducing Ability of Plasma) assays, and the anti-inflammatory effects were evaluated using the HRBC (Human Red Blood Cell) membrane stabilization method. The results of well diffusion method showed significant inhibition zones ranging from 9.40 ± 1.22 mm to 12.60 ± 1.97 mm and 9.50 ± 1.22 mm to 11.46 ± 1.97 mm for the DCM (Dichloromethane) extraction and hexane extraction respectively, indicating strong antimicrobial activity. The antioxidant assays revealed potent radical scavenging for DCM extract with IC₅₀ value of 12.56 µg/mL while the hexane extract showed moderate activity with an IC₅₀ value of 217 µg/mL and ferric reducing capacities comparable to standard antioxidants. The HRBC membrane stabilization method demonstrated significant inhibition of inflammation, with percentage inhibitions of 61.57% for the DCM extract and 29.96% for the hexane extract and 50.28% for the methanol extract at 1 mg/mL concentration. These findings support the traditional use of *Roghane Khas* as a multifunctional therapeutic agent. The study concludes that *Roghane Khas* exhibits potent antimicrobial, antioxidant, and anti-inflammatory activities, highlighting its potential application in modern medicine to combat antimicrobial resistance. Further research is recommended to elucidate the mechanisms and clinical applications of *Roghane Khas*.

Keywords: antimicrobial resistance, traditional medicine, *Roghane Khas*, antioxidant activity, anti-inflammatory activity

**A REVIEW ON TRADITIONAL MEDICINE *MENI THAILAM* IN THE MANAGEMENT
OF *KUDAL PUZHU***

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Accordingly, to Siddha Medicine 4448 diseases are mentioned in Siddha texts including *Kudal puzhu*. *Kudal puzhu* can be compared with worm infestation, which is characterized by excess worms in the intestines, abdominal pain, constipation or diarrhea, vomiting, itching in the body and fever. *Meni thailam* is a poly-herbal drug preparation in siddha system which consist *Kuppaimeni* and castor oil as ingredients, which is used in management of *Kudal puzhu*. Aim of this study is to provide the documentary evidences of each ingredient of *Meni thailam* on management of *Kudal puzhu*. Detailed information about each ingredient such as pharmacological actions, and phytochemical contents were reviewed from different Siddha texts and various scientific research sources and analysed with the medicinal usage of the *Meni thailam*. Based on the reviewed data the ingredients of *Meni thailam* possess anthelmintic and laxative actions which are relevant to the treatment of *Kudal puzhu*. Anthelmintic is an agent which kills intestinal worms, and laxative is an agent that loosens the bowel and eliminates it from the body. In addition to that, it consists phytochemicals in ingredients such as flavonoids, quinine, saponin, polyphenols, alkaloids and tannins in *Kuppaimeni* leaves, and Ricinolic acid, ethanol, ethyl acetate, methanol in castor oil. The presence of flavonoids, poly-phenols, quinine, tannins and alkaloid shows the anthelmintic activity. There by this study provides the clear details for the therapeutic effects and phytochemicals of *Meni thailam* with evidences. Hence it is useful for the treatment of *Kudal puzhu*. *Meni thailam* can be given as internally 5 – 10ml twice a day which can be administered along with warm water or warm milk for the management of *Kudal puzhu* in siddha system. The duration and toxic effect have not been mentioned in any Siddha text books.

Keywords: anthelmintic, *Meni thailam*, *Kudal puzhu*

A STUDY OF APPLICATION OF YOGA IN OBESITY

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Obesity, defined by excessive accumulation of body fat, is a global health issue leading to various medical problems such as heart disease, diabetes, high blood pressure, high cholesterol, liver diseases, sleep apnea and certain cancer. In Ayurveda, obesity is referred as *Atisthaulya* and detailed in authentic texts. Both modern and herbal medicines are mainly used to manage obesity with physical exercises and mental work. Those can reach through yoga therapy. These observational research studies have been tries to find out the effect of yoga in obesity. After receiving ethical approval, a non-interventional, cross-sectional descriptive survey was conducted at the Yoga clinic in National Ayurveda Hospital in Colombo, involving 30 obese patients. Patients attended scheduled 1hour yoga sessions at the clinic. If they couldn't attend, they practiced independently. Inclusion criteria include patients aged 18-80 with a Body Mass Index of 30.0 kg/ m² or higher, proficient in English or Sinhala or Tamil. Patients below 18 or above 80 yrs., with a BMI below 30.0 kg/ m², or lacking proficiency in these languages were excluded. Data were collected through interviews, questionnaires and anthropometric measurements at baseline and after three months. Clinic records and patient reports also reviewed. This survey study analyzed the Body Mass Index and Waist to hip ratio using Microsoft Excel to present the results in scientific manner. Study finding showed significant reductions: Body Mass Index decreased by 74% and waist to hip ratio by 21% over 3 months. Yoga postures such as *Thrikonasana*, *Dhanurasana*, *Bujangasana*, *Gomukhasana*, *Ardha matseyendresana*, *Vajrasana* and *Pashchimottasana* were practiced. Additional benefits included decreased stress, improved mood, increased muscle tone, and enhanced body flexibility. These finding suggest that yoga therapy is an effective method for weight loss, management and obesity prevention, prompting self- care and overall well-being among obese patients.

