PROCEEDINGS

12th INTERNATIONAL CONFERENCE ON AYURVEDA, UNANI, SIDDHA AND TRADITIONAL MEDICINE (*i*CAUST) 2026 AND AYU PRASADHANI – 1st INTERNATIONAL CONFERENCE AND EXHIBITION

"Sustainability and Innovation in Traditional Medicine for Holistic Approach"



06th and 07th November 2026

ORGANIZED BY
FACULTY OF INDIGENOUS MEDICINE,
UNIVERSITY OF COLOMBO, RAJAGIRIYA
IN COLLABORATION WITH
DEPARTMENT OF AYURVEDA - WESTERN PROVINCE,
SRI LANKA

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Message from the Vice Chancellor, University of Colombo



It is my great pleasure to convey this message on the occasion of the 12th International Conference on Ayurveda, Unani, Siddha and Traditional Medicine (*i*CAUST) 2026, held in conjunction with Ayu Prasadhani – 1st International Conference and Exhibition, organized by the Faculty of Indigenous Medicine, University of Colombo, in collaboration with the Western Provincial Department of Ayurveda. The conference, held under the theme "*Sustainability and Innovation in Traditional Medicine for Holistic Approach,*" provides an important platform to promote academic excellence, scientific inquiry and the sustainable advancement of traditional medical knowledge.

Traditional medical systems, including Ayurveda, Unani and Siddha, represent a rich heritage of knowledge and practices that have contributed to health promotion, disease prevention and community well-being across generations. Integrating traditional wisdom with contemporary scientific research, while maintaining rigorous standards of safety, quality and efficacy, is essential to strengthen their contribution to global healthcare.

This international conference provides a valuable platform for academics, researchers, healthcare professionals, traditional medical practitioners, policymakers and industry representatives to exchange knowledge, present research findings and establish meaningful collaborations. I am confident that the scholarly discussions and scientific contributions at this conference will inspire new research initiatives, strengthen evidence-based practices and support the responsible development of traditional medicine for the benefit of society. Furthermore, the introduction of Ayu Prasadhani will further enhance this initiative by providing a platform to showcase research innovations, traditional medical practices, and advancements in herbal and natural products.

I wish to congratulate the Faculty of Indigenous Medicine, the Western Provincial Department of Ayurveda, the organizing committee and all those who have contributed to the successful organization of *iCAUST* 2026 and Ayu Prasadhani. I extend my sincere best wishes to all participants and hope that this conference will lead to productive deliberations, fruitful partnerships and significant advances in traditional medicine and holistic healthcare.

Professor Indika Mahesh Karunathilake
Vice Chancellor
University of Colombo
Sri Lanka

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



It is a great privilege, I extend my warm greetings to all participants, distinguished scholars, researchers, academics, practitioners and students on the 12th International Conference on Ayurveda, Unani, Siddha and Traditional Medicine (*i*CAUST) 2026 and the 1st International Conference and Exhibition Ayu Prasadhani, to be held on 6th to 9th November 2026.

The International Conference on Ayurveda, Unani, Siddha and Traditional Medicine has established itself as an important academic platform for promoting research, knowledge exchange, and collaboration in the field of Indigenous Medicine. Over the years, *i*CAUST has continued to provide valuable opportunities for scholars and practitioners to share their research findings, discuss emerging developments, and explore innovative approaches to advancing traditional medical systems. The 12th conference marks another significant milestone in our collective efforts to strengthen the scientific foundation and global recognition of Indigenous Medicine.

Ayu Prasadhani, as the 1st International Conference and Exhibition, adds a new and meaningful dimension to this year's event in collaboration with the Western Provincial Ayurveda Department.

I firmly believe that this conference will inspire young researchers and undergraduate students to engage actively in scientific research, develop their academic and professional competencies, and contribute to the advancement of Indigenous Medicine.

On this important occasion, I wish to express my sincere appreciation to our chief collaborative partner, Commissioner, Western Provincial Ayurveda Department and his staff. Further, my sincere thanks to the organizing committee, members of the academic, administrative and non-academic staff, research scholars, students and all other stakeholders whose dedication and commitment have contributed to organizing this significant academic event. I also extend my heartfelt gratitude to our invited speakers, presenters, reviewers and participants for their valuable contributions and continued support.

I wish all participants a productive, intellectually stimulating and memorable conference.

Professor S.P. Molligoda
Dean – Faculty of Indigenous Medicine
University of Colombo
Sri Lanka

Message from the Chief Organizer - Commissioner of Ayurveda - Western Province



On behalf of the Department of Ayurveda, Western Province, it is my distinct honour and privilege to extend my warmest greetings and best wishes to the 12th International Conference on Ayurveda, Unani, Siddha and Traditional Medicine (*i*CAUST 2026) and Ayu Prasadhani – the 1st International Conference and Exhibition on "*Sustainability and Innovation in Traditional Medicine for a Holistic Approach*."

As the Commissioner of Ayurveda, Western Province, I am delighted to host this prestigious international event, bringing together researchers, academics, practitioners, and industry representatives to exchange knowledge, share innovations, and explore new horizons in traditional medicine.

In the face of emerging global healthcare challenges, indigenous medical systems offer valuable approaches to holistic well-being. Strengthening their scientific foundations through evidence-based research, innovation, and international collaboration is essential to enhancing their credibility and global recognition. This conference provides an important platform to bridge ancient wisdom with modern scientific advancements and promote sustainable healthcare.

Ayu Prasadhani 2026 further enriches this occasion by showcasing innovative products, research-based inventions, and emerging developments in traditional medicine. This educational and marketing exhibition aims to preserve and promote the timeless wisdom of Sri Lankan Indigenous Medicine and Ayurveda while empowering entrepreneurs, encouraging responsible innovation, and inspiring healthier lifestyles.

The Department of Ayurveda, Western Province, is committed to supporting research and development through its network of Ayurveda hospitals, central dispensaries, *Panchakarma* centres, and community medical services. We warmly welcome researchers to explore these facilities as valuable opportunities for future research and collaboration.

I extend my sincere appreciation to the Ministry of Health, the Department of Ayurveda, the University of Colombo, the Faculty of Indigenous Medicine, and all institutional partners for their invaluable contributions to this event. My best wishes also go to all presenters, resource persons, delegates, and participants whose dedication to advancing traditional medicine through scientific inquiry is truly commendable.

I particularly encourage young Ayurveda professionals, postgraduate scholars, and undergraduates to pursue research with curiosity, creativity, and a commitment to excellence. May this conference inspire new discoveries, strengthen scientific

evidence, and promote the global recognition of indigenous medical knowledge, connecting the wisdom of ancient scholars such as *Rishi Pulastya, Acharya Charaka*, and *Acharya Sushrut*a with contemporary scientific understanding.

I am confident that *i*CAUST 2026 and Ayu Prasadhani will mark a significant milestone in advancing evidence-based traditional medicine, fostering innovation, and strengthening international cooperation for sustainable and holistic healthcare.

I wish the conference and exhibition every success and all participants a fruitful, inspiring, and memorable experience.

"Wishing you all Hithayu, Sukayu and Deegayu!"

Dr. Tharaka Prasadh Hendavitharana
Commissioner of Ayurveda
Western Province
Sri Lanka

Message from the Conference Coordinator (Ayurveda)



Dear Esteemed Delegates,

It is both an honor and a privilege to warmly welcome you to the 12th International Conference on Ayurveda, Unani, Siddha and Traditional Medicine (*i*CAUST 2026) and to AYU PRASADHANI 1st International Conference and Exhibition, hosted by the Faculty of Indigenous Medicine, University of Colombo in collaboration with the Western Provincial Department of Ayurveda.

Guided by the shared theme "*Sustainability and Innovation in Traditional Medicine for Holistic Approach*," these gatherings embody our shared responsibility to safeguard ancient knowledge systems while embracing new possibilities for healing and well-being. They reaffirm the relevance of nature-based wisdom and encourage transformative research that bridges tradition with modern science.

This abstract book is more than a compilation of research; it is a testament to intellectual curiosity, scientific rigor, and cultural preservation. Each contribution enriches a collective tapestry of knowledge that transcends borders and disciplines.

We are deeply grateful for the gracious presence of our distinguished guests, whose encouragement has lent dignity and strength to this endeavor. I also extend heartfelt appreciation to the Western Provincial Department of Ayurveda for their invaluable collaboration, and to the respected Vice Chancellor, the Dean, our academic and administrative staff, non-academic staff, and organizing committees for their tireless dedication.

On behalf of the Organizing committee, I extend my deepest appreciation to all who have contributed to making these conferences a resounding success.

May these deliberations inspire deeper inquiry, meaningful dialogue, and lasting collaboration, reaffirming Ayurveda's role in advancing global health.

Dr. P.A.S.N. Silva
Conference Coordinator (Ayurveda) - 12th *i*CAUST 2026
Senior Lecturer
Faculty of Indigenous Medicine
University of Colombo
Sri Lanka

Message from the Conference Coordinator (Unani)



It is my great pleasure to extend this message as the Conference Coordinator – Unani on the 12th International Conference on Ayurveda, Unani, Siddha and Traditional Medicine (*i*CAUST-2026) and Ayu Prasadhani - 1st International Conference and Exhibition hosted by the Faculty of Indigenous Medicine (FIM), University of Colombo in collaboration with the Western Provincial Department of Ayurveda. Consecutively, international research conferences organized by the Faculty of Indigenous Medicine are growing in magnitude, serving as an important milestone and a source of disseminating research innovations. The theme of the conference is "*Sustainability and Innovation in Traditional Medicine for Holistic Approach*". This conference provides a common platform for national as well as international academics, researchers, scholars, experts, medical officers, undergraduates and postgraduates students for disseminating their knowledge and experiences gained in the field of research in the indigenous medicine.

Organizing and executing a scientific research conference in this caliber in an international platform is not a simple task. Therefore, I specially congratulate all the national and international authors and the presenters for their contribution and participation in this conference.

I would like to extend my sincere gratitude to, the Vice-Chancellor, University of Colombo and the Dean, Faculty of Indigenous Medicine for their invaluable guidance throughout the conference. Further, the success of the conference is powered by the excellent collaboration and commitment of academic and non-academic staff of the faculty and the commissioner, Western Provincial Department of Ayurveda and his team. Therefore, I express my sincere thanks to all. I appreciate the support rendered by the Registrar, Bursar and IT staff of the Faculty of Indigenous Medicine. In addition, my thanks are also due to all keynote speakers for delivering their insightful keynote address.

Thank you

Dr. A.A. Rizwana
Conference Coordinator (Unani) - 12th *i*CAUST 2026
Senior Lecturer
Faculty of Indigenous Medicine
University of Colombo
Sri Lanka

Education and Knowledge Transfer in Ancient India



Education is process or methodology to impart information or skill. The technics used in ancient India to proliferate and disseminate the knowledge and skill was very versatile and still has many facets to be used. The basic process starts with the aim "To develop one-self to counter act with surrounding interactions".

This education process has to parallel arms.

1. Learning
2. Teaching

Learning is the process that imparts the excellence to conceive information or skill, while teaching is the process to deliver these. In Indian system the learning process starts even without teaching and commonly it is said that it starts since intrauterine life. The philosophies thoroughly discussed the components of learning or education even before the intra uterine life. Ayurveda has also such a type of opinion or theme as the *Karana Sharir* or *Sukshma Sharir* and different *Bhavas* play an integrated role to sum-up the knowledge system of individual.

Thus, the teaching process needs vividly integrated methodology to cope the demand of the individual (*Trividh Shishya*) having the different learning capacity.

Professor C. S. Pandey
Department of Siddhant Darshan
Faculty of Ayurveda,
Institute of Medical Sciences
Banaras Hindu University,
Varanasi
India

Preserving Principles, Strengthening Evidence: Shaping the Future of Unani Medicine



Unanimity Medicine stands at a critical stage in its historical evolution. Its enduring foundations in Fundamentals of Unani Medicine (*Kulliyat)*, its rich clinical tradition of Clinical Practice (*Matab)*, and its extensive materia medica (*Advia)* provide a distinctive and comprehensive approach to health promotion, disease prevention, diagnosis, and therapeutics. Its relevance, however, must be sustained not by tradition alone, but by a renewed commitment to scientific enquiry, ethical clinical practice, quality assurance, patient safety, and constructive engagement with contemporary healthcare.

This keynote highlights the complementary roles of Unani General Medicine and Unani Pharmacology in strengthening the future of the system. Clinical practice must be supported by systematic documentation, appropriate outcome assessment, critical appraisal of evidence, rational therapeutics, informed consent, and continuous pharmacovigilance. Equally, pharmacological research must ensure proper identification, authentication, standardization, quality control, and safety evaluation of single drugs and compound formulations. Such research should investigate therapeutic potential rigorously while preserving the holistic principles, temperament-based understanding, and formulation logic that define Unani therapeutics.

The keynote emphasizes that preservation of tradition and scientific investigation are not opposing objectives. Classical knowledge requires accurate documentation, critical interpretation, ethical protection, and responsible transmission to future generations. Scientific research, when based on suitable methodologies, can validate, refine, and strengthen Unani practice without distorting its conceptual identity.

The address also underlines the value of collaboration among Ayurveda, Siddha, and Unani Medicine in areas such as research methodology, pharmacovigilance, medicinal-plant quality assurance, education, safety monitoring, and evidence generation. Such collaboration should promote shared progress while respecting the distinct philosophy and therapeutic identity of every system.

The way forward calls for stronger institutional research capacity, well-designed clinical studies, improved drug standardization, active safety surveillance, competent education, ethical practice, supportive policy, and national and international partnerships. The keynote concludes that Unani Medicine can remain a credible, relevant, and patient-centred healthcare system by preserving its principles with integrity and strengthening its evidence with scientific rigour.

Professor V. Habibullah
Head/ Department of Ilmul Jarahat (Unani Surgery)
The Tamil Nadu Dr. MGR Medical University
Chennai
India

Research and Innovation in Indigenous Medicine: Challenges, Opportunities and the Way Forward



The Siddha system of medicine offers a comprehensive and holistic approach to health, encompassing disease prevention, treatment of physical and mental ailments, health promotion, and longevity. This philosophy is reflected in Siddhar Thirumoolar's *Thirumanthiram* (Verse 725), which describes medicine as that which cures physical and mental ailments, prevents diseases, and bestows immortality. This multidimensional perspective emphasizes the interconnectedness of physical, psychological, environmental, and spiritual well-being.

The COVID-19 pandemic highlighted the need for resilient, accessible, preventive, and integrative healthcare approaches. Alongside modern biomedical interventions, Siddha medicine received considerable attention in India, particularly in Tamil Nadu, for its potential complementary role in symptomatic management, supportive care, and post-COVID recovery. This experience underscored the importance of systematically evaluating Indigenous medical interventions through rigorous scientific research.

Siddha medicine possesses a rich textual heritage, extensive pharmacopoeia, diverse therapeutic principles, and specialized practices such as Varmam and Kayakarpam. Its preventive, curative, and rejuvenative approaches offer research opportunities in chronic disease management, healthy ageing, and quality-of-life improvement. However, Indigenous pharmaceutical research faces challenges involving raw-material variability, standardization of complex formulations, quality control, safety assessment, limited multicentric clinical evidence, inadequate research infrastructure, regulatory complexities, and international acceptance.

Emerging technologies, including chromatographic fingerprinting, metabolomics, systems biology, molecular pharmacology, nanotechnology-based drug delivery, artificial intelligence-assisted drug discovery, and computational approaches, offer opportunities to identify bioactive constituents, elucidate mechanisms of action, assess safety, optimize formulations, and establish reproducible quality standards. Such scientific advancement must respect the fundamental principles and identity of Indigenous medicine, using contemporary methodologies to document, understand, validate, and strengthen traditional knowledge rather than reduce it to a single biomedical framework.

In conclusion, Indigenous medicine offers significant opportunities to address contemporary and emerging healthcare challenges through its holistic philosophy, preventive orientation, and therapeutic diversity. Integrating traditional wisdom with modern pharmaceutical and biomedical sciences, supported by credible evidence and appropriate regulatory oversight, can advance innovation, strengthen public health, and contribute to global healthcare while preserving the distinctive identity and heritage of Indigenous medical systems.

Professor N. Kabilan,
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The Tamil Nadu Dr. MGR Medical University
Chennai
India

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Abstracts

MORPHOMETRIC ANALYSIS OF TIBIAL PLATEAU AND ITS APPLICATIONS IN KNEE ARTHROPLASTY

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The tibial plateau is essential for knee stability and weight-bearing. Its morphometry is important in total knee arthroplasty (TKA), and population-specific data can help improve implant design and surgical planning. This study aims to assess the morphometric features of the tibial plateau and their significance in knee arthroplasty. Thirty dry adult human tibiae (15 right and 15 left) of unknown sex, sourced from the Department of Rachana Sharir, National Institute of Ayurveda, Jaipur, were analyzed using standard osteometric methods. Measurements were statistically evaluated, and side-wise differences were assessed using the independent samples t-test, with $p < 0.05$ considered significant. The medial condyle showed mean anteroposterior dimensions of 48.69 ± 3.89 mm and 46.89 ± 4.07 mm, while the transverse dimensions were 33.15 ± 1.76 mm and 34.20 ± 2.55 mm on the right and left sides, respectively. The lateral condyle demonstrated mean anteroposterior dimensions of 41.11 ± 2.91 mm on the right and 42.31 ± 3.45 mm on the left, whereas the transverse dimensions were 33.17 ± 2.22 mm and 32.71 ± 2.26 mm, respectively. The mean transverse dimension at the intercondylar eminence was 10.46 ± 1.58 mm on the right side and 10.90 ± 3.14 mm on the left side. The mean anteroposterior dimension of the intercondylar area measured 46.66 ± 4.49 mm on the right side and 42.49 ± 4.36 mm on the left side. Statistical analysis revealed that all parameters exhibited no significant bilateral differences except the anteroposterior dimension of the intercondylar area, which was significantly greater on the right side ($p = 0.015$). The tibial plateau showed considerable bilateral symmetry, supporting the use of standardized prosthetic components. However, variation in the intercondylar area highlights the need for careful preoperative assessment to optimize implant fit and surgical outcomes in TKA.

Keywords: Morphometric analysis**,** tibial plateau**,** knee arthroplasty

EXPLORING THE UNANI CONCEPT OF *MALIKHOLIYA* (DEPRESSION) IN LIGHT OF MODERN NEUROPSYCHIATRY

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Depression is a major global health burden with increasing prevalence. According to modern medicine the patho physiology of depression is understood as a complex interplay of neurobiological dysregulation including neurotransmitter alterations, neuro endocrine imbalances and neurostructural disruptions as well as psychological, genetically and socials factors too. Long before the development of modern psychiatry, Unani medicine, has spoken about a comparable condition in terms of *Malikholiya*. Unani medicine attributes Malikholiya to imbalance in the bodily humors specifically *Saudha* (Black bile). abnormal predominance of *Saudha* (*Ghalba e saudha*) or burnt *Saudha* (*Ghair tabai saudha*) affecting the brain and mental functions. This study aims to explore the concept of *Malikholiya* in terms of historical descriptions, etiological factors, clinical presentation and treatments approaches and examine it in the context of contemporary neuropsychiatric understanding of depression. Through identifying the areas of convergence and divergence between these two paradigms, the study seeks to highlight the potential integrative approaches to obtain a more holistic mental health care and a qualitative comparative literature review was conducted. Primary historical Unani texts were analyzed for descriptions of *Malikholiya* including definitions, classification, etiological factors, pathophysiological explanations, sign and symptoms and management approaches. Secondary literature was extracted from PubMed, Scopus and google scholar using the keywords *Malikholiya, Saudha*, Neuropsychiatry and depression. Then the extracted information was cross examined to a comparative thematic analysis to asses the areas of convergence and divergence between the Unani and modern perspectives. This study analysis reveals significant thematic similarities between Unani theory of *Ghalba e saudha* and modern concepts of Gut brain axis dysregulation, systemic inflammation and neuroendocrine stress response. Unani therapeutic approaches of humoral clearance align with modern neurochemical stabilization and somatic therapies. Though both paradigms differ in the diagnostic terminology and underlying mechanistic models.