Keywords: *Atisthaulya*, obesity, Yoga, Body Mass Index, waist to hip ratio

**COMPARISON OF THE CHEMICAL CHARACTERISTICS OF KIRATATIKATAKADI
DECOCTION USING *Munrinia pinata* AND *Andrographis paniculata***

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Kiratatikatakadi decoction is a polyherbal formulation described in Sri Lankan Ayurveda Pharmacopeia and it has been broadly used for skin disease, diabetes, fever etc. in the form of decoction.—*Kiratatikatakadi* decoction consists of four plant ingredients including *Kirata* (*Andrographis paniculata* or *Munrionia pinata*), *Rasakinda* (*Tinospora cordifolia*), *Rathhandun* (*Pterocarpus santalinus*) and *Viyali inguru* (*Zinber officinale*). There is an argument of the uses of proper medicinal plant of *Kirata* in the preparation of this decoction. Therefore, this study was focused to assess the chemical characteristics of *Kiratatikatakadi* decoction using *Munrinia pinata* (M₁) and *Andrographis paniculata* (M₂). Organoleptic properties, physicochemical analysis, phytochemical characters and thin-layer chromatographic profiles of both decoctions were compared. The decoction sample with *Andrographis paniculata* possesses more bitter taste. The phytochemicals including saponins, flavonoids, phenols, terpenoids, tannins, and saponins were present in both the preparations. Flavonoids and tannins were more prominent in both decoction samples. Six spots (Rf values 0.01, 0.04, 0.18, 0.23, 0.27, 0.31) were detected in M₁ and six spots (Rf values 0.01, 0.03, 0.19, 0.24, 0.28, 0.32) were detected in M₂. Almost Similar pattern of chromatographic profiles of both decoctions were observed. Therefore, it can be concluded that both plants may be used in the process of the preparation of *Kiratatikatakadi* decoction. This should be confirmed further comparing the biological activities of these preparations.

Keywords: *Andrographis paniculata*, *Kiratatikatakadi* decoction, *Munrionia pinata*, chemical characteristics

**CONCEPT OF ZIABATUS SHAKRI AND ITS MANAGEMENT IN UNANI TIBB:
A SYSTEMATIC RIEWE**

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This Literature Review endeavors to elucidate the principles underlying the Unani *Tibb* system in managing *Ziabetes Shakri*. A thorough literature survey, synthesizing insights from ancient Unani texts and contemporary research studies, aiming to investigate the Unani *Tibb* wisdom in disease management and preventative care of *Ziabetes Shakri*. A comprehensive literature survey was conducted, reviewing ancient Unani texts by scholars such as Ibn Sina and Razi, as well as contemporary Unani studies. Relevant scientific databases were searched for recent studies on the application of Unani principles in managing *Ziabetes Shakri*. Search engines such as PubMed, ResearchGate and Web of Science were used to retrieve e Journals. A total thirty-four Journals were retrieved and six journals were scrutinized to map and summarize information on *Ziabetes Shakri*. The survey revealed that *Ziabetes Shakri* and *Ziabetes Saada* are the two types of *Ziabetes* recognized in Unani *Tibb*. The causes of *Ziabetes Shakri* are *Sue e mizaj wa zauf e kulliya*, *Masana wa jigar*. *Ziabetes Shakri* is characterized by symptoms such as excessive thirst and urination, presence of sugar in urine, dryness in the body, excessive appetite, and gradual loss of body weight. *Ziabetes Saada*, on the other hand, involves excessive thirst and urination without sugar in the urine. The review also identified that Unani scholars like Ibn Sina and Razi provided foundational treatments for *Ziabetes Shakri*, and contemporary studies have validated these treatments. Management of *Ziabetes Shakri* includes *Ilaj bil Ghiza*, *Ilaj bil Dawa*, *Ilaj bil Tadbeer*, measures. Preventive measures focus on application of *Asbab e Sitte Zaroorya*. The findings indicate that the Unani *Tibb* system has a well-established approach to managing *Ziabetes Shakri*, combining dietary regulations, herbal medications, lifestyle changes. The integration of ancient wisdom with contemporary research provides a comprehensive approach to *Ziabetes Shakri* management. Clinical trials are necessary to fully validate and optimize these treatments modalities. This review highlights the rich heritage of Unani *Tibb* in managing *Ziabetes Shakri* and emphasizes the relevance of integrating traditional practices with contemporary scientific research for comprehensive healthcare.

Keywords: *Unani Tibb, Ziabetes Shakri, Ziabetes Harr, Ilaj Bil Ghiza, Ilaj bil Dawa*

**COMPARATIVE MORPHOLOGICAL, PHYTOCHEMICAL AND PHYSIOCHEMICAL
STUDY ON NEEM (*Azadirachta indica*) AND BAKAIN (*Melia azedarach*)
AVAILABLE IN SRI LANKA**