Keywords: *Malikholiya, Saudha*, Unani, Depression, Neuropsychiatry

LAOOQ-E-KHIYARSHAMBAR FOR CHRONIC BRONCHITIS (*WARAM-E-SHOAB MUZMIN*): A SYSTEMATIC REVIEW OF PRECLINICAL EVIDENCE AND PHARMACOLOGICAL RATIONALE

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Chronic bronchitis, a common respiratory disease worldwide, in which 15% of people over 50 years have a persistent productive cough. In Unani medicine an alternative treatment is with '*Laooq-e-Khiyarshambar*' a polyherbal formulation containing '*Asl-us-Soos* (*Glycyrrhiza glabra*), *Khiyarshambar* (*Cassia fistula*), *Sapistan* (*Cordia myxa*), *Katira* (*Cochlospermum religiosum*), and *Qand Safaid* (sugar)'. This study aims to review the systematic scientific, pharmacological, and clinical evidence of *Laooq-e-Khiyarshambar* and its ingredients in chronic bronchitis (*Waram-e-Shoab Muzmin*), and to relate the findings with classical Unani pharmacology. A systematic review was performed using the PRISMA 2020 guidelines. The PubMed and Google Scholar databases were searched comprehensively (2015-2025) and Unani classical texts (*Al-Qanun fi'l Tibb*, *Makhzan al-Mufridat*). Eligibility was established by the PICOS framework: Population (animal models of respiratory disease), Intervention (*Laooq-e-Khiyarshambar* or ingredients), Comparator (vehicle or standard treatment), Outcome (anti-inflammatory, immunomodulatory, antioxidant, bronchodilator effects), and study design (in vivo, in vitro, Unani texts). After screening, 45 studies were included out of 262 initial records, excluded as 67 due to duplicates, 95 as irrelevant records, 27 as insufficient data and 28 as unavailable full text. Quality assessment was done with SYRCLE's tool, AMSTAR-2 and GRADE. Unani-modern correlation was performed using thematic synthesis. Ingredients have preclinical pharmacological activities relevant to chronic bronchitis. In Lipopolysaccharide-induced acute lung injury model, *Asl-us-Soos* significantly suppressed proinflammatory cytokines (TNF-α, IL-1α, IL-6), inhibited NF-κB/ TLR-4 pathways, decreased inflammatory cells infiltration and downregulated COX-2/ iNOS ($p<0.05$). *Khiyarshambar* exhibited anti-inflammatory activity with IC_{50} value of 6.23 mg/mL (5-Lipoxygenase) and potent antioxidant activity with DPPH IC_{50} = 315 µg/mL. In vitro antioxidant (IC_{50} = 132.53 µg/mL), anti-inflammatory (45.16% inhibition) and antimicrobial activity with HPLC-PDA confirming of catechin, chlorogenic acid and naringenin in S*apistan. Katira,* antioxidant (EC_{50} = 2.72 µg/mL DPPH) and antimicrobial activities. Correlation analysis, revealed that, positive correlation between the Unani description (*Mizaj*/temperament), ethnomedicinal properties (*Af'al*) and the modern pharmacological evidence (*Istemal*/therapeutic applications). The ingredients used in '*Laooq-e-Khiyarshambar*' have strong preclinical evidence for their traditional use in chronic bronchitis. There is a need of well-designed RCTs to validate *Laooq-e-Khiyarshambar*' as an evidence-based therapeutic option, along with standardization protocols and mechanistic synergy studies.

Keywords: *Laooq-e-Khiyarshambar*, Chronic bronchitis, *Waram-e-Shoab Muzmin*

CONSERVATIVE MANAGEMENT OF AVASCULAR NECROSIS OF THE BILATERAL FEMORAL HEADS USING *GANDHA THAILAM* AND INDIGENOUS EXTERNAL OIL THERAPIES: A CASE REPORT

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Avascular necrosis (AVN) of the femoral head is a progressive condition caused by impaired subchondral blood supply, resulting in bone ischemia, pain, restricted movement, and disability. This case report describes the conservative management of bilateral femoral-head AVN with oral *Gandha thailam* capsules and external *Narayana taila* and *Ashwagandha taila* therapies. A 46-year-old patient with radiologically confirmed bilateral AVN presented with severe bilateral hip pain, tenderness, restricted movements, and difficulty in walking, squatting, and performing daily activities for four months. No definite underlying causative factor was identified; therefore, management focused on pain relief, joint protection and preservation of mobility. *Gandha thailam* was selected for its traditional bone- and joint-supportive use, while the external oils were selected to reduce pain and stiffness. Each *Gandha thailam* capsule contained *Sesamum indicum* seeds (48.70%), milk, *Madhuca indica*, *Nardostachys jatamansi*, *Coleus vettiveroides*, *Rubia cordifolia*, *Foeniculum vulgare*, *Cyperus scariosus*, *Sida cordifolia* etc. The patient received two capsules twice daily for six months and external oil application twice weekly for twelve months. Pain was assessed using a 0–10 Visual Analogue Scale. Joint mobility was assessed using squatting ability and pain-free bilateral hip abduction in supine position; percentage improvement in range of motion was calculated. At twelve-month follow-up, the patient demonstrated approximately 90% overall symptomatic and functional improvement, including 95% pain reduction and approximately 90% improvement in joint mobility, with independent daily activities. No adverse events were observed, and follow-up radiology showed no further progression. This case indicates potential benefit as a conservative approach; larger prospective studies are required.

Keywords: Avascular necrosis, Femoral head, *Gandha thailam*, Case report

EFFICACY OF *ASHWAGANDHA* (*Withania somnifera (L.) DUNAL*) ON THYROID DISORDERS: A SYSTEMATIC REVIEW

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Thyroid disorders such as goiter, hypothyroidism and hyperthyroidism are increasingly prevalent worldwide and significantly impact endocrine health. Due to growing concerns over side effects of conventional therapies, herbal medicines are gaining attention for their safety and efficacy. In Ayurveda, *Withania somnifera (L.)* Dunal, commonly known as *Ashwagandha*, is a medicinal plant of the Solanaceae family, well-known as a *Rasayana* (rejuvenating), *Vajikarana* (aphrodisiac), and *Balya* (strength -promoting) medicine. Emerging research suggests its potential role in regulating thyroid hormones. Therefore, this systematic review aims to explore the therapeutic role of *Ashwagandha* in thyroid disorders based on Ayurveda and scientific perspectives. Literature searches were conducted in the electronic databases Google Scholar, PubMed and ScienceDirect using the search terms "Thyroid disorders" AND "*Ashwagandha*" in accordance with PRISMA guidelines. The inclusion criteria for the review encompassed freely accessible, peer-reviewed, full-length articles published only in the English language within a five-year period (2021 to 2026), while articles that were duplicated across the databases and considered irrelevant to the study through manual screening were excluded. The data extraction process was done using Microsoft Word and Excel software. Accordingly, a total of 997 articles were identified across the databases; however, only 573 articles were freely accessible in full form. Following the manual screening of the available articles, removal of duplicates and articles published in non-English languages, a final selection of 68 articles that met all eligibility criteria was selected for the systematic review. Analysis revealed that *Ashwagandha* roots present a multitude of bioactive compounds including withanolides and alkaloids, through which they exhibit endocrine modulating, antioxidant, adaptogenic and anti-inflammatory properties that suggest its potentiality in regulating thyroid hormones including the thyroid-stimulating hormone (TSH), triiodothyronine (T3) and thyroxine (T4) leading to healthy thyroid function.

Key words: *Ashwagandha*, Ayurveda, Thyroid disorders

AN EVALUATION OF INTEGRATIVE MANAGEMENT OF MIGRAINE USING AYURVEDA TREATMENTS AND ACUPUNCTURE: A CASE REPORT

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Migraine is a prevalent and disabling neurological disorder affecting approximately 1.2 billion individuals worldwide. It is characterized by recurrent episodes of moderate to severe headache accompanied by nausea, photophobia, and phono phobia, often preceded by aura in a subset of patients, which is similar to ardhawabhedaka in Ayurveda. The objective is to evaluate the management of migraine via an integrative model of treatment through Ayurveda and Acupuncture. Presenting a 45-year-old female with a one-year history of migraine with aura, experiencing severe attacks twice weekly that significantly impaired her daily activities. A treatment protocol was implemented, comprising Ayurveda internal medications *Prathyaksha dhatri kashaya* tablets and *Sitharama vati* (two tablets of each, administered twice daily for four weeks), together with *Sheersha thaila abhyanga* and *Nasya karma* using *Nirgundiyadee taila*. Concurrently, the patient underwent Acupuncture twice weekly for four weeks, followed by a four-week observation period. Standardized acupuncture points included DU20 (Baihui), EX-HN1 (Sishencong), EX-HN6 (Taiyang), ST8 (Touwei), LI4 (Hegu), and local points. Needle retention time was maintained for 20 minutes during each session. Following the intervention, migraine attack frequency decreased from Grade 4 to Grade 1, corresponding to an 83.3% reduction, while headache intensity demonstrated a 95% reduction on the VAS. Improvements were also observed in functional capacity and daily activities. No treatment-related adverse events were reported throughout the intervention or follow-up period. This case suggests that an integrative treatment combining Ayurveda and Acupuncture offers a safe and potentially effective approach to migraine. Further well-designed controlled studies with, larger samples are required to validate these findings.

Keywords: *Ardhawabedhaka,* Pain Management, Traditional Medicine, Alternative therapies, *Prathyakshadatri kashaya*

ROLE OF AYURVEDA INTERVENTION ALONG WITH MUD THERAPY IN THE MANAGEMENT ON *KITIBHA KUSHTA* (PSORIASIS): A CASE STUDY

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In Ayurveda, skin diseases are collectively categorized under *Kushta Roga*, which is further classified into *Maha kushta* and *Kshudra kushta* based on clinical presentation. Psoriasis can be correlated with *Kitibha kushta*, characterized by erythematous, scaly plaques, pruritus, and a chronic relapsing course. This case study aimed to assess the role of an integrated Ayurvedic treatment protocol with mud therapy in the management of *Kitibha kushta*. A 21-year-old female diagnosed with *Kitibha kushta* presented with whitish-grey circular scaly lesions involving the scalp, elbows, back, thighs, and lower limbs associated with severe itching for 11 months was admitted to the Indoor Patient Department of National Ayurveda Hospital, Rajagiriya, for 45 days treatment regimen. It was concluded that internal Ayurvedic medications, *Shodhana Karma* comprising *Virechana karma* and *Yoga vasti*, along with external therapies such as *Panchavalkala avagaha*, *Anithadi lepa* prepared with fresh herbal leaves and therapeutic mud application. Clinical outcomes were assessed using the Psoriasis Area and Severity Index (PASI) before and after treatment. Post -treatment evaluation demonstrated a marked reduction in PASI score, from 49.2% at baseline to 0% after treatment, with significant improvement in scaling, erythema, and lesion extent. The clinical improvement is consistent with the anti-inflammatory and immunomodulatory effects of the Ayurvedic interventions together with the cooling and skin-soothing effects of therapeutic mud. The results indicate that a combined approach of *Shodhana*, *Shamana*, and external therapies including mud therapy may be beneficial in managing *Kitibha kushta* (Psoriasis). However, further studies with larger sample sizes and controlled designs are required to validate these findings.

Keywords: Ayurveda, *Kitibha kushta*, Psoriasis, *Shodhana karma*, Mud Therapy

FORMULATION AND EVALUATION OF AN HERBAL FACE WASH USING A *PANCHAVALKALA* DECOCTION

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A favorable safety profile and bioactive richness of herbal cosmetics are attracting significant scientific interest. This study aimed to formulate and evaluate an herbal face wash using the *Panchavalkala* decoction, a classical Ayurvedic preparation derived from the barks of four plant species: *Nyagrodha (Ficus bengaenesis* Linn*.), Udumbara (Ficus glomerata* Roxb*.), Ashvatha (Ficus religiosa* Linn.), and *Parisha (Thespesia populanea* Soland ex Correa*).* Due to the unavailability of the *Plaksha* (Ficus lacor Buch-Ham) plant in Sri Lanka, it was not used. The formulated face wash was compared against a control formulation prepared without the herbal decoction. The *Pancavalkala* extract and face wash were prepared respectively, using the decoction and emulsification methods. Both preparations were evaluated for organoleptic and physicochemical properties. Statistical comparison of mean values was performed by ANOVA followed by Tukey's Multiple Range Test using SPSS statistical software. The herbal face wash sample exhibited a light brown color, a physiologically suitable pH of 5.50 ± 0.01^{b}, adequate spreadability (3.76 ± 0.00^{b} cm), and satisfactory foamability (up to 100.0 ± 1.1^{a} mL) while the control face wash displayed a white color, a physiologically suitable pH of 5.15 ± 0.01^{a}, adequate spreadability (3.96 ± 0.00^{a} cm), and satisfactory foamability (up to 102.0 ± 1.1^{a} mL). Both samples revealed a pleasant odor, smooth texture, good homogeneity, good washability, and no irritation. All evaluated parameters were within acceptable ranges comparable to the control. These results show that *Panchavalkala* decoction can be used to successfully construct a stable and effective herbal face wash, indicating its potential as a natural cosmetic ingredient with dermatological advantages.

Keywords: *Panchavalkala* decoction, Herbal face wash, Cosmetic products

CORRELATING *SIDDHA* CLINICAL FEATURES OF *MUGAVATHAM* WITH MODERN NEUROLOGICAL CLINICAL ASSESSMENT OF BELL'S PALSY: A LITERATURE REVIEW

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Mugavatham is a neurological disorder described in Siddha medicine under the eighty *Vatha* diseases and is characterized by facial deviation, unilateral facial weakness, deviation of the mouth, inability to close the eyelids, impaired speech, altered taste sensation, and facial asymmetry. These clinical features closely resemble peripheral facial nerve paralysis, particularly Bell's palsy. This literature review aimed to correlate the classical *Siddha* descriptions of *Mugavatham* with a comprehensive comparison of their clinical features and methods of clinical assessment remains limited and identify areas of convergence relevant to integrative healthcare. A structured literature review was conducted between December 2025 and June 2026 using classical *Siddha* texts, including *Yugi Muni Chinthamani, Agathiyar 2000, Pararasasekaram, Sekarasekara Vaithiyam,* and *Sarabendrar Vaithiya Muraigal*. Peer-reviewed articles indexed in PubMed, Scopus, and Google Scholar on Bell's palsy, facial nerve anatomy, diagnostic methods, and rehabilitation were also reviewed. Information on clinical manifestations, diagnostic approaches, and management principles was extracted and comparatively analysed. A total of 6 *Siddha* classical texts and 12 research articles were included in the review. The review demonstrated substantial agreement between the clinical descriptions of *Mugavatham* and the clinical presentation of Bell's palsy. Classical descriptions of *Mugakkonal, Kannimai Thiraikka Mudiyamai, Pechu Thadumattram, Suvaiyinmai,* and *Kanneer Peruguthal* demonstrated clear clinical correspondence with facial asymmetry, lagophthalmos, dysarthria, ageusia, and epiphora recognised in peripheral facial nerve paralysis. Common features included facial deviation, inability to close the eye, drooping of the angle of the mouth, impaired forehead movement, drooling of saliva, difficulty speaking, and impaired mastication. *Siddha* diagnostic methods, particularly *Envagai Thervu* with emphasis on *Nadi* and *Vizhi,* complement modern neurological assessment using clinical examination and, further evaluate these manifestations through neurological examination and standardized grading systems, including the House–Brackmann Facial Nerve Grading System. Classical therapeutic approaches, including *Thokkanam, Nasiyam,* and *Pichu,* were consistently described as supportive interventions. The findings demonstrate considerable convergence between *Siddha* clinical observations and modern neurological clinical assessment. The reviewed literature demonstrates substantial clinical similarities between *Siddha* and modern clinical presentation of Bell's palsy. These findings support further interdisciplinary research to evaluate Siddha diagnostic approaches and complementary therapies within evidence-based, sustainable, and integrative neurological care.

Keywords: *Mugavatham*, Siddha medicine, Facial paralysis, Bell's palsy, Neurological diagnosis

MOLECULAR DOCKING ANALYSIS OF SIDDHA FORMULATION *THALAISUTTRU KIRUKIRUPPU KUDINEER* TARGETING ANGIOTENSIN- CONVERTING ENZYME (ACE) FOR HYPERTENSION MANAGEMENT

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Hypertension is one of the leading cardiovascular disorders and a global health challenge. According to the WHO, an estimated 1.4 billion adults aged 30–79 years were living with hypertension in 2024, with nearly 44% of affected individuals unaware of their condition. In Siddha medicine, hypertension is correlated with *Kuruthi Azhal Noi*, and the classical formulation *Thalaisuttru Kirukiruppu Kudineer* has traditionally been used for its management; however, scientific evidence supporting its underlying mechanism of action remains limited. This study aimed to evaluate the binding affinity and interaction profiles of phytoconstituents present in *Thalaisuttru kirukiruppu kudineer* against angiotensin-converting enzyme (ACE; PDB ID: 1O86) using molecular docking analysis. Seventeen bioactive phytoconstituents were selected from the constituent herbal ingredients based on a literature review. The human ACE structure (PDB ID: 1O86) was retrieved from the Protein Data Bank, while ligands were prepared using ChemDraw and optimized with the MMFF94 force field. Molecular docking was subsequently performed using AutoDock 4 with the Lamarckian Genetic Algorithm to analyze binding affinities, inhibition constants, and ACE active-site interactions, using Captopril as the reference ligand. Among the seventeen compounds, β-sitosterol (−8.55 kcal/mol) and thiamine (−8.50 kcal/mol) demonstrated the highest binding affinities, followed by glycyrrhizic acid (−7.80 kcal/mol), curcumin (−7.56 kcal/mol), cucurbitacin B (−6.55 kcal/mol), tinosporide (−6.28 kcal/mol), glabridin (−6.25 kcal/mol), and 6-gingerol (−6.16 kcal/mol). Several of these phytoconstituents exhibited key active-site interactions comparable to or stronger than Captopril, indicating potential ACE inhibitory activity. Overall, these findings suggest that the phytoconstituents of *Thalaisuttru Kirukiruppu Kudineer* possess promising ACE inhibitory potential, thereby supporting its traditional use in hypertension management, though further *in vitro, in vivo,* and clinical evaluations remain necessary to confirm therapeutic efficacy.

Keywords: Angiotensin-converting enzyme, Docking analysis, Hypertension

THE *IN-VIVO* STUDY ON ANTI-INFLAMMATORY EVALUATION OF THE NANO HERBO-MINERAL FORMULATION - *LINGA CHENDURAM*

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Linga Chenduram (LC), a herbo-mineral formulation mentioned in Siddha classical literature, is traditionally used to treat various ailments, including sexually transmitted diseases, syphilis, uterine infections, and syphilitic gummas. This study aimed to evaluate its chronic anti-inflammatory activity in Wistar albino rats using the Cotton Pellet-Induced Granuloma model for inflammation. LC was prepared through a traditional process involving the incineration of purified *Lingam* (Cinnabar), *Thirugukalli* latex (*Euphorbia tortilis* Rottler ex Ainslie), *Utthamani* flowers (*Pergularia daemia* (Forsk.) Chiov), and *Vellaierukkam* flowers (*Calotropis procera* (Aiton) W.T. Aiton). For the anti-inflammatory assessment, rats were divided into five groups: a normal control, an inflammatory control, a standard drug group receiving indomethacin, and two treatment groups receiving LC at doses of 3 mg/kg and 6 mg/kg. The results revealed a significant reduction in granuloma weight in the LC-treated groups, with the 6 mg/kg dose showing effects comparable to indomethacin ($P < 0.001$). Additionally, LC significantly reduced white blood cell count and erythrocyte sedimentation rate (ESR), indicating its potential to modulate immune responses in chronic inflammation. The findings indicate that *Linga Chenduram* possesses significant anti-inflammatory activity.

Keywords: *Linga Chenduram*, Anti-inflammatory activity, Siddha Medicine, *Lingam*, *Thirugukalli* latex

SARSAAM IN UNANI MEDICINE: A COMPARATIVE SYSTEMATIC LITERATURE REVIEW WITH MODERN CONCEPTS OF MENINGITIS AND ENCEPHALITIS

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Sarsaam, described in Unani Medicine as *Warm-e-Dimagh* (inflammation of the brain), is a classical neurological disorder characterized by fever, headache, delirium, altered consciousness, and neurological deficits. Classical Unani scholars such as *Ibn Sina and Al-Razi* described its etiology, classification, clinical features, and management. Similar manifestations occur in Meningitis and Encephalitis. This study aims to compare the conceptual framework, clinical features, diagnostic approaches, and management of *Sarsaam* with meningitis and encephalitis. A systematic literature review was conducted according to PRISMA 2020 guidelines. Electronic databases and classical Unani texts were reviewed that published from 2005 to 2025. Relevant literature was selected using predefined inclusion and exclusion criteria, and the findings were synthesized qualitatively. Twenty-seven studies were reviewed and analyzed. As a result, *Sarsaam* showed substantial overlap with meningitis and encephalitis regarding fever, severe headache, delirium, altered consciousness, and neurological impairment. Unani Medicine attributes *Sarsaam* to *Akhlat* (humoral) imbalance and altered *Mizaj* (temperament), whereas modern medicine emphasizes infectious and immune-mediated mechanisms. Unani management includes regimental therapy, diet, pharmacotherapy, and *Fasd* (venesection), while modern treatment relies on cerebrospinal fluid analysis, neuroimaging, and antimicrobial, antiviral, or immunomodulatory therapy. Finally, *Sarsaam* demonstrates significant clinical similarities with meningitis and encephalitis despite differing theoretical concepts. Further clinical and experimental research is required to scientifically evaluate Unani therapeutic approaches and their potential role in contemporary neurological care.

Keywords: *Sarsaam*, Encephalitis, *Fasd*, Meningitis, Unani Medicine

DEVELOPMENT AND STANDARDIZATION OF A VINEGAR FORMULATION BASED ON *SHANDAKI* DESCRIBED UNDER *SANDHANA KALPANA*

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Shandaki is an acidic fermented preparation described under *Shukta Kalpana*, a category of Sandhana Kalpana in Ayurveda. *Shandaki* is mentioned in several Ayurvedic classical texts, but its exact formulation, preparation method and fermentation duration are not clearly defined. This study was conducted to review the formulations described in Ayurvedic literature and research papers and develop a vinegar product based on *Shandaki*, and evaluate its standardization parameters.
A literary review of classical texts and research publications was done to identify the ingredients and preparation methods of *Shandaki*. Radish roots and Mustard seeds were selected as ingredients according to *Sharangadhara Samhitha*. Additionally, salt was added to facilitate fermentation. Final ingredient proportions were established after four experimental trials, based on successful fermentation and desirable organoleptic characteristics. Final preparation consisted of 180g of sliced Radish, 20g of ground Mustard seeds and 5g of sea salt. These ingredients were mixed with 800ml of water and fermented for 7 days in a closed vessel. Fermentation started on the 2nd day and was completed at the 7th day. The developed *Shandaki* vinegar had a milky straw colour, strong acidic radish odour, sour taste, and slightly turbid appearance. The pH of the product was 3.2 at 29°C, confirming its acidic nature. Physicochemical analysis revealed an acidity of 0.3% as acetic acid, a specific gravity of 1.0062 ± 0.00 at 29.5°C, a residual ethyl alcohol content of 0.1%, and a total solid content of 1% (0.01±0.00 in 1ml). Phytochemical screening revealed the presence of flavonoids, glycosides, alkaloids, phenolic compounds, and saponins, whereas carbohydrates, proteins, and lipids were absent. TLC fingerprint analysis revealed the presence of same phytochemical constituents in both the raw materials and the final product. The product was successfully developed and standardization parameters were under acceptable limits. Results revealed that this preparation can be indicated as a healthy herbal vinegar as a food additive and as a functional food.

Keywords: *Shandaki*, Fermentation, Radish, Mustard, Vinegar

THE REVIEW ON *AGNIKARMA* AS A SUPERIOR PARA-SURGICAL PROCEDURE IN *SHALYA CHIKITHSA*

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Sushrutacharya has defined *Shalyatantra* as the operative intervention using *Yantra*, *Shastra, Kshara*, or *Agni* in the surgical management of various traumatic injuries and diseases, where *Agnikarma* is categorized as a potent para-surgical procedure. But at the same time, he praises *Agnikarma* for its therapeutic superiority. Hence, this study reviewed the surgical and therapeutic importance of *Agnikarma*, focusing on its classifications, indications, *Dahanopakarana-vidhi* (instruments and procedural techniques), clinical significance, and advantages over other treatment modalities, including *Bheshaja, Kshara, Shastra*, and *Raktamokshana*, based on the references from the *Brihattraya, Harita Samhita* and *Yogaratnakaraya*. This study identified more than 20 indications of *Agnikarma chikitsa*, including the treatment of *Vrana, Kaphaja gulma, Granthi, Bhagandara, Pleehodara, Yakritodara, Arshas, Visarpa, Visha, Vatavyadhi, Ashmari, Arbuda, Vridhi, Upadhansha, Kshudra Roga, Mukha roga*, *Mamsaja roga*, five of which belong to the *Ashta-mahagada*. It also found different classifications of *Agnikarma* based on the material used, site of application, pattern of intervention, and type of tissue involvement. The therapeutic effect of *Agnikarma* may be attributed to enhanced local blood circulation, improved tissue metabolism, pacification of aggravated *Vatadosha*, and the facilitation of tissue repair and regeneration in comparison to other surgical measures. Although classified as a para-surgical procedure, properly administered *Agnikarma chikitsa* results in significant pain relief, inflammatory modulation, hemostasis, and the eradication of disease, effectively preventing recurrence from a scientific perspective. Its broad range of indications for diseases particularly incurable by *Bheshaja, Shastra* and *Kshara* combined with these therapeutic benefits corroborates its curative superiority in the parlance of *Shalyachikitsa*. Further clinical studies are recommended to validate the effectiveness and safety of *Agnikarma*.

Keywords: *Agnikarma*, Para-surgical procedure, *Shalya chikitsa*

ROLE OF INTEGRATED INDIGENOUS AND AYURVEDA MANAGEMENT ON DIFFUSE IDIOPATHIC SKELETAL HYPEROSTOSIS (DISH) W.S.R. *ASTHI MAJJAGATA VATA:* A CASE STUDY

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Diffuse Idiopathic Skeletal Hyperostosis (DISH) is a chronic non-inflammatory musculoskeletal disorder characterized by progressive ossification of spinal ligaments and entheses, resulting in pain, stiffness, and restricted spinal mobility. In Ayurveda, DISH can be correlated with *Asthi-Majjagata vata*, where aggravated *Vata dosha* affects *Asthi* and *Majja dhatu,* leading to *Shoola (*pain*), Stambha (*stiffness*)* and impaired locomotor function. A 77-year-old male presented to the In-patient Department of *Kayachikitsa*, Ayurveda National Hospital, Rajagiriya, Colombo with chronic low back pain radiating to both lower limbs (right>left), numbness, heaviness, swelling of lower limbs, and difficulty in standing and walking for one year. MRI confirmed DISH with lumbar disc degeneration at L3–L4 causing spinal canal stenosis and nerve root compression. Assessment criteria included the Visual Analogue Scale (VAS) for pain, the Oswestry Disability Index (ODI) for functional disability, the Straight Leg Raise Test (SLRT), the Femoral Stretch Test (FST), Spinal Range of Motion (SROM), and Walking Distance Tolerance (WDT) were evaluated before and after treatment. The patient was managed for three weeks with *Shodhana* therapies (*Snehana*, *Swedana* and *Basti karma*) followed by *Shamana chikitsa*. Post-treatment, VAS decreased from 80% to 20%, ODI improved from 56% to 18%, SLRT improved from 40° to 80°, and FST became negative with improved SROM and WDT. Integrated Indigenous and Ayurvedic management demonstrated significant symptomatic and functional improvement in DISH correlated with *Asthi-Majjagata vata*. The findings suggest potential effectiveness of *Panchakarma*-based interventions in degenerative spinal disorders; however, further controlled clinical studies with larger sample sizes are needed.

Keywords: Diffuse idiopathic skeletal hyperostosis, *Asthi-Majjagata vata,* Integrated Medicine

FORMULATION AND EVALUATION OF AN HERBAL FACE SERUM INCORPORATING *PANCHAVALKALA* DECOCTION AND ALOE VERA GEL

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Ayurvedic skin care formulas are becoming more popular due to customer demand for plant-based cosmeceuticals. This study describes the formulation and physicochemical evaluation of a novel herbal face serum incorporating *Pancavalkala* decoction, an Ayurvedic combination of the bark extracts of *Nyagrodha (Ficus bengaenesis Linn.), Udumbara (Ficus glomerata Roxb.), Ashvatha (Ficus religiosa Linn.), Parisha (Thespesia populanea* Soland *ex* Correa*),* and *Plaksha (Ficus lacor Buch-Ham)* with Aloe vera gel, vitamin E, glycerin, and virgin coconut oil. The serum was formulated at a 100 mL scale, using phenoxyethanol as a preservative and Tween 20 as a surfactant. A control formulation was prepared without the *Pancavalkala* decoction. Both formulations were evaluated for organoleptic properties (colour, odour, texture, appearance, state, phase separation, homogeneity), pH, spreadability, washability, and skin irritation. The sample serum presented a dark brown colour attributable to the tannin-rich decoction, while texture, homogeneity, and physical state were comparable to the control. The pH of the face serum formulation (6.47 ± 0.01^{a}) fell within the physiologically acceptable range for facial skin care products (4.5 – 7.0). Spreadability was satisfactory in the face serum formulation (5.37 ± 0.01^{b} cm). No phase separation, skin irritation, or aggregation was observed. Statistical comparison of mean values was performed by ANOVA followed by Tukey's Multiple Range Test using SPSS statistical software. The results suggest that *Pancavalkala* decoction can be successfully incorporated into a face serum base without compromising key physicochemical parameters. This study provides a scientific foundation for further investigation into the clinical efficacy and safety of herbal cosmetic serums.

Keywords: *Panchavalkala*, Face serum, Herbal cosmetics

COMPARATIVE STUDY ON THE EFFECT OF *THANDULIYAKADI* AND *SARIVADI KASHAYA* WITH *BAHYA SNEHANA* IN THE MANAGEMENT OF ATTENTION DEFICIT HYPER ACTIVITY DISORDER IN CHILDREN

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The study aimed to assess the effectiveness of the *Thandulieyakadi* and *Sarivadi* decoction with *Bahya snehana* in alleviating symptoms of ADHD. The primary objectives were to provide symptom relief, enhance mental performance, and explore Ayurvedic solutions for ADHD with no side effects. This study sought to offer a holistic approach by utilizing Ayurvedic principles and methods, which emphasize the balance of mind and body. The comparative study was structured to compare the effectiveness of two Ayurvedic decoctions, *Thandulieyakadi* and *Sarivadi*, in managing ADHD symptoms. The study consisted of two randomly divided groups by registration, Group A and B with a sample size of 25 for each group. The study planned 60 days treatment period & 30 days follow up. ERC obtained from BMARI 2022/MAY with reg # ERC- BMARI/2022/009. Correlation analysis completed. Group 1 score was significantly higher than Group 2 p= 0.035, and Group 1was significantly younger on average. Effect on Total Reaction Time: Both groups showed highly significant changes in total reaction time (P<0.001). Overall, Group A, showed highly significant improvement across all symptoms scores of ADHD, compared to Group B. *Thanduliyakadi* decoction, in particular, showed a more pronounced effect on the total symptoms score sum of 12 behavioral items according to DSM 5. Each item is scored 0-6, giving a possible score range of 0-72 per visit. The outcome analyzed is the change in total symptom score from visit 1 (before treatment) to visit 2 (after treatment) and visit 3 (follow -up). Further research could expand on these findings and explore the long-term benefits of such treatments.

Keywords: maximum - ADHD, *Thanduleeyakadi kashaya, Sarivadi kashaya, Bahya snehana,*

THERAPEUTIC ROLE OF *ROGHANIYAT* (MEDICATED OILS) IN *AMRAZ-E-UZN* (EAR DISORDERS): AN *UNANI* PERSPECTIVE

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Amraz-e-Uzn (ear disorders) encompass a broad spectrum of conditions, including *Waja' al-Uzn*, *Waram al-Uzn, Tanin, Samam, Seilan al-Uzn*, and *Wasaq*. In the Unani system of medicine, these disorders are primarily attributed to *Su'-e-Mizaj* (derangement of temperament), *Akhlat* (humor) imbalance, *Iltihab* (inflammation), and *Mawad* (morbid matter). *Roghaniyat* (medicated oils) are an important component of *Ilaj bil Dawa* and have been widely prescribed in classical Unani literature for their analgesic, anti-inflammatory, demulcent, and emollient properties. This study aims to review the therapeutic role of *Roghaniyat* in managing *Amraz-e-Uzn* and to critically evaluate the available scientific evidence supporting its traditional applications. A narrative review was conducted by consulting classical Unani texts and electronic databases such as PubMed, Scopus, Google Scholar, and ScienceDirect for English-language articles published between 2000 and 2025, using keywords such as Unani medicine, medicated oils, ear disorders, otitis, otalgia, and tinnitus. Classical literature identifies several *Roghaniyat*, including *Roghan-e-Gul, Roghan-e-Baboona, Roghan-e-Kunjad, Roghan-e-Badam*, and *Roghan-e-Zaitoon* for the management of various ear disorders. Experimental studies indicate that these oils and their herbal constituents possess significant anti-inflammatory, antimicrobial, analgesic, antioxidant, and wound-healing activities, supporting their traditional use in relieving ear pain, reducing inflammation, softening impacted cerumen, and promoting tissue healing. However, well-designed clinical trials specifically evaluating Unani medicated oils remain scarce. Traditional knowledge, supported by emerging pharmacological evidence, suggests considerable potential for these formulations in ear care. Nevertheless, standardized formulations and rigorous clinical studies are essential to establish efficacy, safety, and a role in evidence-based integrative otological practice. The full paper will provide a detailed presentation and critical analysis of the available scientific evidence supporting the therapeutic applications of these oils.

Keywords: Unani Medicine, *Roghaniyat, Amraz-e-Uzn, Ilaj bil Dawa*, Medicated oils

IN-VITRO ANTHELMINTIC ACTIVITY AND PRELIMINARY PHYTOCHEMICAL SCREENING OF AQUEOUS *Acalypha indica* ROOT EXTRACT

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Acalypha indica is commonly used in Siddha medicine; however, its roots remain relatively unexplored despite traditional use for intestinal worm infections. Authenticated *A. indica* roots collected from Jaffna were shade-dried, powdered, and extracted with distilled water (1:10 w/v), yielding 2g from 25g of dried material (10% w/w). Anthelmintic activity of *A. indica* root aqueous extract against *Pheretima posthuma* was assessed at 50, 100, 150, and 200 mg/mL, using distilled water as the control and albendazole (10 mg/mL) as the standard reference drug. Each treatment group consisted of six worms maintained at 25-28^{0}C and 70-80% humidity, with three replicates per concentration. Paralysis was specified as absence of movement after gentle stimulation, while death was specified as complete inactivity and loss of body colour. Data were analyzed using one-way ANOVA followed by Tukey's HSD post-hoc test. Preliminary phytochemical screening indicated high levels of tannins and flavonoids, with slight presence of saponins, glycosides, and steroids. The aqueous extract exhibited significant dose-dependent anthelmintic activity, with paralysis/death times decreasing from 20.67 ± 1.15 / 38.67 ± 1.15 min at 50 mg/mL to 8.33 ± 0.58 / 15.33 ± 0.58 min at 200 mg/mL. These were significantly faster ($p<0.05$) than albendazole, which showed paralysis at 36.27 ± 0.27 min and death at 60.17 ± 0.41 min; the control showed no notable activity. The dose-dependent activity supports its traditional usage. As *P. posthuma* is a recognized model for preliminary in vitro anthelmintic screening, further studies and in vivo investigations are required to validate its clinical application.

Keywords: *Acalypha indica*, Anthelmintic, Phytochemicals, Siddha medicine

NANOMEDICINE BEFORE ITS SCIENTIFIC ERA: A COMPARATIVE TRADITIONAL - MODERN ANALYSIS

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Nanomedicine is widely regarded as a modern scientific advancement; however, classical Siddha pharmaceutics provides compelling evidence of nanoscale drug design practiced centuries ago by Siddhars. This study presents a comparative and interpretative analysis of ten classical Siddha *Parpam* and *Chendooram* formulations to demonstrate that their traditional preparation methods embody fundamental principles of modern nanomedicine. By correlating Siddha pharmaceutical processes - *Suththi* (detoxification), *Kalvathil araithal* (trituration), and *Pudam* (calcination) with contemporary nanoscience techniques, the study establishes Siddha medicine as an early empirical system of nanomedicine. The *Suththi* process utilizes plant extracts, milk, and fermented media that function analogously to green reducing and capping agents, enabling detoxification and surface functionalization of metals and minerals. Prolonged *Kalvathil araithal* facilitates intensive wet grinding and homogeneous mixing, corresponding to mechanical size reduction and pre-functionalization essential for nanoscale particle formation. Controlled *Pudam* cycles induce oxidation-reduction reactions, phase transformation, and nanocrystalline stabilization, closely resembling modern thermal annealing and nanoparticle maturation techniques. The resulting *Parpams* and *Chendoorams* exhibit key nanoparticle characteristics, including high surface-area-to-volume ratio, enhanced bioavailability, efficacy at micro to milligram doses, and exceptional shelf life. Comparative evidence from modern analytical studies further supports the presence of nanocrystalline metal oxides and sulfides. This study highlights that selected Siddha pharmaceutical processes may produce nanoscale materials with potential significance to nanoscience. However, this does not validate Siddha medicine as nanomedicine; further physicochemical, toxicological, and mechanistic studies are required to confirm their nanoscale properties and biological relevance.

Keywords: Siddha medicine, Nanomedicine, *Parpam, Chendooram*, Nanoparticle synthesis

TRADITIONAL POISON MANAGEMENT TECHNIQUE; *VISHA GALA*

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Poisoning remains a significant public health concern because many toxins produce rapid morbidity or mortality and spread quickly throughout the body. In Ayurveda, *Agada tantra* describes *Suuvisi visha upakrama* and *Chooshana* is considered one of the methods and the use of poison -absorbing medicated stones (*Visha gala*) is a user friendly and safer method. There are numerous formulations of *Visha gala*; however, some contain controversial ingredients which limit their practical use. This study was designed to prepare a Visha *gala* following the recipe of a Traditional Practitioner. This specific recipe was selected because the ingredients were easily approachable, affordable, and had been time- tested by the previous generations of the traditional practitioner. The formulation consisted of 1 inch of Stag horn (*Cervus elaphus*), ½ *kalan* of *Rajakatpuram* (*Cinnamomum camphora*), 1 *kalan Thiktha abin* (*Aloe vera*), ½ *kalan* of *China ala (Gynura pseudochina*), ½ *kalan* of *Perumkayam* (*Ferula assafoetida)*, ½ *kalan* of *Palmanikkam* (Copper Sulphate CuSO4.5H2O), and ½ *kalan* of *Mara aguru* (*Albezia lebbek)*. A 4-inch section from the proximal part of the stag horn was covered well with straw and burnt till all the straw completely ignited. Then it was cut into small pieces and rubbed on a stone till one surface became flat. The remaining ingredients were finely ground, mixed with 60ml of water, boiled and reduced to form a pulp. Then polished stag horn pieces were immersed in the preparation for five minutes on mild heat (40^0C – 60^0C), allowed to rest in the preparation for 24 hours, and finally rubbed and polished with a clean cotton cloth. Herbal raw material and Copper Sulphate were authenticated by the Faculty of Indigenous Medicine, University of Colombo. Staghorn was requested from the National Zoological Garden, Dehiwala and it was received after authentication. Standardization of coating conditions, including temperature (40–60°C), immersion time (5 minutes), and resting time (24 hours), was done. The preparation successfully produced smooth, hard, and uniformly coated medicated stones with measurable physical characteristics. The prepared stones demonstrated a mean weight variation and coating thickness, indicating good mechanical strength and uniformity. Furthermore, the prepared *Visha gala* provides a basis for subsequent laboratory studies to determine its physicochemical characteristics, stability, safety, and potential poison-adsorbing or poison-removing activity. If its efficacy and safety are subsequently established through appropriate experimental and clinical studies, the preparation may have potential value as a complementary traditional approach in poisoning management.

Keywords: *Visha gala, Agada Tantra*, Ayurveda, Poisoning, Toxin

INTEGRATING PHENOAGE BIOMARKERS WITH AYURVEDIC DIAGNOSTIC ASSESSMENT IN LONGEVITY PROGRAMS: A CONCEPTUAL FRAMEWORK

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Healthy ageing is becoming an important focus in preventive health and wellness practice. Many people who enter longevity programs now expect measurable evidence of health improvement, not only general well-being. Ayurveda has a strong foundation for healthy ageing through concepts such as *Rasayana, Prakriti, Agni, Bala, Ahara, Nidra, Dinacharya, Ritucharya,* and *Sadvritta*. However, Ayurveda-based longevity programs often have limited objective tools to monitor physiological change. This conceptual study aimed to develop a framework for integrating PhenoAge biomarkers with Ayurvedic diagnostic assessment in longevity programs. A conceptual review method was used. Classical Ayurvedic concepts related to longevity and preventive health were reviewed together with selected modern literature on PhenoAge, biological age estimation, preventive screening, and healthy ageing. The nine PhenoAge biomarkers, including albumin, creatinine, glucose, C-reactive protein, lymphocyte percentage, mean cell volume, red cell distribution width, alkaline phosphatase, and white blood cell count, were mapped with relevant Ayurvedic assessment areas such as *Prakriti, Vikriti, Agni, Bala, Dhatu status, Ahara, Nidra*, and *Manasika* status. The review generated a six-step integrative framework: baseline Ayurvedic assessment, baseline PhenoAge biomarker evaluation, biological age estimation, integrated interpretation, personalized Ayurveda-based longevity planning, and follow-up reassessment with referral when required. The proposed framework may support more personalized, measurable, and safety-oriented Ayurveda longevity programs. Further validation through expert review, feasibility testing, and prospective application in clinical or wellness settings is required.