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Medicinal plants are extremely valuable for curing and treating illnesses. Both *Azadirachta indica* (Neem) and *Melia azedarach* (*Bakain*) are closely related species in the Meliaceae family; both are referred to as Neem in several literatures. Despite their similarities, there are some significant differences between Neem and *Bakain*. Therefore, this study was aimed to explore and elucidate the similarities and differences between these two species in order to fully comprehend their prospective medical uses. Neem and *Bakain* were collected and authenticated. Organoleptic evaluation and preliminary physicochemical tests were carried out, whereas morphological and phytochemical differences were analyzed through a literature review. The results of the study revealed that the size of the Neem tree is medium to large with a rounded crown while the *Bakain* tree is small to medium with spreading branches. The leaves of Neem are simply pinnate and imparipinnate, and leaflets are 5-15 in number with a serrate margin with simple teeth order and irregular tooth spacing, whereas the leaves of *Bakain* is bipinnate or tripinnate, and leaflets are 3-11 in number with a serrate margin with compound teeth order and regular tooth spacing. While the flower of Neem is white in colour, the flower of *Bakain* is white to lilac. Phytochemical studies explored the presence of steroids, saponins, tannins, anthraquinones, amino acids, flavanoids, phenols, and alkaloids in both plants, but in different concentrations. Results of physiochemical of Neem showed moisture content 71.3%, cold extractive value 7.6 % and hot extractive value 230mg/g whereas in *Bakain* it was 66.3%, 12.8% and 356mg/g respectively. The findings indicate that while Neem and *Bakain* share several characteristics, they also have some unique properties that may be used to differentiate the two species. Knowing this information would help to identify these plants to avoid adulteration and to obtain the intended medicinal effects.

Keywords: neem, *bakain*, phytochemical, physiochemical, adulteration

A STUDY ON RELATION BETWEEN *DEHA PRAKRITI* AND MEANSTRUATION

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Many of structural and functional features of the human body are variable within the physiological range according to the *Deha prakriti*. Furthermore, menstrual features vary from women to women. On that basis, this study is done to find the relationship between *Deha prakriti* and menstruation as a percentage and to identify the prevalence of developing a menstrual irregularity, according to the *Deha prakriti*. This study conducts as a survey study with the population of female students in Faculty of Indigenous Medicine, University of Colombo within age of 20-30 years old, unmarried, who haven't diagnosed any menstrual disease and randomly selected 208 of individuals get as sample and after the grant consent, interviewed them with questionnaire and analyzed the data. As the result, there is significant relation between *Deha prakriti* types and the menstrual characters within the physiological range. Majority of the participant's age of menarche achieved within 12-14years range, some *Pitta* and *Vata-kapha* dominance *prakriti*'s achieved it before than others. Participants of all *Deha prakriti* types have 26-30days of inter menstrual period but *Vata*, *Vata-pitta*, *Vata-kapha* predominance *prakriti* types have considerable variation to month to months. And most of the participants have discomfort on abdomen, especially for the 100% of *Vata* predominance *prakriti* and 50% of *them* have dry hard stool pass in menstrual days. With the outcomes of research, ability to gain an idea on menstrual features according to the *Deha prakriti* is provided.

Keywords: *Deha prakriti*, menstruation

**STUDY ON EFFECTIVENESS OF SHARAPUNKHADI CHURNA ON FATTY LIVER
DISEASE: AN OBSERVATIONAL CASE STUDY**

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Fatty liver, alias hepatic steatosis, is a condition characterized by the excessive accumulation of fat in the liver. Heavy alcohol consumption, obesity, elevated triglyceride levels, metabolic abnormalities, poor diabetes control and certain drugs has now made this a growing health concern. Currently, this condition is expanding with an estimated worldwide prevalence of 25%. Given the underlying factors mentioned, Ayurveda classifies this disease under *Yakruth roga*, describing its manifestation based on the principle of '*Medo dhatu vrddhi*' due to abnormal fat metabolism in the body. The main aim of this study is to address this concern using an Ayurvedic herbal formulation, *Sharapunkhadi Churna*, and to evaluate its effectiveness through a observational case study with nine assessment parameters. The formulation, adhering to the *Churna kalpana* of Ayurveda, is prepared by perfectly drying, pulverizing, and packing the fine powders of *Sharapunkha*, *Bhumyamalaki*, and *Katuki* in equal amounts. After one month period of *Churna* administration, the Ultra Sound Scan of abdomen revealed fatty infiltration of liver reverted to normal from grade I fatty liver with characteristic improvement of assessment parameters such as *Agnivaishamya* (Digestive power malfunction) from *Vishamagni* (erratic digestion) to *Samagni* (healthy balanced digestion), *Sadana* (fatigue) reduction by 20%, *Udara shoola and Udara daha* (abdominal pain and burning sensation) to from moderate to very mild state. Hence *Sharaphunkadi churna* is a promising herbal formulation for the management of fatty liver disease and the further standardisations and advancement of dosage form will bestow high end results in a large scope.

Keywords: Ayurveda, fatty liver, herbal, *Sharapunkhadi churna*, triglycerides

**PHYSICOCHEMICAL AND PHYTOCHEMICAL EVALUATION OF NIDHIKUMBA
(*Mimosa pudica* Linn.)**

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Mimosa pudica Linn. is a perennial herb native to tropical America and all-around south Asia. It has been identified as *Chui-mui* in Unani and *Lajjalu* in Sanskrit and has been found to have anti-inflammatory, antihelminthic, anti-depressant, anti-carcinogenic, anti-bacterial, analgesic, antioxidant, antihepatotoxic aphrodisiac, astringent, antiasthmatic and anti-diabetic actions. This study aimed to assess the physicochemical and phytochemical properties, and Thin Layer Chromatography (TLC) fingerprint of *Mimosa pudica*. The aqueous extract was taken for experiment and solution made in concentration of 10% (W/W). The physicochemical findings revealed that the moisture content was 6.5%, total ash value was 5.65%, water soluble ash value was 2%, and acid insoluble ash value was 2.3%. pH of 1% solution was 6.15 and pH of 10% solution was 5.84. In this study, the active phytochemicals analysis of *Mimosa pudica* revealed the presence of Phenols, Flavonoids, Tannins, Saponins, Alkaloids, Terpenoids, and Cardiacglycosides which exhibit the diverse effects mentioned above. The TLC fingerprint provided the evidence of the phytochemicals present in *Mimosa pudica*.

Keywords: *Nidhikumba*, *Mimosa pudica*, phytochemicals, TLC

**STUDY ON SHATAVAR (*Asperagus racemosus*) IN THE MANAGEMENT OF MARZ
E AKYAS E KHUSSIYATUR REHM (POLYCYSTIC OVARIAN SYNDROME) WITH
SPECIAL REFERENCE TO ITS PHYTOCHEMICAL CONTENT**

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Marz e Akyas e Khussiyatur Rehm is a disease of the female reproductive system that has been described by Unani physicians under the topic of *Uqr* (infertility), *Ihtebas e Tams* (amenorrhoea), *Amraz e Jigar* (liver disorder), obesity and *Balgami* (Phlegmatic) disorders. As it is a disease arise due to predominance of *Balgami* (Phlegm), the disease is Cold and Moist in *Mizaj*. The clinical features of *Marz e Akyas e Khussiyatur Rehm* are very much similar to that of polycystic ovarian syndrome (PCOS) defined in modern medical sciences. According to World Health Organization around 8-13% of reproductive aged women suffer from PCOS. In modern medicine, various medical interventions have been recommended to treat this condition. However, the outcome of these treatments has not achieved the expected improvement. Many potential plants have effectively been used by Unani Physicians for this condition. Thus, the aim of this analytical and review study is to validate the potential role of the most prospective drug *Shatavar* (*Asperagus racemosus*) in the management of *Marz e Akyas e Khussiyatur Rehm*. Aqueous and ethanolic extract of the dried powdered drug were prepared by using Soxhlet apparatus and they were subjected to phytochemical screening. Unani classical texts, books, research articles and scientific database (Google Scholar, Science Direct and PubMed) thoroughly referred. The physiochemical parameters showed the Total Ash value 4.23%, water soluble ash 2.05%, and acid insoluble ash 0.9, water and ethanolic extractive value is 42.68 and 46.6, respectively. According to Unani System of Medicine, *Shatavar* is a female reproductive tonic and it acts as Hepatoprotective, *Muwallid e Laban* (Galactagogue - Natural contraceptive), *Muqawwi e Rehm* (Uterine tonic), *Daf e zjabat* and Antidepressant. The phytochemical screening revealed the presence of Saponin, Flavonoids, Alkaloids, Tannin, Phytosterols, Terpenoids, diterpenes, protein and reducing sugar. *Shatavar* is rich in phytoestrogen which mimics the action of estrogen and help to regulate hormonal imbalance in PCOS. The Flavonoids especially isoflavones that have mild estrogenic activity also helps to balance the estrogen levels. Further, Steroidal saponins also exert hormone like action and brings hormonal balance in the body. Therefore, it obvious that presence of phytochemicals such as Saponin, Flavonoids and Phytosterols in *Shatavar* may manage the hormone at optimum level to perform normal function of female reproductive system. These findings are consistent with the empirical use of *Shatavar* in Unani System of Medicine. Further, studies are needed to understand the mechanism of action of these phytochemicals.

Keywords: *Asperagus racemosus*, *Marz e Akyas e Khussiyatur Rehm*, ovarian diseases, *Shatavar*

**KNOWLEDGE, PERCEPTION AND MYTHS REGARDING INFERTILITY AMONG
FEMALES WHO ATTENDING OUT PATIENTS' DEPARTMENT OF AYURVEDA
NATIONAL HOSPITAL, BORELLA**

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Infertility, classified as a disease by the World Health Organization, affects both men and women equally; however, societal perceptions often attribute it solely to women. Lack of awareness among women about infertility and when to seek treatment is common. This study aimed to evaluate knowledge, perception, and myths related to infertility among female attendees of the Outpatient Department at the Ayurveda National Hospital, Borella. A questionnaire approached 334 samples as representing general population from the age group of minimum 18 years and maximum age of 80. 38.3 % females were between the ages of 41-60, aged between 26-40 were 37.4%, 18.3% were between the ages of 18-25 and 6% were 61-80. 189 females (56.6%) stated that both men and women could be responsible for infertility. 38.6% females knew that females only responsible for infertility and 4.8% were mentioned that responsible for male. it was observed that unmarried individuals exhibited a higher level of knowledge about infertility compared to their married counterparts. Specifically, 48.62% of single respondents demonstrated knowledge about infertility, while only 46.12% of married respondents exhibited similar knowledge levels. It revealed that 56.88% had no knowledge of infertility, while 43.22% had adequate knowledge. Despite this, 70.4% demonstrated a good perception of infertility, although some misconceptions persisted. The findings highlighted the need for broader health education initiatives to enhance awareness and prevention of infertility. The study identified disparities in knowledge, perception, and myths among women. It concluded that education and awareness programs on infertility are essential for improving understanding and dispelling misconceptions among infertile couples, thereby fostering the realization of parenthood aspirations.