Keywords: Ayurveda, PhenoAge, Biological age, Longevity, *Rasayana*, Integrative medicine

DEVELOPMENT AND STANDARDIZATION OF A TRADITIONAL POLYHERBAL OIL FORMULATION FOR SEXUAL WELLNESS AND VITALITY

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Traditional Sri Lankan medicine has long employed topical polyherbal oil preparations for sexual wellness, vitality and localized circulation. This study develops a standardized polyherbal oil for external application and establishes its quality parameters to ensure safety and reliability. The formulation was prepared using *Sesamum indicum* as the carrier, incorporating extracts of *Foeniculum vulgare*, *Cuminum cyminum*, and *Withania somnifera* using a standardized extraction process. Standardization was performed in triplicate, through physicochemical, phytochemical, heavy metal, microbiological and GC–MS analyses. The finished oil was yellow with a characteristic odour. Physicochemical analysis showed an acid value of 10.3 mg KOH/g and a peroxide value of 4.6 meq/kg. Lead was detected at 0.2 mg/L, while cadmium, arsenic, and mercury were all below 0.1 mg/L. Microbiological testing showed acceptable quality: total aerobic microbial counts <40 CFU/g, yeast and mould counts <10 CFU/g, no detectable *Staphylococcus aureus*, *Pseudomonas aeruginosa*, *Candida albicans*, or *Escherichia coli*. All testing results complied with WHO quality specifications. GC–MS identified β-pinene, *p*-cymene, anethole, and γ-terpinene as the principal volatile bioactive constituents. Published studies indicate these compounds have endothelium-independent vasorelaxant activity, improve local circulation and offer antioxidant protection against oxidative stress and peripheral nerve damage. This study establishes a reliable standardization framework for a traditional sexual-wellness polyherbal oil. The identified bioactive profile and published *in vitro* or *in vivo* data on each phytochemical provide a scientifically plausible basis for the formulation's claims. However, dedicated *in vitro, in vivo* and clinical studies on the finished product remain necessary to validate its therapeutic efficacy.

Keywords: Anethole, GC-MS Profiling, Vitality, Monoterpenes, Standardization

DEVELOPMENT AND PHARMACEUTICAL STANDARDIZATION OF *NAWAKARSHAKA KASHAYA*-BASED NOVEL POLYHERBAL CAPSULE FOR DERMATOLOGICAL CARE

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Nawakarshaka kashaya is Ayurveda polyherbal decoction widely used for the management of inflammatory skin disorders (*Kushtha roga*) and the relief of systemic burning sensations. However, its liquid form limits storage, transport, dose uniformity, and patient compliance. This study aimed to develop and standardize a novel capsule formulation of *Nawakarshaka kashaya* while establishing essential pharmaceutical quality parameters. Authenticated medicinal plants comprising *Coscinium fenestratum* (Gaertn), *Acorus calamus* L., *Terminalia chebula* Retz., *Terminalia bellirica* Roxb., *Phyllanthus emblica* L., *Tinospora cordifolia* (Willd.), *Rubia cordifolia* L., *Picrorhiza kurroa* Royle ex Benth, and *Azadirachta indica* L were processed using the traditional 8:1 decoction method, concentrated by spray-drying to yield 2 g of spray-dried powder, and encapsulated. As *Nawakarshaka Kashaya* is an established Ayurvedic formulation, standardization was performed on a single representative batch rather than multiple replicates, in accordance with WHO guidelines for moisture content, weight uniformity, disintegration, colouring matter, microbiological quality, heavy metals, and thin-layer chromatography (TLC) fingerprinting. Capsules showed 7.1% moisture content, an average weight of 0.2451 g (variation of −4.48% to +3.72%), and complete disintegration within 16 min 14 seconds; dissolution testing was not performed. Permitted synthetic colouring agents were absent. The total aerobic mesophilic count was 1.3 × 102 CFU/g, while *Staphylococcus aureus*, *Pseudomonas aeruginosa*, *Escherichia coli*, and *Candida albicans* were not detected. Cadmium, lead, arsenic, and mercury were below detection limits. TLC fingerprinting showed approximately 90–95% concordance with the formulation ingredients, confirming the characteristic chromatographic profile of the constituent medicinal plants. The formulation complied with the evaluated pharmaceutical quality and safety requirements, providing reference standards for routine quality control and batch-to-batch consistency of *Nawakarshaka* Capsule. Future studies should compare the therapeutic efficacy of the standardized capsule with the conventional *Nawakarshaka kashaya* to establish its clinical equivalence and suitability as an alternative dosage form.

Keywords: *Nawakarshaka kashaya*, Dermatological care, Polyherbal capsule, fingerprinting, Standardization

PHARMACODYNAMIC INSIGHTS INTO *MADHURA SKANDHA* HERBS FROM *CHARAKA SAMHITA* W.R.T. ANTIOXIDANT ACTIVITY

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Oxidative stress is associated with the pathogenesis of several chronic and degenerative disorders. Ayurveda describes preventive and restorative approaches through pharmacodynamic principles and *Rasayana* therapy. This study aimed to explore the potential relationship between the pharmacodynamic properties of herbs described under *Madhura skandha* in the *Charaka Saṃhita* and their documented antioxidant activities. A textual analysis of the *Charaka Saṃhitā* was conducted to identify relevant herbs and their *Rasa*, *Guṇa*, *Virya*, *Vipaka*, and *Prabhava*. These textual findings were compared with evidence from published pharmacological and biochemical studies on the antioxidant properties of selected herbs, including *Amalaki* (*Emblica officinalis*), *Haritaki* (*Terminalia chebula*), *Guḍuci* (*Tinospora cordifolia*), and *Sunti* (*Zingiber officinale*). The available evidence was comparatively analysed to identify possible relationships between Ayurvedic pharmacodynamic attributes and contemporary antioxidant mechanisms. The analysis indicated that the selected herbs possess documented antioxidant potential through mechanisms including free-radical scavenging, modulation of endogenous antioxidant enzymes, and protection against oxidative cellular damage. The Ayurvedic attributes, particularly *Madhura rasa*, *Vipaka*, and associated *Guna* and *Virya*, were found to provide a conceptual framework for interpreting their nourishing, stabilizing, and restorative effects in relation to oxidative stress. However, the relationship between Ayurvedic pharmacodynamic attributes and specific biochemical antioxidant mechanisms remains interpretive rather than directly equivalent. The findings suggest that integrating classical Ayurvedic pharmacodynamic concepts with contemporary pharmacological evidence may provide a useful framework for understanding the potential antioxidant relevance of traditional medicinal herbs.

Keywords: Antioxidant activity, *Madhura skandha*, *Charaka Saṃhita*, *Rasayana*, pharmacodynamics, oxidative stress

DEVELOPMENT AND PHARMACEUTICAL STANDARDIZATION OF TRADITIONAL *ERANDA SAPTHAKA KASHAYA* BASED NOVEL POLYHERBAL CAPSULE FOR LOCALIZED PAIN MANAGEMENT

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Eranda sapthaka kashaya is an Ayurvedic polyherbal decoction used for the management of localized musculoskeletal and pelvic pain involving the waist, thighs and kidney region. However, its conventional liquid dosage form presents limitations in storage, transportation, dose uniformity and patient compliance. This study aimed to develop and standardize a novel capsule formulation of *Eranda sapthaka kashaya* while establishing essential pharmaceutical quality parameters for routine quality control. Authenticated medicinal plants comprising *Ricinus communis Linn., Aegle marmelos Linn., Solanum melongena Linn., Solanum virginianum Linn.*, *Citrus japonica Thunb.*, *Aerva lanata Linn.* and *Tribulus terrestris Linn.* together with *Ferula asafetida Linn.* and rock salt were processed using the traditional 8:1 aqueous decoction method. The concentrated extract was dried, blended with pharmaceutical excipients and encapsulated. Standardization followed WHO quality control guidelines by evaluating moisture content, weight uniformity, disintegration, colouring matter, microbiological quality, heavy metals and thin-layer chromatography (TLC) fingerprinting. The capsules exhibited a moisture content of 10.2%, an average weight of 0.2397 g, weight variation between −5.93% and +8.63%, and complete disintegration within 16 min 14 s. Permitted synthetic colouring agents were absent. The total aerobic mesophilic count was 9.6×10^1 CFU/g, while *Staphylococcus aureus*, *Pseudomonas aeruginosa*, *Escherichia coli*, and *Candida albicans* were not detected. Cadmium, lead, arsenic and mercury were below detection limits. TLC fingerprinting showed approximately 90–95% concordance with the formulation ingredients, confirming the characteristic chromatographic profile of the constituent medicinal plants. The formulation complied with the evaluated pharmaceutical quality and safety requirements, providing reference standards for routine quality control and batch-to-batch consistency of *Eranda sapthaka* capsules.

Keywords: Disintegration, *Eranda Sapthaka Kashaya*, Laxative, Localized Pain

THERAPEUTIC POTENTIAL OF *TOOT SIYAH* (*Morus nigra* Linn.) IN WOUND HEALING: A SYSTEMATIC REVIEW

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Toot Siyah (*Morus nigra* Linn.), commonly known as black mulberry, has been widely used in the Unani system of medicine for the management of wounds and various inflammatory disorders. This systematic review aimed to critically evaluate the available experimental evidence on the wound-healing potential of *Morus nigra* and its underlying pharmacological mechanisms. A comprehensive literature search was conducted using PubMed, Scopus, Google Scholar, ResearchGate and other scientific databases to identify relevant studies published during the past ten years. Original in vitro and in vivo studies investigating the effects of *Morus nigra* extracts and their bioactive constituents on wound healing were included. The reviewed studies consistently demonstrated that *Morus nigra* possesses significant wound-healing activity by promoting tissue regeneration, accelerating wound contraction, enhancing collagen deposition, reducing inflammatory responses, suppressing microbial growth, and minimizing oxidative stress. Phytochemical investigations revealed that the plant is rich in phenolic compounds, including anthocyanins, flavanols, chalcomoracin, moracin, rutin, isoquercitrin, astragalin, quercetin, and kaempferol derivatives, which exhibit potent antioxidant, anti-inflammatory, and antimicrobial properties. These bioactive compounds act synergistically to facilitate different stages of the wound-healing process, including inflammation, proliferation, and tissue remodeling. Overall, the available evidence provides strong scientific support for the traditional use of *Toot Siyah* in wound management and highlights its potential as a promising natural therapeutic agent. However, well-designed clinical trials and standardized herbal formulations are required to confirm its efficacy, safety, optimal dosage, and therapeutic application in human wound care.

Keywords: *Morus nigra*, Wound healing, Antioxidant, Antimicrobial, Phytochemicals

FROM *MIZAJ* TO MOLECULES: EXPLAINABLE AI FOR EVIDENCE-BASED VALIDATION OF UNANI HERBAL MEDICINES

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This study develops and demonstrates a prototype Explainable AI (XAI) framework that integrates classical Unani pharmacological principles, phytochemical data, and experimental pharmacological evidence to generate transparent, interpretable validation of anti-inflammatory herbal formulations. Two NFUM-listed formulations were comparatively analysed: *Habbe Surinjan* (5 ingredients) and *Qurs Aujai* (24 ingredients). Each ingredient was mapped to key phytochemicals, anti-inflammatory molecular mechanisms, and Unani temperament (*Mizaj*) classifications using literature from 2022–2026. Binary pathway-targeting features (COX-2 inhibition, NF-κB suppression, NLRP3 inflammasome inhibition, cytokine modulation), evidence scores, and *Mizaj* encodings were compiled into a unified feature matrix (n = 29 ingredients). A Gradient Boosting Regressor was trained to predict a composite anti-inflammatory activity score, with permutation-based feature importance serving as a SHAP proxy for explainability. The results revealed that NLRP3 inflammasome inhibition (via colchicine from *Colchicum luteum*) and NF-κB suppression emerged as the highest-impact features driving predicted anti-inflammatory activity (permutation importance: 1.45 and 1.26, respectively). Eight key inflammatory pathways were found to be convergently targeted across both formulations. *Habbe Surinjan* exhibited a higher mean ingredient-level activity score (8.30 vs. 5.38) owing to its concentrated formulation design, while *Qurs Aujai* achieved greater total pathway coverage through its multi-ingredient complexity (total score: 129.0 vs. 41.5). The model achieved perfect predictive alignment with the composite scoring formula (training R^2 = 1.00, MAE = 0.012), validating the use of XAI for feature importance. This proof-of-concept demonstrates that an XAI framework can transparently identify mechanistic drivers of anti-inflammatory activity in Unani formulations, bridge classical *Mizaj* theory with molecular pharmacology, and generate expert-validation-ready explanations. The framework aligns with WHO Global Traditional Medicine Strategy 2025–2034 objectives for evidence-based traditional medicine integration.

Keywords: Unani medicine, *Habbe Surinjan, Qurs Aujai, Mizaj,* evidence-based traditional medicine

UNANI EFFECTS OF *SURINJAN TALKH* {*Colchicum luteum* (Baker)} IN THE VIEW OF MODERN SCIENCE: A REVIEW

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Corms of *Colchicum luteum* (Baker) (*CI*) under the Liliaceae family commonly known as *Surinjan Thalkh (ST)* in Unani system of Medicine, revealed in several Unani authentic texts for treating musculoskeletal disorders. According to the Unani literature, *Muhallil* (resolvent), *musakkin* (sedative), and *Dafe' Niqras* (against gout) are the main effects exposed by the *ST* and it is renowned as a superlative drug for treating arthritis and gout. The study aimed to liken the effects of *ST* Mentioned in Unani, to its phytochemicals. The data were collected from the Unani authentic books such as *Khazayinul Advia, Makhzanul mufradad,* and *Muhiyate A'zam,* and the electronic databases including Google Scholar, Science Direct, PubMed, Hinari, and Scopus using search terms such as Unani and modern views of *Surinjan* and phytochemicals of *Colchicum luteum* (Baker) for narrative review. The result disclosed that colchicine and veritine are the two key phytochemicals in *CI*. Colchicine provides its effects in case of arthritis as *Muhallil* by preventing the destruction of membrane protein tubulin, and acts in gout as *Dafe' Niqras by* preventing the formation of uric acid crystals in the joints. Veritine executes its effects in musculoskeletal disorders as *musakkin* through the agonist effect on inhibitory neurotransmitters of the central nervous system (GABA). It is concluded that the phytochemicals present in the *CI* are exploring the effects mentioned for the *ST* in the Unani authentic texts. Further, it is advisable to conduct more research to find the mode of action of these phytochemicals.

Keywords: *Surinjan Talkh, Colchicum luteum* (Baker), Phytochemicals, Veritine, Colchicine

VASCULAR VARIATIONS OF THE ABDOMEN: A CADAVERIC CASE REPORT

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Vascular variations of the abdomen are of considerable importance in anatomy and clinical practice as it influences surgical procedures, organ transplantation, and radiological interventions. The present study aimed to identify and document vascular variations in the abdomen including the branching pattern of the abdominal aorta and the drainage pattern of the inferior vena cava and portal venous system. This study was conducted during the routine cadaveric dissection of a 72-year-old male cadaver in the Cadaveric Dissection Unit, Department of Rachana Sharir, National Institute of Ayurveda, Jaipur. Abdominal dissection was performed according to the standard guidelines described in Grant's Dissector – Second South Asian Edition. After removal of the peritoneum and greater omentum, the abdominal viscera were examined in situ. The small intestinal loops were reflected from their mesenteric attachment to expose the abdominal aorta, inferior vena cava, portal vein, and their respective branches and tributaries for detailed observation. The right kidney was supplied by three separate renal arteries originating from the abdominal aorta, comprising a main hilar renal artery, a superior polar renal artery, and an inferior polar renal artery. In addition, the inferior mesenteric vein was observed to drain into the superior mesenteric vein instead of the splenic vein to form the portal vein, while the remaining arterial branches, inferior vena cava and its major tributaries followed the usual anatomical pattern. Although these variations have been described individually in previous studies, their coexistence in the same specimen is relatively uncommon. Awareness of such vascular variations is essential during renal transplantation, nephrectomy, abdominal vascular surgery, and portal venous interventions to minimize the risk of inadvertent vascular injury.

Keywords: Abdominal vascular variations, Cadaveric dissection, Case Report

IN SILICO IDENTIFICATION OF CYCLIN D1 INHIBITORS FROM *Curcuma longa* PHYTOCHEMICALS FOR ORAL CANCER PREVENTION

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Oral cancer remains a major public health concern, and dysregulation of Cyclin D1, a key regulator of the G1/S transition in thecell cycle, has been strongly implicated in oral carcinogenesis, promoting tumor growth and disease progression. Targeting Cyclin D1 activity therefore represents a promising strategy for therapeutic intervention. *Curcuma longa* (Turmeric), a perennial herb has gained attention for its potential role in oral cancer prevention, due to its rich composition of phytochemicals. This study aimed to identify phytochemical inhibitors of Cyclin D1 from *Curcuma longa* using an in silico molecular docking approach. Phytochemical data were compiled from published Gas Chromatography-Mass Spectrometry (GC-MS) studies, identifying 93 compounds. After SwissADME and Protox analysis considering criteria for drug-likeness, 30 compounds with favorable drug-likeness properties were selected. Further filtering was performed using PyRx 0.8 virtual screening with a blind docking approach, retaining compounds with binding affinities less than −6.0 kcal/mol. 19 compounds with the highest binding affinity were further validated by docking against Cyclin D1 (PDB: 2W9F) using CB-Dock2. The analysis revealed ar-turmerol (−8.0 kcal/mol) and tetrahydrocurcumin (−7.8 kcal/mol) with the highest binding affinities, forming hydrogen-bond interactions with key residues Arg209, Leu213, Phe214, and Leu229 that destabilize Cyclin D1 and Cyclin-Dependent Kinase-4 (CDK4) complex formation, thereby potentially preventing G1 to S phase cell cycle progression. Findings suggest that ar-turmerol serves as a high-affinity ligand against Cyclin D1, providing a computational basis for its application in oral cancer prevention. Further *in vitro* and *in vivo* studies are required to confirm its efficacy and safety.

Keywords: *Curcuma longa*, Cyclin D1, Molecular docking, Oral carcinogenesis, Swiss-ADME

CRITICAL EVALUATION OF AYURVEDIC DIETARY PRINCIPLES IN THE CONTEXT OF MODERN DIETARY TRENDS AND THEIR INTEGRATION INTO GASTRONOMY TOURISM: A NARRATIVE REVIEW

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The growing global interest in health-conscious eating, personalized nutrition, and cultural culinary experiences has created new opportunities to revisit traditional dietary wisdom. Ayurveda, one of the world's oldest holistic health systems, offers a comprehensive approach to nutrition that extends beyond mere nutrient intake and emphasizes the harmonious relationship between food, body, mind, and environment. A narrative review was conducted using classical Ayurvedic texts alongside relevant research publications identified through PubMed and Google Scholar. Studies published between year 2000 and 2025 were selected using predefined inclusion and exclusion criteria, and findings from 48 eligible articles were synthesized thematically. This study critically evaluates Ayurvedic dietary principles in the context of contemporary dietary trends and explores their potential integration into gastronomy tourism. Analysis revealed six major themes highlighting the relevance of Ayurvedic dietary principles to gastronomy tourism. The literature consistently emphasized *Prakriti*-based personalized nutrition, *Ashta ahara vidhi Vishesha ayatana* and *Ahara vidhividhana* (Ayurvedic dining rules), *Pathya Apathya* (wholesome and unwholesome foods) and *Viruddha ahara* (incompatible food combinations) for appropriate food selection, *Ritucharya* for seasonal dietary adaptation, the role of *Agni* in maintaining digestive health, metabolism and a healthy gut microbiome. Overall, these concepts demonstrated a strong alignment with modern perspectives on personalized nutrition, preventive healthcare, functional foods, and sustainable food systems. These findings demonstrate that Ayurvedic dietary principles closely align with contemporary nutrition and offer promising opportunities for wellness-oriented gastronomy tourism. Further collaboration among Ayurvedic scholars, nutritionists, culinary experts, and tourism professionals is essential to develop evidence-based and globally recognized healthy gastronomy models.

Keywords: Ayurveda, Dietary trends, Nutrition, Wellness tourism

EFFECTIVENESS OF AYURVEDA THERAPY IN THE MANAGEMENT OF *VATAHATA VARTMA* (PTOSIS): A CASE STUDY

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Vatahata vartma is a *Vataja vartmagata netra roga* described in *Ayurveda*, characterized by impaired eyelid function resulting in upper eyelid drooping. It resembles Ptosis in modern ophthalmology, where neuromuscular dysfunction leads to eyelid descent with visual and functional disturbances. The objective of this case study was to assess the clinical efficacy of an integrated *Ayurvedic* treatment protocol in the management of Ptosis. Although considered an *Asadhya vyadhi*, *Ayurveda* emphasizes *Vata shamaka, Brimhana*, and *Chakshushya* therapies. A 58-year-old female patient presented with left eye upper eyelid drooping associated with diplopia, ocular burning sensation, and visual discomfort at the OPD, National *Ayurveda* Hospital Sri Lanka was enrolled in this case study. Clinical assessment confirmed moderate ptosis using Marginal Reflex Distance (MRD) and Palpebral Fissure Height measurements. After excluding other possible causes, the patient was treated with an Ayurveda approach including *Bidalaka, Netra parisheka* and *Akshi tarpana* and oral medicines for 6 weeks. Significant clinical improvement was observed after treatments, with complete relief of eyelid drooping, diplopia, and ocular burning sensation. The patient reported 100% subjective improvement, with improvement in visual acuity from 6/12 to 6/9 and near vision from N10 to N6, and complete resolution of left eye ptosis was observed with restoration of eyelid position, reflected by improvement of MRD and Palpebral Fissure Height measurements. No recurrence or adverse effects were noted during follow-up. This case highlights the potential role of Ayurveda management in improving eyelid function and associated symptoms in patients with ptosis. Further clinical studies are recommended to validate these findings.