Keywords: infertility, female adults, knowledge, perception, myths

**COMMUNITY AWARENESS AND PERCEPTIONS OF WELLNESS TOURISM IN THE
WESTERN PROVINCE OF SRI LANKA**

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The concept of well-being has become increasingly integrated into modern lifestyles. While various studies have explored wellness in today's society, there is limited understanding of community awareness and perceptions of wellness tourism. This study aims to investigate community awareness and perceptions of wellness tourism in the Western Province of Sri Lanka. Primary data were collected from the local community through extensive field observations and purposive sampling, engaging 20 respondents representing the general public, tourism and hospitality undergraduates, and industry experts. A qualitative approach was employed, using thematic analysis to explore several aspects: education level, awareness of wellness tourism, previous experience, barriers to participation, and potential development strategies for the industry. The findings indicate a relative awareness of wellness tourism among millennials and Generation Z, alongside the emergence of new wellness institutions in the province. Despite this awareness, significant challenges persist, including financial constraints, the prevalence of unauthorized businesses, and a general lack of information and understanding about wellness tourism. These obstacles hinder broader community participation and the sector's growth. Strategic recommendations from the study emphasize enhancing health tourism activities, improving community education and awareness programs, and fostering greater participation through targeted initiatives. By addressing these issues, it is anticipated that participation rates in wellness tourism can be increased. Although the sample size is small, the insights gathered provide valuable direction for future research and practical steps to develop wellness tourism, benefiting both local and foreign participants.

Keywords: well-being, wellness tourism, community awareness, western province, target market

DEVELOPMENT OF AN HERBAL BEVERAGE USING *Nelumbo nucifera*

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Nelumbo nucifera, commonly known as lotus, is a plant which can be utilized in therapeutic applications due to its significant pharmacological properties. Even though, it is abundant in Sri Lanka, the flower of *Nelumbo nucifera* has not been widely used in herbal remedies. Present study aims to establish preliminary quality standards for an herbal beverage based on *Nelumbo nucifera*. The study comprised reviewing published literature related to *Nelumbo nucifera*, developing an herbal beverage by utilizing its flowers and evaluating the preliminary quality parameters. The herbal beverage was developed by boiling the petals of the flowers of *Nelumbo nucifera* with the addition of substantial amount of lemon juice and sugar candy after several trials as per palatability. Prepared herbal beverage was subjected to phytochemical screening and chromatographic evaluation with its Aqueous and Ethyl acetate fractions. Physicochemical analysis was conducted using prepared herbal beverage. The phytochemical screening revealed the presence of various compounds such as saponins, tannins, alkaloids, phenols, flavonoids, carbohydrates in the herbal beverage. The presence of phytochemicals is higher in ethyl acetate extract more than aqueous extract. Obtained results for total ash, Loss on Drying, brix value (TSS) and pH were, 0.02%, 85.24%, 90% & 5-6 respectively. The physicochemical analysis showed low ash content, indicating fewer impurities. The value for Loss on Drying is high due to the liquid medium of the herbal drink. Total soluble solids indicate the sugar content of the herbal drink. pH value of the herbal drink indicates that the medium is acidic. Chromatographic profile revealed multiple peaks in ethyl acetate extract, indicating the presence of different compounds. According to the chromatographic study it was discovered that Toluene: Ethyl acetate: Dichloromethane: Methanol (3.8:2.3:1.5:2.3) is a good solvent system for HPTLC screening for *Nelumbo nucifera*. The results provide valuable insights into the phytochemical composition and quality parameters of the herbal beverage based on *Nelumbo nucifera*. The findings can be used as a standard reference to maintain the strength, purity, and quality of the product for future proceedings.

Keyword: *Nelumbo nucifera*, herbal beverage, flower

**GHIZA E DAWA IN THE MANAGEMENT OF DIABETES MELLITUS WITH
REFERRING COMMONLY USED FIVE SRI LANKAN GREEN LEAFY VEGETABLES:
A REVIEW**

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Diabetes mellitus is a serious and chronic metabolic disorder. Main symptoms are hyperglycemia, polyuria, polydipsia and polyphagia. Its prevalence is approximately 6% worldwide, and by 2025, the estimated number of cases which is currently over 150 million is expected to have doubled. Sri Lanka is a tropical country. Which is blessed with many herbal plants. About hundred and twenty-six plants treat diabetic patients in Sri Lanka. After searching PubMed Advance and Google Scholar, several papers were chosen and reported. Commonly used five green leafy vegetables like *Murraya koenigii*, *Passiflora edulis*, *Costus speciosus*, *Ipomoea aquatica* and *Gymnema sylvestre* were selected and considered as *Ghiza e Dawa*. *Murraya koenigii* leaves being easily available and cost effective can be taken regularly in the diet of the diabetic patients without side effects. *Passiflora edulis* leaf extract protects against the development of diabetes complications and offers health benefits to those with the diabetes mellitus. *Costus speciosus* is one of the most widely used medicinal plants with hypoglycemic activity. *Ipomoea aquatica* is a common green leafy vegetable. It is regarded as having good herbal antidiabetic properties *Gymnema sylvestre* supports pancreatic regeneration, and has positive effects on blood sugar homeostasis. Green leafy vegetables minimize the risk of developing diabetes. Hence this report aims to describe green leafy vegetables that contain hypoglycemic property, lesser side effects, low cost and they are effective in controlling and treat diabetes mellitus.

Keywords: diabetes mellitus, green leafy vegetables, *Murraya koenigii*, *Passiflora edulis*, *Costus speciosus*

**A SYSTEMATIC REVIEW ON THE PHARMACOLOGICAL PROPERTIES OF
KUSHTAGHNA DRAVYA IN CHARAKA SAMHITA**

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Kushta, according to Ayurveda, is a broad category of skin disorders described as one of the *Ashtamahagada*. It arises due to various causative factors including, vitiation of the *Tridosha*, *Twak*, *Mamsa*, *Shonita* and *Lasika*, unwholesome food combinations, psychological reasons and supernatural influences. The current study aims to systematically review the phytochemicals and pharmacological actions according to Ayurveda and modern view, of the plants included under the *Kushtaghna dravya* of the *Panchashath maha kashaya* in Charaka Samhita. The data were gathered from Charaka Samhita, Ayurveda text books and published research articles across databases PubMed, Google Scholar, Elsevier and Science Direct. Articles including the phytochemical and pharmacological properties of the intended plants were included while incomplete research articles and articles unavailable in full form were excluded. A total of 85 potentially relevant studies were found by searching the databases Google Scholar, Elsevier, PubMed and Science Direct. Consequently, 72 reports were screened for eligibility and 07 were excluded due to not meeting the inclusion criteria. Therefore, finally 65 studies were included in this review. The *Kushtaghna dravya* is a group of 10 plants including; *Acacia catechu*, *Terminalia chebula*, *Emblia officinalis*, *Curcuma longa*, *Semecarpus anacardium*, *Alstonia scholaris*, *Cassia fistula*, *Nerium indicum*, *Embelia ribes* and *Jasminum officinale*. According to the study, all the above plants included phytochemicals that exhibit anti-bacterial, anti-viral, anti-fungal, anti-microbial, anti-inflammatory, anti-oxidant, anti-ulcer, wound healing and immune modulatory actions. These phytochemicals, pharmacological actions and the *Rasa panchaka* act against the causative factors of the skin disorders and work to normalize the physiological homeostasis of the human body thus being beneficial in the healing and prevention of skin disorders.

Keywords: Ayurveda, *Kushtaghna dravya*, *Panchashath maha kashaya*, *Rasa panchaka*, skin disorders

**A STUDY ON THE EMPIRICAL USES OF *ZEERA SUFAID* AND ITS VALIDATION
THROUGH RECENT PHARMACOLOGICAL ADVANCES**

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Herbs have been used with a promising efficacy since time immemorial. Empirical uses of medicinal plants are passed down as traditional remedies used in various customs based on experience and observation. These plants often have a historical implication in treating ailments. However, at present, such herbs are underutilized due to the poor scientific validation. Modern scientific validation by accurate research is required to assess the efficacy and safety of traditional remedies using scientific methods. Cumin (*Cuminum cyminum*), known in Unani as *Zeera Sufaid*, is one such underutilized herb. Therefore, this study is focused on validating the empirical uses of *Zeera sufaid* through recent pharmacological advances. Unani classical texts and research articles were thoroughly reviewed with regard to their empirical uses and recent pharmacological findings. *Zeera sufaid* has been empirically used for various GIT conditions, galactagogue and an aromatic among various actions. Modern research discovered phytochemicals which exert pharmacological actions. In Cumin phytochemicals like alkaloids, flavonoids, tannins, coumarins, anthraquinones, saponins and many more have been discovered. They exert a diverse range of pharmacological effects such as antioxidant, anticancer, antimicrobial and various other effects across almost all body systems. This study validates the empirical use of *Zeera sufaid* through modern pharmacological advances, to enhance the usage of *Zeera sufaid* by scientific medical findings. Identification of these active compounds helps bridge the gap between traditional knowledge and evidence-based medicine and helps facilitate the popularization of this herb in daily practice.

Keywords: *Zeera sufaid*, *Cuminum cyminum*, Unani, validation, phytochemicals

EFFECT OF *KATUWELBATU IRIVERIYADI KASHAYA* AND *TRIKATUKADI DHUMAPANA* IN THE MANAGEMENT OF *PEENASA* WITH SPECIAL REFERENCE TO CHRONIC RHINITIS: A CASE STUDY

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In Ayurveda, *Peenasa*, caused by *Kapha dosha* and dried by *Vata dosha*, leads to nasal obstruction, difficulty in breathing, thin secretions, and loss of smell. Its features align with chronic rhinitis, including nasal itching, obstruction, sneezing, watery discharge, and hoarseness of voice. This case study focuses on evaluating the effect of *Katuwelbatu iriveriyadi kashaya* comprise of *Solanum virginianum*, *Plectranthus zeylanicus*, *Tinospora cordifolia*, *Saussurea lappa* and *Trikatukadi Dhumapana*: *Zingiber officinale*, *Piper nigrum*, *Piper longum*, *Acorus calamus*, *Ran hiriya*, *Ferula foetida*, *Commiphora mukul* on *Peenasa* condition. The patient was given *Katuwelbatu iriveriyadi kashaya* half *patha* (half cup/ 120ml) twice a day before meal and *Trikatukadi dhumapana* as *Shamana* treatment for 3 puff morning and evening about two weeks. The patient reported a significant improvement in symptoms during the treatment. The symptoms of sneezing in the morning and runny nose have reduced significantly in the patient. (obstruction of nasal passage and sneezing reduced by 75%, Heaviness of the head, itching inside the ears and itching of the eyes reduced by 100%). In conclusion, this case study suggests that *Katuwelbatu iriveriyadi kashaya* and *Trikatukadi dhumapana* can be effective treatments for *Peenasa* (chronic rhinitis).