Keywords: *Vatahata vartma,* Ptosis, *Bidalaka, Netra parisheka, Akshi tarpana*

INTEGRATIVE TREATMENT APPROACH IN DIABETIC FOREFOOT OSTEOMYELITIS: A FIVE PATIENT CASE SERIES

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Osteomyelitis in diabetic foot is mostly the consequence of chronic soft tissue infection that spreads down to the bone. Most commonly (90%), the affected bones are of the forefoot. Although surgical debridement and antimicrobial therapy constitute the cornerstone of management, healing remains prolonged, and recurrence rate is high. This case series describes the outcomes of an integrative treatment approach in patients with diabetic forefoot osteomyelitis. This case series included five patients clinically and radiologically diagnosed with forefoot osteomyelitis secondary to diabetic foot ulcers (DFUs). All of the patients underwent surgical debridement with sequestrectomy and antimicrobial therapy, followed by systemic Ayurvedic medicines and local wound care with *S. leucopyrus* oil. The wounds were assessed using the DMIST (Depth, Maceration, Infection, Size, Type of wound bed, wound edge and Tunneling) score at baseline, mid-term and at the end. Follow-up radiographs demonstrated evidence of bone healing in all four cases. Progressive improvement was observed in the DMIST wound score in all cases. Healthy granulation was observed in 7-10 days post-surgery and progressive reduction in wound size was seen. Complete wound healing was achieved in all cases in a duration ranging from 20 to 60 days. Follow-up radiographs demonstrated evidence of bone healing in all cases. This case series suggests that an integrative management approach may contribute to successful wound healing and limb preservation in patients with diabetic forefoot osteomyelitis; however, larger controlled studies are needed to confirm these findings.

Keywords: Ayurveda, Diabetic foot ulcer, Osteomyelitis, *Katupila, Securinega leucopyrus*

EFFECTIVENESS OF THE ACTIVE PRINCIPLES OF *ARQ E AJEEB* IN GASTROINTESTINAL DISORDERS: A SCIENTIFIC REVIEW

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Functional gastrointestinal (GIT) disorders affect 40% of people globally and cause considerable economic and social impact on society. *Arq e Ajeeb* is a Unani liquid formulation consisting of *Jauhar-e-Ajwain* (extract of Trachyspermum ammi L.), *Jauhar-e-Pudina* (extract of Mentha arvensis L.) and *Jauhar-e-Kafoor* (extract of Cinnamomum camphora L.). *Arq Ajeeb* has been recommended in Unani Medicine since antiquity to treat numerous ailments such as *Nafakh-e-Shikam* (flatulence), *Ghisyan* (nausea), Qai (vomiting), *Sue hazm* (indigestion), *Waja-ul-Meda* (stomachache), *Ishal* (diarrhea), *Waja ul Fawad* (cardialgia), and *Qaulanj* (colic). Therefore, this scientific appraisal aimed to review the effectiveness of the active principles of *Arq e Ajeeb* in GIT disorders. A comprehensive literature review was conducted from classical Unani texts and peer-reviewed scientific journals, using electronic databases, including Google Scholar, PubMed, MEDLINE, Scopus, Science Direct, and Wiley Online Library. Research publications with the pharmacological properties of the intended herbs were included, while incomplete research articles and articles unavailable in full form were excluded. Out of 44 retrieved articles, 15were reviewed and analyzed. In vitro and animal studies were found on *Arq e Ajeeb* for its pharmacological properties but there were no clinical studies on *Arq e Ajeeb* with special reference to GIT disorders. The experimental model studies concluded synergistic action of menthol, thymol and camphor possesses antibacterial, antidiarrhoeal and analgesic effects. This review disclosed that *Arq e Ajeeb* contains active principles with effective pharmacological properties in the GIT in experimental models. in spite of various experimental and animal studies, the lack of comprehensive clinical trials aimed on evaluating the effects of *Arq Ajeeb* remained to be recon the traditional knowledge. Therefore, evidence-based clinical studies on a large scale are required to prove the efficacy of this formulation in human subjects.

Keywords: *Arq Ajeeb*, GIT disorders, pharmacological properties, Unani Medicine

SCIENTIFIC VALIDATION OF *MANJAN-E-SURKH* FOR *ILTIHAB-E-LISSA* (GINGIVITIS)

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Iltihab-e-Lissa (gingivitis) is an inflammatory gum disease caused by a dominance of humors (*Khilt-e-Ghalib*), such as *Dam*, *Safra*, or *Balgham,* affecting over one billion people worldwide. Manjan-e-Surkh, a classical Unani polyherbal formulation documented in the Pharmacopoeia of Hospital of Integrated Medicine, is traditionally utilized for oral hygiene and gum disorders. This study aims to scientifically validate its therapeutic potential for managing *Iltihab-e-Lissa*. A comprehensive literature search was done in classical books of Unani, pharmacopoeias, and databases like PubMed, Google Scholar, and Scopus. More than 50 pertinent articles were selected and analyzed. *Manjan-e-Surkh* is made up of *Tambaku* (*Nicotiana tabacum*), Filfil-e-Siyah (*Piper nigrum*), Gil-e-Armani (*Armenian bole*), Post-e-Haleela-e-Zard (*Terminalia chebula*), and Post-e-Beekh-e-Tadwar (*Cassia auriculata*). The pharmacological studies show that the constituents have anti-inflammatory, hemostatic, analgesic, astringent, and wound -healing properties. All these properties have proven to be effective in treating various symptoms of *Iltihab-e-Lissa*, such as swelling, bleeding, redness, and pain. Both classical Unani principles and pharmacological studies give solid scientific basis for use of *Manjan-e-Surkh* in *Iltihab-e-Lissa*. Well-designed randomized controlled clinical trials and standardized evaluations are recommended to further establish efficacy and safety in modern oral healthcare.

Keywords: *Iltihab-e-Lissa*, *Manjan-e-Surkh*, Gingivitis, Unani Medicine, Oral Health.

ANALGESIC EFFICACY OF UNANI REGIMENAL THERAPIES IN CHRONIC MUSCULOSKELETAL PAIN: A SYSTEMATIC REVIEW

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Chronic musculoskeletal pain is a major global health problem and a leading cause of disability. Although conventional pharmacological therapies may provide symptomatic relief, their long-term use is limited by adverse effects and safety concerns. Unani Regimenal therapies represent non-pharmacological approaches. This systematic review evaluated the analgesic efficacy, functional outcomes and safety of Unani Regimenal therapies. Under the principles of the PRISMA 2020, Electronic searches were conducted in PubMed, Scopus, Web of Science, Google Scholar, and relevant regional academic databases for peer-reviewed publications from January 2000 to March 2025. Following duplicate removal, each record was screened by two independent reviewers, in order to find RCTs and clinical trials evaluating *Dalk*, *Hijamah*, *Takmid*, or *Fasd* and reported validated pain and/or functional outcomes. Out of 43 identified studies 13 studies qualified for the inclusion criteria, evaluated Unani regimenal treatments, predominantly in knee osteoarthritis and non-specific low back pain. The findings supported the primary and secondary objectives, with *Dalk*, *Hijamah*, and *Takmid* demonstrating significant reductions in pain intensity. In a randomized trial involving 48 patients with knee osteoarthritis, both *Dalk* and *Hijamah* significantly improved VAS pain and KOOS outcomes ($p<0.001$), with no significant between-group difference. In a randomized trial involving 54 patients with non-specific low back pain, *Takmid* produced significantly greater improvement than hot-water-bag fomentation, with between-group mean differences of 1.75 points for VAS ($p<0.0001$) and 8.20 points for ODI ($p=0.001$). Reported adverse effects were generally minor in the available studies, although safety reporting was inconsistent. It was concluded that the Unani regimenal treatments are alternative, safe, efficient methods of chronic pain relief.

Keywords: Unani medicine, Regimenal therapy, chronic musculoskeletal pain, analgesic efficacy

PHARMACOGNOSTICAL, PHYSICO-CHEMICAL AND PHYTOCHEMICAL STANDARDIZATION OF *Brassica oleracea* L. VAR. *Capitata* f. *rubra* (*KURNUB*) FOR QUALITY ASSURANCE IN UNANI MEDICINE

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A combination of traditional knowledge and scientific quality assessment is significant for identity, purity, safety and consistency of herbal medicines. The present study was designed to obtain the pharmacognostical, physicochemical and phytochemical characterization of *Brassica oleracea L. var. capitata f. rubra (*Red Cabbage/*Kurnub*) for its quality standardization and to obtain baseline data for the plant used in Unani medicine. Macroscopic and microscopic analyses were used for the pharmacognostic evaluation. Physicochemical parameters evaluated were moisture content, total ash, acid-insoluble ash, water-soluble ash and hot-water extractive and cold-water extractive. Phytochemical screening, heavy-metal and microbiological quality data were also determined. The moisture content was 11.2 ± 0.4%, while total ash, water-soluble ash, and acid-insoluble ash were 10.33 ± 0.29%, 6.95 ± 0.47%, and 0.63 ± 0.12%, respectively. Hot- and cold-water extractive values were 37.6 ± 1.0% and 40.3 ± 2.0%, whereas hot- and cold-ethanol extractive values were 9.5 ± 0.5% and 6.4 ± 0.5%, respectively. This suggests higher values of water extractive expressed that there was better recovery of water-soluble constituents at the tested conditions. Phytochemicals identified were saponins, alkaloids, tannins, phenolics, flavonoids, and terpenoids. The concentration of arsenic was less than the limit of determination (<0.05 mg/kg), cadmium was 0.12 mg/kg, mercury was 0.08 mg/kg and lead was 1.1 mg/kg. The total aerobic microbial count was 1.2 x 104cfu/g with none of the specified microorganisms being detected in the test samples. Based on the findings it can be concluded that the combination of these parameters would serve as the baseline pharmacognostical and physicochemical parameters of *Kurnub* and be used as a scientific guideline for identification and quality assessment of the drug and for formulating the reproducible quality control specifications for incorporation in Unani medicine.

Keywords: *Kurnub*. Standardization, Pharmacognosy, Physico-chemical, Phytochemicals

IMPLEMENTING MINDFULNESS-BASED INTERVENTIONS IN COMMUNITY HEALTH PROMOTION PROGRAMS FOR OLDER ADULTS: A SCOPING REVIEW

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Population ageing has increased the need for accessible, sustainable, community-based health promotion strategies that support healthy ageing. Mindfulness-based interventions (MBIs) have emerged as promising non-pharmacological approaches to improve psychological well-being, resilience, and self-management among older adults. However, limited evidence has been synthesized regarding how these interventions are implemented in community settings. This scoping review mapped and synthesized evidence on the implementation of MBIs for adults aged 60 years and older within community-based health promotion programs. A scoping review was conducted following the Joanna Briggs Institute methodology and PRISMA-ScR guidelines. Five electronic databases (MEDLINE, Embase, CINAHL, Scopus, and Web of Science) were searched for peer-reviewed studies published between 2010 and 2026. Eligible studies examined the implementation of MBIs in community-based settings for older adults. Thirty studies met the inclusion criteria and were analyzed using descriptive and narrative synthesis. The review included 30 studies comprising 11 randomized controlled trials, 11 non-randomized studies, five mixed-methods studies, and three feasibility or pre-post studies. Most interventions were delivered in group-based community settings over 6–12 weeks and frequently integrated mindfulness into broader health promotion, psychosocial, or self-management programs. Common adaptations included simplified instructions, slower pacing, and chair-based practices to accommodate physical and cognitive limitations. Technology-supported delivery improved accessibility but presented challenges related to digital literacy and sustained engagement. Twenty studies reported high feasibility, acceptability, or participant satisfaction. Psychological outcomes showed the most consistent improvements, whereas cognitive and physical outcomes were more variable. MBIs appear feasible and acceptable for community health promotion among older adults. Tailoring interventions to age-related, cultural, and contextual needs may enhance implementation and sustainability. Further implementation-focused research is needed to identify scalable and effective models that support healthy ageing across diverse community settings.

Keywords: Mindfulness, Older adults, Health promotion, Community health

SINGLE DRUGS FOR PAIN MANAGEMENT IN UNANI MEDICINE: A SYSTEMATIC REVIEW OF TRADITIONAL USE AND CONTEMPORARY SCIENTIFIC EVIDENCE

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Pain is a common clinical condition that significantly affects quality of life. Limitations of conventional analgesics have increased interest in traditional systems of medicine as complementary approaches to pain management. Single drugs used in Unani medicine possess substantial potential in pain management due to their diverse pharmacological properties and long-standing traditional use. This review aimed to evaluate the traditional use and contemporary scientific evidence for Unani single drugs used in pain management. The review was conducted in accordance with the PRISMA guidelines. PubMed, Scopus, Google Scholar, and classical Unani texts were searched for literature published from 2000 to 2025. Experimental, clinical, and observational studies meeting the eligibility criteria were included. Data were extracted on botanical names, parts used, traditional indications, pharmacological properties, and scientific evidence of analgesic activity. Of 512 records identified, 41 studies (8.0%) were included in the qualitative synthesis. This review identified several single drugs including *Zingiber officinale* (*Zanjabeel*), *Withania somnifera* (*Asgand*), *Boswellia serrata* (*Kundur*), *Curcuma longa* (*Haldi*), *Commiphora myrrha* (*Mur*), *Papaver somniferum* (*Khashkhash*), *Nigella sativa* (*Kalonji*), *Glycyrrhiza glabra* (*Aslussoos*), *Aloe barbadensis* (*Sibr*), *Cassia fistula* (*Amaltas*), *Piper nigrum* (*Filfil Siyah*), *Trachyspermum ammi* (*Nankhwah*), and *Colchicum luteum* (*Suranjan Shirin*). These drugs showed varying levels of analgesic, anti-inflammatory, antioxidant, and immunomodulatory activity. Human clinical-trial evidence was identified for *Zingiber officinale*, *Withania somnifera*, *Boswellia serrata*, *Curcuma longa*, *Nigella sativa*, and *Trachyspermum ammi*. Analgesic or antinociceptive activity was reported in 34 of 41 studies (82.9%), while 25 studies (61.0%) demonstrated anti-inflammatory activity; 18 studies (43.9%) reported both. Differences in study methods and small sample sizes limited direct comparisons and firm conclusions. The findings indicate that several single drugs have potential as complementary options for pain management, but larger, well-designed clinical trials are required to confirm their efficacy, dosage, and safety before routine clinical integration

Keywords: Single drugs, Pain management, Unani medicine, Analgesic activity, Anti-inflammatory activity

IMPACT OF EXTERNAL APPLICATION OF SELECTED HERBAL FORMULATIONS WITH MUD THERAPY ON SKIN PIGMENTATION IN PSORIATIC LESIONS: AN OBSERVATIONAL STUDY

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Twak vikara (skin disorders) have been comprehensively addressed in Ayurveda classics under the category of *Kushta roga*. Psoriasis (*Kitibha kushta)* is a *Kshudra kushta,* which is a chronic inflammatory skin disease characterized by scaling, itching, and pigmentation. The study aims to evaluate the effect of selected herbal formulations with mud therapy on skin pigmentation and other clinical manifestations in psoriatic lesions. 32- years- old male patient with a confirmed diagnosis of *Kitibha kushta,* presenting widespread lesions and undergoing inpatient treatment, was selected for the study. Therapeutic mud (*Multani mitti*) was combined with the purposively selected ingredients of *Kushtaghna ghana* and *Varnaka ghana;* powdered *Santalum album* L., *Pterocarpus santalinus*, *Coscinium fenestratum*, dried *Curcuma longa*, *Glycyrrhiza glabra* L, *Terminalia chebula* and blended with fresh extracts of *Azadirachta indica*, *Senna tora*, and *Adenanthera pavonina* leaves. The paste was applied locally every morning for fourteen consecutive days. Clinical assessment was conducted before and after treatment using the Physician's Global Assessment (PGA) for pigmentation and PASI and Psoriasis Area and Severity Index (PASI). The post-interventional assessment demonstrated a 75% reduction in skin pigmentation with a reduction in plaque thickness and lesion area. The anti-inflammatory, antioxidant and keratolytic properties of the herbal-mud formulation contribute to pacification of vitiated *Vata* and *Kapha doshas* and accelerate skin healing. Hence, the findings suggest the selected herbal formulation with mud therapy as a complementary therapeutic approach with promising effectiveness in reducing skin pigmentation in psoriatic lesions.

Keywords: Psoriasis, *Kitibha kushta*, Mud therapy, *Mrittika*, Ayurveda, Skin pigmentation

A COMPARATIVE PHARMACOGNOSTICAL AND PHYTOCHEMICAL EVALUATION OF *Sarcostemma brunonianum* Wight & Arn. AND *Euphorbia tirucalli* L. IN SRI LANKAN TRADITIONAL MEDICINE

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In Sri Lanka, Indigenous medicine practitioners often confuse and misidentify the two plant species known as *Euphorbia tirucalli* L .(Euphorbiaceae) and *Sarcostemma brunonianum* Wight & Arn. (Asclepiadaceae). In botanical resource books, *Euphorbia tirucalli* mentioned as Navahandi in Sinhala language, while *Sarcostemma brunonianum* is mentioned as Muwakeeriya. Therefore, this study aimed to compare diagnostic pharmacognostical and phytochemical characteristics useful for differentiating the two species. Plant samples of *E. tirucalli* and *S. brunonianum* were identified and collected using the book series known as *Medicinal Plants Used in Ceylon* by D.M.A. Jayaweera as a botanical reference. A comparative pharmacognostical and phytochemical investigation was performed according to the standard methods. Microscopic examination revealed lactiferous cells in both plants. The epidermis of *E. tirucalli* exhibited small notches, along with trichomes and distinct structural differences. The pH values of 1% (v/v) latex and fresh juice of both plants showed similar values ranging from 6.80 to 6.87. Qualitative phytochemical screening of cold methanol extracts indicated the presence of terpenoids and flavonoids in both plants while tannins are more abundant in *E. tirucalli* extract. Thin Layer Chromatography (TLC) was developed for methanol extracts of two plants seperatly by using the solvent system; Hexane: Ethyl acetate-9:1. Both TLC demonstrated prominent Rf values of 0.062, 0.075 and 0.16 (at 366 nm) and HPTLC fingerprint profiles showed similar peaks for two plants and another peak for *E. tirucalli* plant. These findings confirmed some pharmacognostical differences between *E. tirucalli* and *S. brunonianum* based on microscopic characteristics, phytochemical profiles and chromatographic patterns. Further studies are needed for the correct identification of the two plants with local names and usage.

Keywords: Navahandi, Muwakeeriya, *E. tirucalli*, *S. brunonianum*, Indigenous medicine

A LITERARY ANALYSIS OF JAPANESE SUMO LIFESTYLE WITH *ATISTHAULYA* CAUSES, ITS INHERENT DEFECTS AND PHYSIOPATHOLOGY

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Atisthaulya (obesity) is described in Ayurveda as a clinical condition associated with inappropriate dietary and behavioural practices leading to excessive accumulation of *Medas* (adipose tissue). This study aims to interpret the highly regimented lifestyle of Japanese Sumo wrestlers in the context of *Atisthaulya* (obesity), by comparing Sumo lifestyles with classical *Atisthaulya Ashta-hetu* (causes), *Samprapti* (physiopathology) and *Ashta-dosha* (inherent defects) from *Charaka Samhita*. A descriptive literary analysis was conducted using classical Ayurvedic literature and published literature on the dietary practices, daily routine, training patterns and health outcomes of Japanese Sumo wrestlers. As per Ayurvedic physiopathology, such a sumo regimen tends to weaken the digestive capacity of the wrestlers, resulting in rapid accumulation of excess fat in the adipose tissue (*Medas-dushya*) and even causing fatty replacement of bone marrow (*Majja-dushya*). Despite their obesity, their rigorous daily exercise (*Vyayama*) routine keeps sumo wrestlers physically active and fit for their demanding wrestling careers. The Sumo wrestlers are well provided with all the necessities and required to live in communal sumo training stables (*Heya*). All these practices are well known to cause obesity in the Ayurveda discipline and are respectively termed as *Atisampuranata* (overeating), *Divasvapna* (daytime sleep), *Harshanityatva* (constant comfort) and *Acintana* (reduced mental activities). As a result, this study demonstrated that the Sumo regimen directly exploits routine overfeeding during youth, thus leading to rapid weight gain. The process begins when novice wrestlers, over 15 years of age, skip breakfast to facilitate a heavy lunch of *Chankonabe* with copious amounts of rice, immediately followed by daytime sleeping. While modern sports science focuses primarily on caloric intake, Ayurveda comprehensively considers both consumption and metabolism of calories in the weight gain and the development of obesity. This study further reveals the ill-effects of the sumo lifestyle, such as reduced life-expectancy, developing type-2 diabetes and high blood pressure later in their lives. While modern sports science focuses primarily on caloric intake, Ayurveda comprehensively considers both the consumption and metabolism of calories in weight gain and the development of obesity. This study confirms the classical causes (*Ashta-hetu*), physiopathology (*Samprapti*) and inherent defects (*Ashta-dosha*) of excessive obesity (*Atisthaulya*) of *Charakasamhita* by revealing parallel factors in the Japanese Sumo lifestyle.

Keywords: *Atisthaulya, Atisampurnata, Srotorodha, Medovriddhi, Ayusho hrasa*

MOLECULAR DOCKING ANALYSIS OF PHYTOCHEMICALS FROM *Phyllanthus emblica* (*NELLI*) AS POTENTIAL HMG-COA REDUCTASE INHIBITORS

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Familial Hypercholesterolemia is a significant genetic disorder that markedly increases the risk of cardiovascular diseases due to dysregulation of cholesterol biosynthesis. The enzyme 3-hydroxy-3-methylglutaryl coenzyme A reductase (HMG-CoA reductase) plays a central role in this pathway and is an important therapeutic target. *Phyllanthus emblica (nelli)* is a medicinal plant traditionally recognized for its cholesterol-lowering effects with diverse phytochemicals. However, the specific compounds responsible for the interactions with HMG-CoA reductase remain insufficiently characterized. This study evaluated the inhibitory potential of selected *P. emblica* phytochemicals against HMG-CoA reductase (PDB ID: 1DQA). GC-MS and LC-MS analysis identified 136 compounds using information that has already been published. From those phytochemicals, 6 were shortlisted as potentially safe drug candidates, using SwissADME to evaluate drug-likeness and pharmacokinetic properties by Lipinski's rule of five, and using ProTox-3.0 for toxicity assessment. Molecular docking was performed using PyRx 0.8 and validated using CB-Dock2. Three exhibited strong binding affinities ($\Delta G < -6$ kcal/mol) which are 3-Dioxolane-4-methanol (−7.6 kcal/mol), ethyl gallate (−7.0 kcal/mol) and 5-hydroxyisophthalic acid (−7.0 kcal/mol). Interaction analysis revealed that ethyl gallate binds within the enzyme's cis-loop region (residues 684–692), forming interactions with active-site residues; Ser684, Asp690, Lys691, and Lys692, which are critical for substrate binding suggesting a potential inhibition against HMG-CoA reductase. In conclusion, selected phytocompounds from *Phyllanthus emblica*, particularly ethyl gallate, demonstrate promising inhibitory activity and may serve as potential candidates for the development of novel therapeutics for hypercholesterolemia. However, experimental validation through *in vitro* and *in vivo* studies is essential to confirm their efficacy and safety.

Keywords: Ethyl gallate, HMG-CoA reductase, Molecular docking, Cholesterol biosynthesis, Protein-ligand interaction

GRADE-SPECIFIC DOSE ESCALATION OF *HABB-E-GUL-E-AAKH* IN KNEE OSTEOARTHRITIS

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Knee osteoarthritis (KOA) is a prevalent degenerative joint disorder characterized by pain, stiffness, and functional impairment. *Habb-e-Gul-e-Aakh* (HGA) is a classical Unani polyherbal formulation traditionally used in the management of *Waja-ul-Mafasil.* However, clinical evidence regarding its therapeutic response across different radiographic grades of KOA remains limited. This study aimed to evaluate the clinical response and short-term safety of HGA administered at grade-specific doses in patients with different radiographic grades of KOA. A single-blind clinical study was conducted at the National Institute of Unani Medicine, Bengaluru, involving 60 patients with KOA diagnosed according to the American College of Rheumatology (ACR) criteria. Patients were categorized into four groups of 15 patients each according to Kellgren–Lawrence (K-L) radiographic grades I–IV. HGA was administered at grade-specific doses: 250 mg twice daily for K-L grade I, 500 mg twice daily for grade II, 750 mg twice daily for grade III, and 1,000 mg twice daily for grade IV. Patients were blinded to the dose administered. Clinical outcomes were assessed using the Visual Analogue Scale (VAS) and modified total Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC) at baseline and on days 7, 14, and 21. Haematological, hepatic, and renal investigations were performed to monitor safety. Significant reductions in VAS and total WOMAC scores from baseline to day 21 were observed within each K-L grade ($p < 0.001$). Mean VAS scores decreased from 7.27 to 2.80, 7.53 to 3.53, 8.93 to 3.73, and 8.87 to 3.33 in K-L grades I, II, III, and IV, respectively. Corresponding mean total WOMAC scores decreased from 63.13 to 51.80, 74.27 to 55.53, 105.87 to 78.27, and 125.40 to 98.40, respectively. No adverse drug reactions were reported during the 21-day treatment period. Habb-e-Gul-e-Aakh was associated with significant short-term reductions in pain and functional disability across K-L grades I–IV when administered at grade-specific doses. These findings suggest that a K-L grade-specific dosing approach may have potential therapeutic utility in KOA. However, the absence of a comparator group, small sample size, and short treatment duration limit the strength of the conclusions. Larger, adequately powered controlled studies with longer follow-up are warranted to determine the efficacy, optimal dosing, and long-term safety of HGA in different grades of KOA.

Keywords: Unani medicine, *Habb-e-Gul-e-Aakh*, Knee osteoarthritis

FORMULATION-SPECIFIC ANTIOXIDANT AND LIPASE-INHIBITORY BIOACTIVITY OF *Bacopa monnieri* (L.) WETTST.: A PRELIMINARY DATASET FOR AI-GUIDED DOSE OPTIMIZATION

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Artificial intelligence (AI) is transforming precision medicine by enabling predictive models for individualized therapies. However, its application to optimizing the dosing and formulation of traditional herbal medicines remains limited. *Bacopa monnieri* (L.) Wettst. (BM), a well-established Ayurvedic neuroprotective herb, offers a promising model for AI-driven dose optimization because of its diverse pharmacological properties. This preliminary research generated an AI-compatible dataset by comparatively evaluating five BM dosage forms: normal decoction (BMND), freeze-dried decoction (BMFD), hot infusion (BMPD), air-dried powder (BMADP), and freeze-dried powder (BMFDP). The study assessed antioxidant and lipase-inhibitory activities relevant to neuro-metabolic health. Antioxidant potential was evaluated using DPPH, FRAP, ABTS, total polyphenol content (TPC), and total flavonoid content (TFC) assays, while metabolic effects were assessed through porcine pancreatic lipase inhibition. Significant formulation-dependent differences were observed. BMFD showed the strongest DPPH radical scavenging activity (IC_{50}: 2.77 µg/mL) and the highest flavonoid content (68.67 µg QE/mL), whereas BMPD demonstrated the highest phenolic content (9.74 µg GAE/mL). Lipase inhibition was greatest in BMFD and BMPD (approximately 47%), indicating superior metabolic regulatory potential. These findings demonstrate that formulation significantly influences the biological activity and potential therapeutic efficacy of Bacopa monnieri (L.) Wettst. The resulting dataset provides a foundation for future machine learning models to predict optimal dosage forms and dose ranges based on biochemical activity profiles. This research provides preliminary data towards the integration of traditional herbal medicine with AI-guided precision healthcare, supporting future data-informed dose optimization, clinical decision support, and personalized neuro-metabolic interventions.

Keywords: Artificial Intelligence, Precision medicine, AI-Ready Dataset, *Bacopa monnieri* (L.) Wettst., Antioxidant activity, Lipase inhibition

THE ROLE OF *SATTVAVAJAYA CHIKITSA* IN THE MANAGEMENT OF EPILEPSY (*APASMARA*): AN AYURVEDIC REVIEW

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Apasmara, described in Ayurveda as a mental and behavioral disorder characterized by impaired consciousness, memory, and mental stability, is broadly correlated with Epilepsy. *Sattvavajaya chikitsa* (SC), one of the three principle Ayurvedic treatment modalities, focuses on psychological and behavioral regulation. This review aimed to synthesize the available evidence on the role of SC in the comprehensive management of *Apasmara* by integrating Ayurvedic concepts with contemporary psychological and neurological perspectives. A structured literature review was conducted in accordance with the PRISMA 2020 guidelines. Electronic databases were searched up to December 2025 and main classical Ayurvedic texts were also referred. Studies addressing the principles, therapeutic applications or psychological aspects of SC in relation to *Apasmara* or epilepsy were included. Eligible studies were selected through a two-stage screening of titles, abstracts and full texts based on predefined inclusion and exclusion criteria. The review demonstrated conceptual overlap between SC and modern psychological interventions. Core ayurvedic principles- including *Jnana, Vijnana, Dhairya, Smriti*, and *Samadhi* – corresponded to psychoeducation, cognitive restructuring, behavioral interventions, emotional regulation and mindfulness- based therapies. Evidence also suggested that yoga, meditation, and pranayama may improve psychological well-being, emotional regulation and cognitive function as adjuncts to conventional epilepsy management. However, high-quality clinical evidence evaluating the effectiveness of SC in *Apasmara* remains limited. SC represents a holistic therapeutic approach that integrates psychological, spiritual, social and biomedical dimensions in the management of apasmara. While existing evidence supports its potential as an adjunct to conventional epilepsy care, strong clinical studies are required to establish its efficacy and therapeutic value.

Keywords: *Apasmara, Sattvavajaya chikithsa*, Ayurveda, Epilepsy, *Yoga*

SYSTEMATIC REVIEW ON AYURVEDA INTERVENTION OF ALLERGIC RHINITIS IN CHILDREN

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Allergic rhinitis (AR) is a chronic immunoglobulin E (IgE)-mediated inflammatory disorder of the nasal mucosa with a global prevalence of 10% to 40%, that significantly affects quality of life and daily functioning. Although conventional pharmacological treatments are effective, many patients seek complementary and alternative therapies because of concerns about adverse effects and long-term medication use. Ayurveda, through herbal formulations and lifestyle interventions, has been increasingly investigated as a potential treatment for AR. This systematic review aimed to evaluate the evidence on Ayurvedic interventions for allergic rhinitis published between 2018 and 2025, to determine the incidence, prevalence, and epidemiology of AR among children over the past 07 years. A systematic search of online databases, PubMed, Google Scholar, Springer, Elsevier, Embase and ScienceDirect identified 36 articles. The words Allergic rhinitis; Ayurveda; *Pratishyaya;* Herbal medicine and children used as search terms. Following Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines, title and abstract screening and full text review were conducted and nine (09) articles were eligible for inclusion. As per the results; Parental, atopy 55%, unhealthy environmental factors 89%, wrong behavioral pattern 44% and dietary patterns 78% are significantly associated with AR in school-aged children. Commonly used herbs are *Ocimum tenuiflorum L.*, *Glycyrrhiza glabra L., Terminalia catappa, Clerodendrum indicum, Terminalia chebula L., Terminalia balarika L., Emblika ribes L., Curcuma longa L, Piper longum L., Zingiber officinale Roscoe* and *Piper nigrum L.*, having unique effects in immunomodulating and potential anti-allergic activity. Most of the studies on *Pratimarsha nasya* hsve been used along with internal medicine. After thoroughly analyzing the research articles, it can be concluded that many studied treatments period was four to eight weeks. Evidence published between 2018 and 2025 indicates that Ayurvedic interventions have potential as complementary therapeutic options for allergic rhinitis by improving nasal symptoms and patient quality of life with minimal adverse effects. These findings emphasize the urgent need for targeted awareness programs on respiratory health and nutritional interventions; behavior change strategies and school-based programs to promote healthy eating habits and prevent AR in childhood in Sri Lanka. However, the current evidence is limited by methodological weaknesses and heterogeneity among studies. High-quality, adequately powered randomized controlled trials with standardized interventions and long-term follow-up are required before firm clinical recommendations can be established.

Keywords: Allergic rhinitis, Ayurveda, *Pratishyaya,* Herbal medicine, Complementary medicine

FROM AWARENESS TO CONSUMPTION: UNDERSTANDING URBAN WOMEN'S ENGAGEMENT WITH UNDERUTILIZED MILLETS IN SRI LANKA

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Despite the recognized nutritional benefits of underutilized millets, their inclusion in diets remains limited due to low awareness and consumer perceptions. This cross-sectional survey assessed the knowledge, attitudes, and consumption behaviors related to four underutilized millet varieties—finger, foxtail, proso, and kodo millets—among urban women in Sri Lanka. Data were collected using a validated online questionnaire and analyzed using descriptive statistics and chi-square tests to examine associations between demographic factors and millet-related variables. Awareness of millets was relatively high, with 79.6% of participants reporting familiarity with millets. Finger millet (kurakkan) was the most recognized variety (89.8%). Most respondents (82.3%) associated millet consumption with blood glucose reduction, indicating a strong perception of its role in glycemic control. However, only 48.4% correctly identified millets as gluten-free. Nearly all participants (97.5%) acknowledged the nutritional value of millets, and health and nutritional benefits were the main motivations for consumption. Consumption patterns showed that 69.0% of participants consumed finger millet occasionally, primarily in flour form (78.4%). In contrast, foxtail, proso, and kodo millets were consumed infrequently. Key barriers to millet consumption included taste preferences, limited market availability, and lack of familiarity with preparation methods. Educational level was significantly associated with millet awareness ($p < 0.01$), with postgraduate women demonstrating higher knowledge levels. Household income was significantly associated with millet consumption frequency ($p < 0.05$), while positive attitudes toward dietary modification were associated with a family history of non-communicable diseases ($p < 0.01$). Although urban women demonstrated moderate awareness of millet health benefits, consumption remained low, particularly for varieties other than finger millet. Promoting millet diversification and addressing barriers to consumption may support healthier diets and more sustainable food systems in Sri Lanka.

Keywords: Millets, Nutrition, Dietary awareness, Food consumption, Non-Communicable Diseases, Sri Lanka

EXPLORING THE PHARMACOLOGICAL RELEVANCE OF SELECTED SIDDHA *KAYAKATPA* HERBS FOR HEALTHY AGEING: A REVIEW

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Kayakatpam is an important rejuvenative concept in Siddha medicine traditionally associated with preservation of health, disease prevention, delayed ageing, and longevity. This review aimed to identify key *Kayakatpa* herbs described in Siddha classical texts and review their phytochemical constituents, pharmacological activities, and potential relevance to healthy ageing. Eight Siddha classical texts were reviewed, followed by botanical validation and frequency analysis. Scientific evidence was searched through PubMed, Google Scholar, and ScienceDirect. A total of 156 *Kayakatpa* herbs were identified, of which eight were classified as key herbs based on occurrence in ≥4 of the 8 texts: *Phyllanthus emblica*, *Eclipta alba*, *Terminalia chebula*, *Azadirachta indica*, *Aegle marmelos*, *Aloe vera*, *Alternanthera sessilis*, and *Semecarpus anacardium*. Traditionally, these herbs were used for rejuvenation, disease prevention, strength, youthfulness, and longevity. Their major bioactive constituents include phenolics, flavonoids, tannins, and terpenoids, with reported antioxidant, anti-inflammatory, cytoprotective, extracellular-matrix-protective, and neuroprotective activities. These pharmacological activities may modulate key processes associated with aging, particularly oxidative stress, chronic inflammation which contribute to cellular and tissue damage as well as extracellular-matrix deterioration associated with loss of tissue integrity. *Alternanthera sessilis* showed potential relevance to telomere attrition, while *Aloe vera* had comparatively stronger evidence for skin-ageing outcomes. However, evidence remains predominantly preclinical, with limited direct evidence of effects on human biological ageing. The potential toxicity of *Semecarpus anacardium* further emphasizes the importance of appropriate purification, standardization, and safety evaluation. Further standardized mechanistic and clinical studies are required to validate these traditional rejuvenative claims.

Keywords: Siddha medicine, *Kayakatpam*, Healthy ageing, Phytochemicals

DEVELOPMENT AND STANDARDIZATION OF A NIACINAMIDE–SHEA BUTTER POLYHERBAL NIGHT CREAM FOR SKIN REPAIR

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Overnight skin repair is essential for maintaining epidermal barrier integrity, hydration, and elasticity. Although polyherbal topical creams are increasingly marketed for overnight skin repair, many lack comprehensive quality standardization to verify their safety, consistency, and phytochemical composition. This study aimed to standardize a niacinamide–shea butter polyherbal night cream and evaluate whether its phytochemical profile supports its repair, elasticity, and pigmentation-reduction claims. This is an oil-in-water emulsion formulated using niacinamide with Aloe vera, jojoba oil, sweet almond oil, shea butter, and alpha-arbutin in an emulsifying wax base. Standardization followed SLS 743:2021 specifications for skin creams and lotions. Organoleptic properties, pH, water content, non-volatile matter, peroxide value, spreadability, heavy metals, microbiological quality, and thin-layer chromatography (TLC) fingerprinting were evaluated in triplicate. The cream was white with a pleasant odour and free of synthetic dyes and formaldehyde. The results of the tests showed pH of 5.7, water content of 70%, non-volatile matter of 26%, peroxide value of 10 meq/kg, and spreadability of 2989 $g \cdot cm \cdot s^{-1}$. Cadmium, lead, arsenic, and mercury were below detection limits. The total aerobic mesophilic count was 3.0×10^1 CFU/g, while *Staphylococcus aureus*, *Pseudomonas aeruginosa*, *Escherichia coli*, and *Candida albicans* were absent. TLC fingerprinting showed 90–95% concordance with the formulation ingredients such as Niacinamide, shea butter, sweet almond oil, jojoba oil, Aloe vera, and alpha-arbutin which are well known to mediate barrier repair, hydration, elasticity, wound healing, and pigmentation reduction. The formulation met all quality requirements according to the standards, while the chromatographic profile supports its intended multifunctional activity.

Keywords: Night cream, Overnight repair, TLC Fingerprinting, Standardization

INTEGRATING SIDDHA SEASONAL REGIMEN DURING *ILAVENIL* IN THE *MARUTHAM* LANDSCAPE WITH MODERN SCIENCE: A LITERATURE REVIEW

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Siddha medicine recognizes that seasonal and ecological variations influence human health and recommends seasonal regimens to maintain physiological balance and prevent disease. *Ilavenil* (early summer) is associated with increasing environmental heat and changes in digestion, hydration, and thermoregulation. This review aimed to examine the *Ilavenil* seasonal regimen described for the *Marutham* landscape and evaluate its physiological relevance using contemporary scientific evidence. A narrative literature review was conducted using classical Siddha medical texts, Tamil literary sources, and peer-reviewed literature retrieved from PubMed, Scopus, and Google Scholar. Literature published between January 2000 and December 2025 was searched using keywords including "Ilavenil," "Siddha seasonal regimen," "Marutham," "seasonal diet," "hydration," "thermoregulation," "circadian rhythm," and "physical activity". Following screening and eligibility assessment, 32 studies were included. The review identified the *Marutham* landscape as a fertile environment with abundant water resources and diverse food availability. Siddha recommendations include waking during *Brahma muhurta*, oil application followed by bathing, wearing light cotton clothing, consuming easily digestible foods and seasonal fruits, maintaining adequate hydration, consuming cooling herbal beverages, engaging in regular physical activity, and obtaining sufficient nocturnal sleep while avoiding daytime sleep. Available scientific evidence supports the physiological relevance of several practices through their potential roles in hydration, thermoregulation, digestive function, circadian regulation, and prevention of heat-related health risks. Traditional herbal bathing practices also demonstrate potential antioxidant, antimicrobial, and immunomodulatory relevance. The findings suggest that the *Ilavenil* regimen incorporates culturally established practices consistent with several principles of preventive health science, although evidence strength varies. Further clinical research is warranted to validate these recommendations.

Keywords: Siddha seasonal regimen, *Marutham,* Modern science, Public health

DEVELOPMENT AND PHARMACEUTICAL STANDARDIZATION OF TRADITIONAL *CHIRABILVADI KASHAYA* BASED NOVEL POLYHERBAL CAPSULE FOR ANORECTAL DISORDERS

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Chirabilvadi kashaya is a polyherbal decoction widely prescribed for *Guda roga* (anorectal disorders), such as *Arshas* (hemorrhoids)*, Parikartika* (anal fissures), *Gulma roga* (abdominal bloating), and *Mandagni* (impaired digestive function). However, its conventional liquid dosage form presents challenges in storage, transportation, dose uniformity, and patient compliance. This study aimed to develop and standardize a novel capsule formulation of *Chirabilvadi kashaya* while establishing essential pharmaceutical quality parameters for routine quality control. Authenticated medicinal plants comprising *Pongamia pinnata*, *Zaleya decandra*, *Plumbago indica L.*, *Terminalia chebula*, *Piper longum*, *Zingiber officinale*, together with rock salt (*Sahinda lunu*), were processed using the traditional 8:1 aqueous decoction method. The concentrated extract was dried, blended with pharmaceutical excipients, and encapsulated. Standardization followed WHO quality control guidelines by evaluating moisture content, weight uniformity, disintegration, colouring matter, microbiological quality, heavy metals, and thin-layer chromatography (TLC) fingerprinting. The capsules exhibited a moisture content of 7.2%, an average weight of 0.2926 g, weight variation between −9.95% and +8.88%, and complete disintegration within 17 min 27 s. Permitted synthetic colouring agents were not used. The total aerobic mesophilic count was 3.7×10^2 CFU/g, while *Staphylococcus aureus*, *Pseudomonas aeruginosa*, *Escherichia coli*, and *Candida albicans* were not detected. Cadmium, lead, arsenic, and mercury were below detection limits. TLC fingerprinting showed approximately 90–95% concordance with the formulation ingredients, confirming the characteristic chromatographic profile of the constituent medicinal plants. The formulation complied with the evaluated pharmaceutical quality and safety requirements, providing reference standards for routine quality control and batch-to-batch consistency of *Chirabilvadi* capsules.