Keywords: *Peenasa*, chronic rhinitis, *Katuwelbatu iriveriyadi kashaya*, *Trikatukadi dhumapana*

**DESTINATION BRANDING IN WELLNESS TOURISM: OPPORTUNITIES FOR
ANURADHAPURA DISTRICT**

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Wellness tourism is a rapidly expanding segment of the global travel industry, characterized by travelers seeking holistic health and well-being experiences. Anuradhapura, with its rich culture heritage, historical significance several natural environments, presents a unique opportunity to attract wellness tourist. This study investigates the potential of Anuradhapura District in Sri Lanka to emerge as a premier wellness tourism destination. Primary data gathered from the local community and extensive field observations, this research employs purposive sampling, engaging with 15 respondents selected using purposive sampling technique. Utilizing qualitative data analysis techniques, including thematic analysis this study aims to identify the district’s competitive advantages, including its existing wellness infrastructure, natural resources, and culture assets, and explore how these can be effectively promoted to draw international and local wellness tourist. The finding of this study that focusing on Anuradhapura District infrastructure, affordability, and quality wellness services, can significantly differentiate the district in the competitive global market. As the branding strategy in 21st century that can incorporates digital marketing based on social media, partnerships with local and international wellness providers, and the development of community involvement and partnership to develop wellness tourism. Additionally, the study discusses the potential economic and social impacts of enhanced wellness tourism, offering recommendations for sustainable development practices to ensure long term benefits for the local community.

Keywords: wellness tourism, Anuradhapura, opportunities, well-being, wellness tourists

**PHARMACEUTICO ANALYTICAL STUDY ON *NIMBA PATRADI LEPA* AND
DEVELOPMENT OF *NIMBA PATRADI CREAM***

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Quality control and safety of herbal products is essential for therapeutic purposes. *Nimba patradi lepa* is a traditional herbal formula with potential therapeutic application in *Vrana shotha*. The attempt of study was to Preparation and evaluation of physico-chemical, phytochemical analysis of *Nimba patradi lepa* and development as *Nimba patradi cream*. *Nimba patradi lepa* was prepared according to Chackradaththa under *Vrana adhyaya*. *Nimba patradi lepa* consist of three ingredients such as *Nimba patra*, *Danti moola* and *Trivrith*. The prepared paste was subjected to assess the physicochemical and phytochemical analysis according to standard protocol. Organoleptic properties of *Nimba patradi lepa* process yellowish brown colour with an aromatic taste. Physico- chemical analysis of *Nimba patradi lepa* showed 8.35% of moisture content, Low moisture content, ensures better stability and longer shelf life of the *lepa*, pH of 06, water soluble extractive 5.3% w/w, total ash 9.2% w/w, and acid insoluble ash 0.24% w/w, this indicates *lepa* contains minimal in organic residue, and higher purity level. *Nimba patradi lepa* exhibited alkaloids, saponins, flavonoids, phenols, steroids, tannins, and carbohydrate. *Nimba patradi* having very low Saponins process various physiological effects, and interference nutrient absorption. Phenolic and flavonoids component were detected in the paste, promote a more favorable environment for tissue repair and regeneration. Bioactive compounds of *Nimba patradi lepa* exhibit medicinal properties, such as analgesic or antimicrobial effects, they contribute to the overall process of wound healing by addressing different aspects and tissue regeneration. The study revealed that rich in primary and secondary metabolites which process management of *Vrana shotha*. This study provided that scientific evidence of *Vrna shodana*, *Vrana ropana* and *Varnya* actions and collectively helps to wound healing.

Keywords: *Nimba patradi lepa*, medicinal properties, *Vrana shodana*, *Vrana ropana*

**UNANI MUFRAD DAWA (SINGLE DRUGS) USED IN AMRAZ-E- TANAFFUS
(RESPIRATORY DISEASES): A SYSTEMIC REVIEW**

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Respiratory diseases have a major impact on the healthcare system in the present. In the Unani system of medicine, it is proven that single drugs are efficient in treating respiratory diseases. This study was carried out to identify single drugs that efficiently work in respiratory diseases and to identify relevant studies investigating pharmacological actions, and chemical constituents of selected drugs that were effective in respiratory diseases. This systemic review was done by reviewing authentic textbooks, and electronic databases such as PubMed, Google Scholar, and Medline. Search terms such as ‘single drugs’, ‘Herbs’ ‘*Mufrad dawa*’ combined with ‘respiratory diseases’, and ‘*Amraz-e-Tanaffus*’ were used for articles published from 2000 to 2021. A total of 50 articles were filtered and scrutinized. The single drugs such as *Aslusoo*s, *Adosa*, *Adrak*, *Lahzan*, *Sambalu*, *Doodhi*, *Aamla*, and *Kalonji* were found to have efficiently worked in respiratory ailments. Glycyrrhizin the bioactive component of *Aslusoo*s is associated with antitussive, expectorant, anti-inflammatory, and antiviral properties. *Adosa* reflects the antitussive and bronchodilatory effect by vasicine and vasicinone. *Adrak* has gingerols and shagoals particularly known to have anti-inflammatory and antioxidant properties. Flavonoids present in *Lahzan* inhibit virus multiplication. *Sambalu* and *Doodhi* indicate they possess anti-inflammatory, bronchial smooth muscle relaxant, and bronchodilator action. *Aamla* and *Kalonji*, indicated they possess immune-modulatory, demulcent, antitussive, analgesic and anti-inflammatory actions. This review shows them aiding in treating respiratory ailments due to their bioactive constituents and exerting potential actions. Further studies need to be done to find a formulation with an optimized combination of these drugs.