Keywords: *Chirabilvadi kashaya*, Anorectal disorders, Polyherbal capsule, TLC fingerprinting, Standardization

INTEGRATING AYURVEDIC AND NON-SURGICAL MULTIDISCIPLINARY APPROACHES IN THE MANAGEMENT OF ADOLESCENT IDIOPATHIC SCOLIOSIS; A LITERATURE REVIEW

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Adolescent idiopathic scoliosis (AIS) is a three-dimensional structural spinal deformity diagnosed by a Cobb angle greater than 10°. Although no direct Ayurvedic diagnostic equivalent of AIS has been established, certain clinical features of AIS may be conceptually interpreted in relation to *Kubjata* based on Ayurvedic descriptions of spinal deformity and Vata involvement. Classical management emphasizes *Vata-shamana chikitsa* and *Tarpana* for the management of AIS. However, an integrated, non-invasive protocol may offer faster curve control than Ayurvedic management alone. The objective of this study was to identify literature-supported, less-invasive, multidisciplinary approaches that may complement Ayurvedic management to improve curve progression outcomes in AIS. A narrative literature review was conducted using PubMed and Google Scholar, covering publications from 2006 to 2026 and focusing on non-surgical and adjunctive management of AIS. A total of 23 studies were reviewed and selected based on relevance rather than through a formal systematic search protocol. The literature identified several potential adjunctive modalities, including Physiotherapeutic Scoliosis-Specific Exercises (PSSE), acupuncture, functional electrical stimulation (FES), corrective footwear or insoles for pelvic asymmetry, combined traditional Chinese medicine (TCM) with bracing, and Ayurvedic case studies. PSSE demonstrated the strongest and most consistent evidence. Combined TCM and bracing showed greater reductions in Cobb angle and improved pulmonary function compared with bracing alone. Acupuncture, FES, and corrective footwear appeared beneficial primarily as adjunctive therapies. Ayurvedic reports described symptomatic improvement and reductions in Cobb angle but were limited to single case reports and small case series. In conclusion, combining Ayurvedic *Vata-shamana* therapies with evidence-supported non-surgical approaches, including PSSE, TCM, acupuncture, FES, and corrective footwear, may offer additional benefits for patients seeking non-surgical management of mild-to-moderate AIS. This integrative approach may also help Ayurvedic practitioners achieve faster and more effective outcomes in clinical practice. Prospective clinical studies are needed to validate its effectiveness before routine adoption.

Keywords: Adolescent Idiopathic Scoliosis, Ayurveda, Multidisciplinary approach

IN VITRO EVALUATION OF THE ANTIMICROBIAL ACTIVITY OF A TRADITIONAL HERBAL PASTE PREPARED FROM *Portulaca quadrifida* AND *Musa paradisiaca* USED FOR *KUNAKHA*

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Traditional Sri Lankan herbal paste prepared from *Portulaca quadrifida* (*Heen genda*) leaves and *Musa paradisiaca* (*Kesel*) fruit has long been used for *Kunakha*, an Ayurvedic nail disorder comparable to paronychia and onycholysis. However, its antimicrobial properties have not been scientifically validated. This study evaluated the in vitro antimicrobial activity of this traditional formulation against common nail pathogens. The paste was prepared according to traditional *lepa kalpanā* methods using 15 g each of fresh *P. quadrifida* leaves and *M. paradisiaca* fruit. The squeezed extract was tested against *Staphylococcus aureus* (ATCC 25923) and *Candida albicans* using the agar well diffusion method following 24 h incubation at 37°C. Amoxicillin (10 mg mL^{-1}) and Fluconazole (2.5 mg mL^{-1}) served as positive controls. Microbial inocula were adjusted to the 0.5 McFarland standard; 100 µL of inoculum was spread on each agar plate, and 50 µL of the extract was introduced into each well. All experiments were performed in triplicate. Antimicrobial activity was assessed by measuring the zone of inhibition (ZOI), and data were analyzed using descriptive statistics and one-sample *t*-tests. The formulation exhibited antibacterial and antifungal activity with mean ZOIs of 10.67 ± 0.47 mm and 8.33 ± 0.94 mm, respectively. Both activities were statistically significant ($p < 0.05$). Although less effective than the standard drugs, the formulation demonstrated consistent antimicrobial activity. These findings provide scientific evidence supporting the traditional use of this herbal paste and warrant further phytochemical and pharmacological investigations.

Keywords: Antimicrobial activity, Ayurveda, *Kunakha*, *Musa paradisiaca*, *Portulaca quadrifida*

DEVELOPMENT AND VALIDATION OF A BOWEL HABIT ASSESSMENT TOOL FOR PATIENTS WITH ANO-RECTAL DISEASES (*BHAT-ARD*): AN INTEGRATIVE AYURVEDIC MODERN MEDICINE APPROACH

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Ano-rectal diseases-including hemorrhoids, anal fissure, fistula-in-ano, and anorectal abscess-represent some of the most prevalent yet underdiagnosed conditions in colorectal practice worldwide. Altered bowel habits are both a risk factor and a symptomatic manifestation of these conditions; however, no standardized, validated instrument exists for systematically capturing defecatory patterns in ano-rectal disease populations. This study aimed to develop and pilot validate a Bowel Habit Assessment Tool for Ano-Rectal Diseases. A cross-sectional pilot study was conducted among 139 patients with confirmed ano-rectal diagnoses presenting to a tertiary referral center. The questionnaire was developed through a systematic literature review, expert panel consensus (n=8), and iterative item-reduction. Content validity, face validity, internal consistency, test–retest reliability assessed. Descriptive statistics and frequency distributions were generated for all domains. Of 139 participants (male 56.1%, mean age 41.3 years), the most common diagnoses were fistula-in-ano (40.3%). Straining at stool was reported by 69.1% of participants. Pain during defecation was present in 74.8% in varying degrees. Sensation of incomplete evacuation was experienced by 58.3%, and 43.2% required a defecatory stimulant. The need for manual evacuation was reported by 27.3%. Fecal incontinence was present in 3.6%. Mucus in stools was noted in 17.3%, and abnormal stool color in 15.1%. The five-domain 24-item demonstrated excellent content validity (Scale-level CVI = 0.91), good internal consistency (Cronbach's alpha = 0.84), and excellent test–retest reliability (ICC = 0.89, 95% CI: 0.82-0.94). The BHAT-ARD is a reliable, content-valid, and clinically relevant instrument for systematically assessing bowel habit changes in ano-rectal disease patients. The pilot data confirm substantial burden of defecatory dysfunction in this population and support the questionnaire's utility in both clinical assessment and research. Full-scale validation with larger, multi-centre samples is recommended.

Keywords: Ano rectal diseases, Bowel habits assessment, Ayurveda, Integrated medicine, Tool validation

EVIDENCE-BASED EVALUATION OF A TRADITIONAL POLYHERBAL *LEHA* FOR THE MANAGEMENT OF *KASA* (COUGH) DESCRIBED IN *KUMARA TANTRAYA*: A NARRATIVE REVIEW

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Kumara Tantraya is a traditional Sri Lankan text attributed to King Ravana and contains a wide variety of herbal remedies for pediatric disorders. *Kasa svasa Chikitsa Adhyaya*, stanza 78 describes a *Leha* (Licking preparation) for *Kasa* (cough) that is made up of *Vel kahabiliya (Tragia involucrata* L.), *Tippali (Piper longum* L.), *Aralu (Terminalia chebula* Retz.), *Muddaruspalam (Vitis vinifera* L.), and *Madhu* (honey). The objective of this study was to analyze the pharmacological and safety evidence available for individual ingredients and their relevance to the management of *Kasa*. A narrative review was conducted using the *Kumara Tantraya* and the scientific literature from PubMed, Scopus, Google Scholar, and ScienceDirect. Search terms, inclusion and exclusion criteria, and publication period were defined, and retrieved studies were screened for relevance. Evidence was categorized as traditional, experimental, animal, or clinical evidence. Clinical studies, experimental studies, randomized controlled trials, systematic reviews, and meta-analyses relevant to the topic were reviewed. The effects of *Tragia involucrata* have been reported to be anti-inflammatory, antimicrobial, antioxidant, and immunomodulatory. *Piper longum* has been reported to possess bronchodilator, mucolytic, anti-inflammatory, and antibacterial activities. *Terminalia chebula* showed antioxidant, antibacterial, and antitussive activities, while *Vitis vinifera* showed antioxidant and anti-inflammatory activities. Evidence suggests that honey reduces cough frequency and sleep disturbance in children. The evidence is mostly for individual ingredients, rather than the entire formulation. The possible synergistic effects remain hypothetical and should be directly examined. Toxicological data and clinical studies with specific formulations are limited. Further pharmacognostic, toxicological, experimental, and randomized controlled clinical studies are needed to establish the efficacy and safety of the complete formulation, especially in pediatric use.

Keywords: *Kumara Tantraya*, *Kasa*, Polyherbal formulation, Pediatric respiratory disorders

SUCCESSFUL AYURVEDA MANAGEMENT OF THORACOLUMBER SCOLIOSIS: A CASE REPORT

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Pediatric scoliosis with persistent back pain at rest warrants careful evaluation. Conventional management relies on bracing or observation, which often fails to address underlying neuromuscular imbalances. An 11-year-old girl presented with a 1.5-year history of continuous mid-lumbar and knee pain at rest, unresponsive to allopathic medicine. Examination revealed significant right lumbar muscle wasting and left lumbar stiffness. Whole-back X-rays confirmed thoracolumbar scoliosis with a 20° lumbar curve and a 12° upper thoracic curve. A multimodal four-week Ayurveda and *Yoga* protocol was executed. Phase 1 included oral *Rasnasaptaka kwatha* with *Eranda* oil and *Yogaraja guggulu*, alongside full-spine *Abhyanga* (*Nirgundyadi* oil), *Vashpa Sweda*, and *Kubjaprasarani pichu* on the stiff left lumbar area. Phase 2 introduced oral *Rasna13 kashaya* and bone marrow *Pattu* to the wasted right lumbar region. Spinal stabilization featured temporary wrapping and a custom brace (12 hours daily for three weeks). Phase 3 involved an 8-day *Madhutailika yoga basti* (*Erandamula kashaya* and *Narayana* oil). Treatment concluded with oral *Maharasnadi kashaya*, whole-back *Ketakela pattu*, and *Punnagadi pottali sweda*. Daily rehabilitation included *Tadasana* and *Natarajasana yoga* postures**.** The intervention achieved complete pain resolution, with the Numeric Rating Scale decreasing from 6 to 0 and the Oswestry Disability Index improving from 90% to 20%. Follow-up radiography demonstrated dramatic structural correction, with the lumbar curve reducing from 20° to 4°. Adam's Forward Bend Test confirmed a significant reduction in right-side muscle hollowing, correcting paravertebral asymmetry. Multimodal Ayurveda therapies combined with targeted yoga postures can effectively reverse spinal curvature, correct severe paravertebral muscle asymmetry, and achieve complete pain relief in pediatric thoracolumbar scoliosis.

Keywords: Pediatric scoliosis, Ayurveda management, *Abhyanga, Pichu*

PHYTOCHEMICAL PROFILING AND COMPARATIVE ANALYSIS OF *Piper betle* L. LEAF PARTS

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The betel leaf (*Piper betle* L.) holds significant cultural and medicinal value in traditional practices. Most of peoples discarding the apex (tip) and base (stalk) of the betel leaf before consumption due to alleged toxicity. The present study aimed to scientifically evaluate the chemical differences among the base, middle, and apex zones of the betel leaf. Uniform betel leaves were segmented into the apex, middle, and base. Methanol extracts of each zone were subjected to qualitative phytochemical analysis and chromatographic profiles. Alkaloids were highly positive in the base and positive in the middle and apex. Tannin content indicated a higher amount in the apical region, whereas the middle and basal regions exhibited lower concentrations. Saponin screening yielded negative results in all plant sections. Greater terpenoid content was shown in the apical region, whereas the basal region showed the lowest intensity, with the middle region demonstrating an intermediate response. HPTLC profiles were obtained under the Toluene: Chloroform: Methanol (6 :3.5: 0.5) solvent system and for the base, middle and apex of the leaves were 5, 5, 10 number of peaks respectively at different positions with highest R_f = 0.81 for each sample. These findings suggest differential metabolite accumulation across plant segments, highlighting the importance of selecting the appropriate plant part for medicinal use and supporting the scientific basis behind the traditional practice of removing specific leaf parts. Moreover, phytochemical standardization and further pharmacological investigations are warranted for confirmation of these findings.

Keywords: *Piper beetle*, Phytochemical screening, Leaf segmentation, Traditional Medicine, TLC analysis

CORRELATION BETWEEN AYURVEDA *PRAKRITI* TYPES AND ATTENTION DEFICIT HYPERACTIVITY DISORDER IN CHILDREN

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Attention-Deficit/Hyperactivity Disorder (ADHD) is a common neurodevelopmental disorder affecting approximately 5 to 8% of children worldwide. In Sri Lanka, ADHD remains a significant concern among school-aged children, highlighting the need for culturally appropriate and individualized management. This study was conducted to assess the relationship between Ayurvedic Prakriti types and the clinical severity of ADHD among children aged 5 to 16 years. A hospital-based descriptive cross-sectional study was conducted at the Pediatric Ward of the National Ayurveda Hospital, Borella from September 2025 to May 2026 (ERC 26/296). 33 children diagnosed with ADHD according to DSM-5 criteria were recruited using consecutive convenience sampling. *Prakriti* was assessed using the Ayurveda Child Personality Inventory (ACPI), and ADHD severity was measured using a validated DSM-5-based rating scale. Data were analyzed using descriptive statistics and correlation tests in SPSS. In 33 children (mean age 9.4±2.8; 69.7% male), mean ADHD severity was 67.14±14.73, with 45.5% severe cases. *Vata-Pitta prakriti* predominated (42.4%). *Vata* dominance (r=0.40, p=0.021) and Pitta dominance (r=0.42, p=0.015) correlated positively with severity, while *Kapha* dominance correlated negatively (r=-0.39, p=0.022), suggesting prakriti-based constitutional typing may help predict ADHD symptom severity in this population. These findings suggest that Ayurvedic constitutional factors were associated with the severity of ADHD and support the need for further research on individualized Ayurvedic management approaches. However, larger longitudinal studies are needed to confirm these findings and explore their potential role in individualized management.

Keywords: ADHD, Ayurveda, *Prakriti*, ACPI, Sri Lanka

SCIENTIFIC AND UNANI PERSPECTIVES ON THE ROLE OF *ASHOKA* (*Saraca asoca*) IN WOMEN'S REPRODUCTIVE HEALTH: A REVIEW

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Plant-based medicine has become increasingly important with the rising prevalence of polycystic ovarian syndrome, menstrual irregularities and uterine disorders among women. *Saraca asoca* (*Ashoka*) is a well-known medicinal plant traditionally used in Unani medicine for managing various gynecological disorders. Evaluating its traditional applications alongside scientific evidence is relevant. A comprehensive literature search was conducted using Google Scholar, PubMed, and ResearchGate for peer-reviewed articles published between 2005 and 2025 to evaluate the role of *saraca asoca* in women's reproductive health by synthesizing evidence from classical Unani literature and modern scientific studies. Experimental studies, clinical studies and review articles investigating the pharmacological or therapeutic effects of *Saraca asoca* in gynecological conditions were included. Twenty-eight studies were reviewed and analyzed. In Unani medicine, *Saraca asoca* is described as *Qabid* (astringent), *Habis-al-Dam* (hemostatic), *Muqawwi-e-Rahim* (uterine tonic), *Muhallil-e-Warm* (anti-inflammatory), *Musakkin-e-Alam* (analgesic), and *Mujaffif* (desiccant). The stem bark is considered the principal medicinal part. Scientific evidence indicates that its bioactive constituents, including flavonoids, tannins, glycosides, and saponins, possess antioxidant, anti-inflammatory, hemostatic, and uterine- supportive activities. Findings suggest potential benefits in menorrhagia, dysmenorrhea, irregular menstruation, and selected uterine disorders. Overall, available Unani and scientific evidence support the potential of *Saraca asoca* in women's reproductive health. However, further well-designed clinical studies are required to establish its efficacy, safety, standardized dosage, and mechanism of action. Further research should also assess its comparative effectiveness, possible adverse effects, interactions with conventional medicines, and quality control of herbal preperations in clinical practice and long-term use.

Keywords: *Saraca asoca*, Unani Medicine, Gynecological Disorders, Uterine Tonic, Menorrhagia

REVIEW OF SEASONAL VARIATION OF WILD EDIBLE FRUITS IN NORTHERN SRI LANKA: SIDDHA PERSPECTIVE

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Wild Edible Fruits (WEFs) are valuable natural resources used for traditional medicine, nutrition, and conservation, especially in rural communities. In Siddha, seasonal variation influences plant availability, *Suvai* (taste), *Gunam* (Siddha properties), and pharmacological actions. This review assessed seasonal variation of WEFs in Northern Sri Lanka according to Siddha principles. According to Siddha, the six seasons are *Ilavenil* (spring), *Mudhuvenil* (summer), *Kaar* (early rainy), *Koodhir* (late rainy), *Munpani* (early winter), and *Pinpani* (late winter). Twenty-one WEF species were selected based on being naturally grown, uncultivated, traditionally consumed, and documented in Siddha and/or botanical literature. Data on fruiting season, *Suvai*, *Gunam*, pharmacological actions, and conservation status were collected from classical Siddha texts, Siddha pharmacopoeia, scientific articles, and conservation databases. The review period was December 2025 to June 2026. Siddha classifications were validated through cross-checking classical Siddha texts. Data were analyzed using Microsoft Excel 365 for descriptive statistics, including frequencies and percentages. Results indicated marked seasonal fruiting variation. *Pinpani Kaalam* had the lowest occurrence (n = 3, 4.76%), while *Kaar* (n = 17, 26.98%) and *Koodhir* (n = 15, 23.81%) had the highest. Sweet fruits dominated *Ilavenil* and *Mudhuvenil*; sour fruits dominated *Kaar*; astringent fruits dominated cooler seasons. Blood-purifying, anti-inflammatory, and rejuvenating effects were common in *Koodhir, Munpani,* and *Pinpani*, while antioxidant and antimicrobial activities prevailed in *Ilavenil*, *Mudhuvenil*, and *Kaar Kaalam*. *Gunam* analysis showed *Laghu* and *Ruksha* in cooler seasons, and *Guru* and *Snigdha* in warmer seasons. Most species were Least Concern (n = 12, 57.14%), though some were threatened. Findings suggest WEFs vary seasonally in availability, taste, properties, medicinal values, and conservation status, supporting Siddha principles and sustainable conservation.

Keywords: Northern Province, Seasonal variations, Siddha Medicine, Sri Lanka, Wild Edible Fruits

DEVELOPING CONDITION-SPECIFIC *YOGA NIDRA* PROTOCOLS FOR NEUROLOGICAL DISORDERS: A REVIEW OF THERAPEUTIC APPLICATIONS AND CLINICAL CONSIDERATIONS

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Neurological disorders are frequently associated with autonomic dysfunction, sleep disturbances, chronic stress, and reduced quality of life. *Yoga nidra*, a guided meditative relaxation practice, has received increasing scientific attention for its potential effects on neurophysiological, cognitive, sleep-related, and autonomic processes. However, its application as a condition-specific therapeutic intervention for neurological disorders remains insufficiently explored. This study aimed to examine the neurophysiological mechanisms and therapeutic applications of Yoga Nidra in neurological disorders and identify evidence to inform the development of condition-specific protocols. A scoping review was conducted according to the PRISMA Extension for Scoping Reviews (PRISMA-ScR). PubMed, ScienceDirect, Google Scholar, and the AYUSH Research Portal were searched for English-language human studies published from January 2011 to July 2026. Eligible studies included participants with neurological disorders classified under Chapter 08 of ICD-11 or healthy volunteers involved in relevant neurological, neurophysiological, cognitive, sleep-related, or autonomic mechanism studies. *Yoga nidra* was required to be a distinct, separately reportable intervention with at least one relevant outcome. Reviews, meta-analyses, theoretical papers, protocols without results, non-human studies, duplicate datasets, and multi-component interventions where its independent contribution could not be isolated were excluded. Of 176 records identified, 17 duplicates were removed, leaving 159 for screening. Following screening, 151 were excluded, and eight primary studies were provisionally included. Evidence comprised predominantly healthy-volunteer studies examining electroencephalographic activity, functional connectivity, sleep, cognition, autonomic regulation, cortisol, and psychophysiological recovery. Findings suggested that Yoga Nidra may influence slow-wave activity, cortical oscillatory patterns, functional connectivity, and selected sleep-related, cognitive, autonomic, and stress-related outcomes. However, direct clinical evidence in neurological disorders was limited. Further adequately powered clinical studies are needed to establish condition-specific components, dosage, feasibility, safety, and clinical effectiveness.