Keywords: *Amraz-e -Tanaffus*, herbs, *Mufrad dawa*, respiratory diseases, single drugs

**WOMEN EMPLOYMENT CONTRIBUTION IN SRI LANKAN HEALTH AND
WELLNESS INDUSTRY**

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Sri Lanka is famous for the wellness tourism industry. After the COVID-19 epidemic and the 2019 Easter attack, the Sri Lankan wellness tourism industry decreased, and the country focused on increasing tourists' arrivals. In the 20th century, the tourism industry and the wellness sector contributed a significant amount of Sri Lanka's Gross Domestic Product. This research discusses the contribution of women to employment in the wellness tourism industry. In Sri Lanka, just 7.7% of working-age females are employed in official jobs with respectable earnings and working hours. According to the World Travel and Tourism Council, in 2014, the participation of Sri Lankan women in the industry was significantly low. For example, at a wellness retreat, the user can find a lower level of female employees, as a percentage of only 10%. Sri Lanka has the highest literacy rate in South Asia, and the number of female students comparing to the male students in the Sri Lankan university system has also been seen. According to the researched facts, the culture of Sri Lanka mainly affects this; that is the opinion that the tourism industry is an unsuitable field for women has spread in today's society. Furthermore, one of the main factors is that it has become a tradition for men to be appointed to executive-level jobs in Sri Lanka. It was mentioned, the importance of women and men in the wellness tourism industry should be given an equal place for executive-level jobs, and the importance of providing a safe environment for women in the wellness tourism industry.

Keywords: literacy rate, equal place, gross domestic product

**REVIEW ON EFFICACY OF THE ANTIDOTE ACTIVITY OF THE ROOT OF
*Gymnema sylvestre***

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Gymnema sylvestre, also known as *Sirukurinja*, is a plant of the Asclepiadaceae family, used in traditional medicine in Sri Lanka. The leaves of the plant are widely used for treating various diseases. Several previous studies have been investigated in relation to the anti-diabetic activity of this plant. According to Siddha literature, *Gymnema sylvestre* can also be used as an antidote specially roots. An antidote is a substance or remedy used to stabilise the effects of poison or harmful substances. This review aims to study the efficacy of the antidote activity of *Gymnema sylvestre* root, with a focus on its phytochemical constituents and pharmacological actions. Detailed information on the antidote activity of the root of *Gymnema sylvestre* has been reviewed by systematic screening of different texts based on Siddha “*Kunapadam mooligai vakuppu*”, “*Vishavaithiyam*” books such as “Indian toxicology”, “Indian medicinal plants” and journals, previous research articles, and conference findings based on these studies published up to 2023. The leaves and roots of the plant have high therapeutic effects and are used in many medicinal preparations in Siddha medicine. The chemical constituent potassium gymnemate is known for its antidote properties which is a neutralizing agent for snakebites. The Siddha text emphasises the antidote action in the stanza in the lines, “*Aththi suramum ahaala kadi widamum thatthi ahala thaharkum thaan*” and “*Sirukurinja ver vidathay theerkum*”. In this context, the root of *Gymnema sylvestre* shows significant potential as an antidote in traditional medicine. Its effectiveness is sustained by the presence of powerful phytochemical potassium gymnemate, which should be further investigated to optimise its therapeutic benefits in modern healthcare.

Keywords: potassium gymnemate, snakebites, *Gymnema sylvestre*

**DEVELOPMENT OF NOVEL NUTRITIONAL SUPPLEMENT FOR CHILDREN USING
TRADITIONAL RICE**

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Herbal supplements and Ayurveda nutraceuticals have a high demand in the global community. According to the annual report published by the Central Bank, Sri Lanka, the percentage of underweight children under five years has increased up to 15.3 per cent in 2022 from 12.2 per cent in 2021. Rice, being the staple food in Sri Lanka, plays a significant role in Sri Lankan food pattern. There are a lot of rice varieties found in Sri Lanka including the Traditional rice varieties which are rich in proteins, antioxidants, vitamins and micro nutrients. Therefore, this study is focused to develop a cereal formula using traditional rice varieties as the main component. *Centella asiatica* is used as an adjuvant to enhance the nutritional value of the formula. Additionally, sugar candy is added as a sweetener to increase the palatability. Rice varieties were selected based on their nutritional value published by the Bathalegoda Rice Research and Development Institute. Selected rice varieties were dried and powdered separately and they were mixed in the ratio of ‘*Kalu heenati*’ 20: ‘*Rathdel*’ 20: ‘*Pokkali*’ 20: ‘*Pachchaperumal*’ 20: *Centella asiatica* 7.5: Sugar candy 12.5. Prepared powder was subjected to standardization process to obtain standardization parameters. TLC and HPTLC fingerprints were developed for the novel formula where 9 peaks were obtained under 254nm. The final product was a brownish white, sweet, rough powder (pH 6.36). It can be consumed with fresh milk in semi-solid form. However, the effectiveness of the novel formula needs to be established further with a clinical trial.

Keywords: traditional rice, nutritional supplement, malnutrition, *Gotukola*

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