Keywords: *Yoga nidra,* Neurological Disorders, Condition-Specific Protocols

CLINICAL, TRANSDERMAL, AND PRECLINICAL EVIDENCE FOR HERBS IN AN AYURVEDIC MEN'S WELLNESS CREAM: A SYSTEMATIC REVIEW

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The clinical and transdermal evidence supporting the constituent herbs of Ayurvedic men's wellness creams has not been systematically evaluated. This review synthesised clinical efficacy, transdermal delivery, and mechanistic evidence for *Withania somnifera*, *Vitex negundo*, *Gossypium arboreum*, *Prunus dulcis*, and *Vitellaria paradoxa*. A PRISMA 2020-compliant systematic review was conducted across nine electronic databases (January 2006-June 2026). Included RCTs were assessed using the Cochrane RoB 2 tool and GRADE certainty applied per outcome domain.Twenty-five RCTs (~1,700 participants) met inclusion criteria. *Withania somnifera* (23 RCTs) demonstrated consistent, reproducible effects: sperm count increased 167% in oligospermic males (P<0.0001); testosterone rose 14.7–40% across five independent RCTs; cortisol decreased 27.9% versus placebo (P<0.0006); sexual function improved significantly across three independent RCTs using IIEF, DISF-M, and SSE instruments. Three topical RCTs confirmed dermatological activity, including an 8% *W. somnifera* lotion (pH 5.5) improving all physician-assessed skin parameters versus vehicle. In contrast, no eligible RCTs were identified for *V. negundo*, *G. arboreum*, or *V. paradoxa*; however, preclinical and traditional evidence supported complementary roles, including anti-inflammatory activity for *V. negundo*, wound-healing and genital skin protection for *G. arboreum*, and anti-inflammatory triterpene activity for *V. paradoxa*. Two *P. dulcis* RCTs demonstrated anti-inflammatory and skin-barrier benefits. Importantly, *P. dulcis* and *V. paradoxa*, as oleic acid-rich bases, enhanced transdermal permeability of Withanolide A and Withanone (Peff 4.05×10^{-5} and 2.06×10^{-5} cm/s, respectively). GRADE certainty was Moderate for *W. somnifera* testosterone and sexual-function outcomes, Low–Moderate for topical effects, and Very Low for evidence domains lacking robust clinical data. Collectively, these constituent-herb findings provide a rationale for further Phase I/II evaluation of the combined formulation.

Keywords: Topical herbal crea, Transdermal delivery, Testosterone, Male sexual function, Skin penetration

EFFICACY OF *APAMARGA KSHARASUTRA* APPLICATION AND *MATRA BASTI* IN COMPLICATED FISTULA-IN-ANO DUE TO LASER SURGERY: A CASE REPORT

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Fistula-in-ano is a chronic anorectal disease with a high risk of recurrence and postoperative incontinence. LASER (Light Amplification by Stimulated Emission of Radiation) therapy is minimal invasive procedure and sphincter-sparing technique in fistula surgery. however, recurrence and complications after LASER therapy remain challenging. *Ksharasutra*, a well-established Ayurveda para-surgical technique is effective in management of fistula-in-ano. This case report shows its efficacy in complicated fistula-in-ano after LASER therapy. A 42-year-old male patient with history of LASER therapy for fistula-in-ano with a complaints of severe pain and bleeding per ano while defecation and constipation developed after LASER surgery. After clinical examinations and MRI findings, the case was diagnosed as posterior intersphincteric collection/abscess (St. James University Hospital MRI classification Grade-2) along with severe mucosal damage upto rectum. Partial fistulectomy with application of *Apamarga Ksharasutra*, followed by postoperative administration of *Matra Basti* using *Kasisadi Taila* was performed. Progressive reduction in bleeding and pain in ano was observed, with significant improvement in Visual Analog Scale (VAS) pain scores. The intervention resulted in complete wound healing without recurrence. *Apamarga Ksharasutra* application is a sphincter-preserving treatment modality that facilitates continuous drainage of the fistulous tract, thereby eliminating the source of infection and promoting wound healing. In addition, *Matra Basti* with *Kasisadi Taila* promoted healing wound caused due to excess burn of ano-rectal mucosa. Complete wound healing was achieved without recurrence, indicating that this combined *Ayurveda* therapeutic approach was effective in the present case.

Keywords: *Bhagandara*, Fistula-in-ano, *Ksharsutra*, LASER treatment, *Matra Basti*

DEVELOPMENT AND STANDARDIZATION OF MULTI-AGENT DEPIGMENTING POLYHERBAL CREAM FOR UNEVEN SKIN TONE

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Hyperpigmentation is a common dermatological concern requiring agents that target multiple melanogenesis pathways. Although polyherbal topical formulations are increasingly marketed, many lack comprehensive quality standardization to verify safety and chemical consistency. This study aimed to develop a standardized, multi-agent hybrid polyherbal cream designed for multi-pathway depigmenting synergy. The pale-yellow, formaldehyde-free oil-in-water emulsion was formulated by combining niacinamide, alpha-arbutin, and kojic acid with *Aloe vera* (L.) Burm. f., *Glycyrrhiza glabra* extract, vitamin E, and *Simmondsia chinensis*, *Prunus amygdalus dulcis*, and *Melaleuca alternifolia* oils in an emulsifying wax base. Standardization followed SLS 743:2021 specifications. Physicochemical, microbiological, heavy metal, and thin-layer chromatographic (TLC) properties were evaluated in triplicate. The results showed pH of 5.6, water content of 63%, non-volatile matter of 35%, peroxide value of 3.8 meq/kg, and spreadability of 2534 $g \cdot cm \cdot s^{-1}$. Cadmium, lead, arsenic, and mercury were below detection limits. The total aerobic mesophilic count was 1.0×10^1 CFU/g, while *Staphylococcus aureus*, *Pseudomonas aeruginosa*, *Escherichia coli*, and *Candida albicans* were absent. TLC fingerprinting showed 90–95% concordance with ingredients including niacinamide, alpha-arbutin, kojic acid, *Glycyrrhiza glabra* (glabridin), *Aloe vera* (L.) Burm. F., vitamin E, and *Melaleuca alternifolia* oil, thereby supporting the claims of depigmentation through antioxidant, anti-inflammatory, antimicrobial, and tyrosinase-inhibitory activities. The core novelty of the combination relies on the functional contribution of its herbal components: *Glycyrrhiza glabra* introduces distinct flavonoid-mediated enzyme inhibition, while *Melaleuca alternifolia* and *Aloe vera* intercept upstream post-inflammatory hyperpigmentation triggers and mitigate chemical-induced barrier irritation. The formulation met all quality requirements specified in SLS 743:2021; however, clinical studies are required to confirm the efficacy of this cream.

Keywords: Polyherbal cream, Depigmentation, Standardization

DEVELOPMENT AND QUALITY CONTROL STANDARDIZATION OF A TRADITIONAL *DASHAMOOLI KASHAYA* BASED NOVEL POLYHERBAL CAPSULE

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Dashamooli kashaya is a traditional Sri Lankan polyherbal decoction widely prescribed for deep-seated inflammatory pain, rib and flank pain (*Parshwa shula*), sore throat, lethargy, and associated inflammatory conditions. However, its conventional liquid dosage form presents challenges in storage, transportation, dose uniformity, and patient compliance. This study aimed to develop and standardize a novel capsule formulation of *Dashamooli kashaya* and evaluate essential physicochemical and safety parameters for routine quality control. Authenticated medicinal plants comprising *Aegle marmelos*, *Oroxylum indicum*, *Vitis vinifera*, *Gmelina arborea, Alysicarpus vaginalis, Stereospermum chelonoides, Aerva lanata, Solanum virginianum, Solanum melongena L., and Tribulus terrestris* were processed using the traditional 8:1 aqueous decoction method. The concentrated extract was dried, blended with pharmaceutical excipients, and encapsulated. Standardization followed WHO quality control guidelines by evaluating moisture content, weight uniformity, disintegration, colouring matter, microbiological quality, heavy metals, and thin-layer chromatography (TLC) fingerprinting in triplicate (n=3). The capsules exhibited a mean moisture content of 8.5%, an average weight of 0.2432 g (with a narrow variance range from −3.80% to +3.89%), and complete disintegration within 18 min 25 s. Permitted synthetic coloring agents were absent. The total aerobic mesophilic count was 1.9×10^2 CFU/g; *Staphylococcus aureus, Pseudomonas aeruginosa, Escherichia coli*, and *Candida albicans* were completely absent. Heavy metals (Cd, Pb, As, Hg) remained below analytical detection limits. TLC fingerprinting demonstrated 90–95% concordance with crude reference materials, establishing distinct, reproducible retardation factor (R_f) profiles. The formulation complied with the primary quality and safety requirements, providing reference standards for routine quality control and batch-to-batch consistency of *Dashamooli* capsules.

Keywords: *Dashamooli kashaya*, Inflammatory pain, Polyherbal capsule, TLC

DEVELOPMENT AND STANDARDIZATION OF A TRADITIONAL *PASPANGUWA* BASED NOVEL POLYHERBAL FORMULATION FOR RESPIRATORY WELLNESS AND IMMUNE SUPPORT

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Paspanguwa is a traditional Sri Lankan polyherbal formulation widely used for the symptomatic management of fever, cough, common cold, headache, and respiratory discomfort. To improve convenience while retaining its traditional therapeutic value, a ready-to-use formulation was developed. This study aimed to evaluate its quality and safety according to World Health Organization (WHO) guidelines for quality control of herbal medicines, focusing on physicochemical properties, microbiological safety, heavy metal content, and chromatographic characteristics. The formulation consisted of *Piper longum, Tribulus terrestris, Solanum virginianum, Coscinium fenestratum, Aerva lanata, Coriandrum sativum, Solanum capsicoides, Zingiber officinale, Piper nigrum,* and *Borassus flabellifer* (Palmyra sugar candy). Standardization included physicochemical evaluation of pH, moisture and volatile matter, colouring matter, heavy metal determination by ICP-MS, microbiological analysis, and thin-layer chromatography (TLC) fingerprinting. The formulation exhibited a pH of 6.4 and moisture and volatile matter content of 4.5%. Synthetic colouring agents were absent. Lead concentration was 0.15 mg/kg, below the WHO permissible limit of 10 mg/kg, while cadmium, arsenic, and mercury were below detection limits. The total aerobic microbial count was 3.3×10^2 CFU/g, below the WHO acceptance criterion ($\leq 10^5$ CFU/g), with yeast and mould counts below 40 CFU/g. Staphylococcus aureus, Pseudomonas aeruginosa, Salmonella, and Escherichia coli were absent. TLC fingerprinting showed approximately 90–95% concordance with the authenticated botanical ingredients, supporting botanical authenticity. These findings demonstrate satisfactory physicochemical, microbiological, heavy metal, and chromatographic characteristics of the evaluated formulation. The measured parameters may serve as preliminary reference specifications for future pharmaceutical standardization and routine quality assessment of the ready-to-use *Paspanguwa* polyherbal formulation.

Keywords: *Paspanguwa,* Standardization, Polyherbal formulation, Quality control, TLC fingerprinting

EXPLORING THE IMPACT OF *KALARI MARMA CHIKITSA* IN PATIENTS WITH PERIPHERAL NEUROPATHIES (LOWER LIMB): A CASE SERIES

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Peripheral neuropathy presents in several distinct clinical and pathophysiological phenotypes based on the type of nerve fibers damaged, the distribution of symptoms, and the underlying cause ranging from sensory loss to muscle weakness. Most commonly, it causes gradual numbness, tingling sensation, burning pain in the hands and feet, sensory deficit and muscle weakness. *Kalari Marma Chikitsa*, a traditional therapeutic practice of Kerala (India), deals mostly with neuromuscular, traumatic and arthrological disorders. It comprises of *Marma* (vital points of body) massage, stimulation, manipulation and bandaging techniques. The study evaluated the changes in the clinical symptoms as well as Nerve Conduction Velocity (NCV) test findings of five patients with peripheral neuropathy affecting one or both sides of the lower limbs after treatment with *Kalari Marma Chikitsa*. Five patients suffering with pain and/or paresthesia in one or both lower limbs were included in the study. Out of which four patients exhibited sensory deficit on neurological examination and one patient although complained of numbness was without any sensory deficit. There was significant reduction in the symptoms after treatment. And NCV test results which showed demyelination of nerves or sensory deficit or partial/complete axonal loss before treatment showed normal function of nerves after the treatment. Symptomatic recovery with the treatment shows analgesic and neuromodulatory effects of the therapy, which may be attributed to many biochemical mechanisms like Peripheral nerve regeneration, Descending Inhibitory Pain pathway or Diffuse Noxious Inhibitory Control, etc. Further studies with more cases are needed to validate the findings.

Keywords: Ayurveda, Kalari Marma Chikitsa, Peripheral neuropathies

DEVELOPMENT AND PHARMACEUTICAL STANDARDIZATION OF TRADITIONAL *THAMALAKYADI KASHAYA* BASED NOVEL POLYHERBAL CAPSULE FOR RESPIRATORY CONDITIONS

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Thamalakyadi kashaya is a traditional Sri Lankan polyherbal decoction widely prescribed for respiratory disorders, including asthma (*Shwasa*), acute and chronic cough, rhinitis (*Peenasa*), and reduced appetite. However, its bitter taste and liquid dosage form limit patient compliance, portability, and storage stability. This study aimed to develop and standardize a novel capsule formulation of *Thamalakyadi kashaya* while establishing pharmaceutical quality parameters. Authenticated medicinal plants comprising *Phyllanthus debilis* J.G. Klein ex Willd., *Terminalia chebula* Retz., *Tectona grandis* L.f., *Piper retrofractum* Vahl, *Piper longum* L., *Zingiber officinale* Roscoe, *Pavetta indica* L., *Solanum melongena* L., *Solanum virginianum* L., *Solanum trilobatum* L., *Tinospora cordifolia* (Willd.) Hook.f. & Thomson, and *Piper* nigrum L. were processed using the traditional 8:1 aqueous decoction method. The concentrated extract was dried, blended with pharmaceutical excipients, and encapsulated. Standardization followed WHO quality control guidelines by evaluating moisture content, weight uniformity, disintegration, colouring matter, microbiological quality, heavy metals, and thin-layer chromatography (TLC) fingerprinting. The capsules exhibited a moisture content of 7.8%, an average weight of 0.2498 g, weight variation between −6.65% and +4.16%, and complete disintegration within 18 min 03s. Permitted synthetic colouring agents were absent. The total aerobic mesophilic count was 2.1 × 10 2 CFU/g, while Staphylococcus aureus, Pseudomonas aeruginosa, Escherichia coli, and Candida albicans were not detected. Cadmium, lead, arsenic, and mercury were below detection limits. TLC fingerprinting showed approximately 90–95% concordance with the formulation ingredients, confirming the characteristic chromatographic profile of the constituent medicinal plants. The formulation complied with the evaluated pharmaceutical quality and safety requirements, providing reference standards for routine quality control and batch-to-batch consistency.

Keywords: *Thamalakyadi kashaya,* Respiratory disorders, Polyherbal capsule, TLC fingerprinting, Standardization

CLINICAL EVIDENCE ON AYURVEDIC MANAGEMENT OF *PANDU ROGA* IN CHILDREN: A SYSTEMATIC REVIEW

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Pandu roga is a disease mentioned in Ayurveda which is characterized by *Alpa raktata* (deficiency of blood) and *Twak vivarnata* (loss of natural skin lusture). It is corelated with Iron Deficiency Anemia, a condition associated with decreased hemoglobin levels in modern medical science. Childhood anemia remains one of the most common nutritional disorders affecting growth, cognitive development and immunity. The objective of this study is to systemically review the published clinical studies investigating the efficacy, safety and clinical outcomes of various Ayurvedic formulations used in management of *Pandu roga* in children. A systemic search of online databases Google Scholar, PubMed and ScienceDirect was conducted for articles published from January 2015 to December 2025 using the keywords *Pandu roga*, Anemia, Children and Ayurveda. A total of 57 studies identified for this study and after thoroughly screening the records, 6 studies met the inclusion criteria. The included studies evaluate the formulations such as *Amalakyavaleha, Devadali churna, Pipplyadi yoga, Mandura vajra vataka, Guda haritaki, Punarnava mandura, Dhatryarishta* and *Pandugni vati* in management of *Pandu roga* in children. In most of the studies, clinical intervention period was 8 weeks. Most studies reported improvement in hemoglobin levels and clinical symptoms of *Pandu roga*; *Daurbalyata* (weakness), *Shrama* (fatigue), *Aruchi* (anorexia), *Shotha* (edema) etc. However, variations in study design, sample size and outcome measure limited direct comparison among studies. High-quality, adequately powered randomized controlled trials with standardized interventions and long-term follow-up are required before the establishment of firm clinical recommendations.

Keywords: *Pandu roga*, Anemia, Ayurveda, Children, Systematic review

ACUPUNCTURE IN TREATING MIGRAINE: A REVIEW

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Acupuncture is a major treatment method of Traditional Chinese Medicine. It is widely used to treat so many diseases except some surgical conditions. It is more beneficial in diseases related to pain, such as migraine. However, acupuncture reduces the severity and frequency of migraine. The National Institute of Healthcare Excellence also suggested that acupuncture can be used for chronic headaches and migraines not responding to analgesics & daily preventative drugs. The review aims to obtain knowledge on different theories and points used in managing migraine with acupuncture. The literature survey was done in Traditional Chinese Medicine books, scientific articles, journals, research papers, authentic websites, and other relevant sources. Traditional Chinese Medicine is based on *Qi* (life energy) and meridian theory, Yin-Yang balance and five elements theory. Treatment of migraine focuses on restoring the Qi balance by stimulating selected liver & gallbladder points, evaluating & treating imbalanced meridian & local affected points. Nowadays a modern electrical stimulation technique is accompanied to enhance the effectiveness of treatment by providing a steady continuous stimulation. In conclusion, compiling these classical texts & modern journals provides a clear, qualitative consensus on Acupuncture's efficacy. This data will serve as an authentic framework to guide the future trials.

Keywords: Traditional Chinese medicine, acupuncture, acupoints, migraine, life energy, electroacupuncture

STUDY PROTOCOL: A RANDOMIZED CONTROLLED NON-INFERIORITY TRIAL EVALUATING THE EFFICACY OF TWO AYURVEDIC DOSAGE FORMS OF *Gymnema sylvestre* IN THE MANAGEMENT OF TYPE 2 DIABETES MELLITUS

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Type 2 Diabetes Mellitus (T2DM) is characterized by persistent hyperglycemia associated with insulin resistance and impaired insulin secretion, requiring sustained glycemic control to reduce long-term complications. Gymnema sylvestre (GS) is used in Ayurveda for diabetes management and is administered as *Panta kashaya*, an aqueous preparation. While sun-dried (SD) leaves of GS are commonly used for this preparation, freeze-dried (FD) leaves can also be prepared and administered in the same form. The clinical effects of the two formulations, FD and SD *Panta kashaya* of GS leaves, have not been adequately compared. This study compares the effectiveness of Panta Kashaya prepared from SD and FD with Metformin in patients with T2DM. This three-arm, open-label, randomized controlled non-inferiority trial will include 165 eligible participants, with 55 randomly allocated to each arm. Arm 1 will receive GS Panta Kashaya from SD, Arm 2 will receive FD formulation, and Arm 3 will receive Metformin 500mg twice daily as the standard control. Treatment will continue for 12 weeks, followed by a four-week follow-up. Primary efficacy outcomes are changes in Fasting Blood Sugar and HbA1C from baseline to week 12. Secondary outcomes will include lipid profile, insulin sensitivity (HOMA-IR), incidence and severity of gastrointestinal side effects, body weight, and BMI. Safety will be assessed through clinical examination, liver enzyme and renal function tests, and adverse event monitoring. This study was approved by the Ethical Review Committee of the Faculty of Indigenous Medicine (ERC 25/272), and the trial was registered at the ISRCTN clinical trial registry (ISRCTN15973482). This study will determine whether *Panta kashaya* prepared from FD and SD leaves of GS achieves glycemic control that is non-inferior to metformin and will compare the safety of the three interventions. The findings are also expected to contribute clinical evidence on Ayurvedic medicine and support the development of national research capacity for systematic clinical evaluation.

Keywords: Type 2 Diabetes Mellitus, *Gymnema sylvestre, Panta Kashaya*

DIFFERENTIAL CYTOTOXICITY AND ENDOTHELIAL BARRIER MODULATION BY DECOCTION AND FRESH LEAF EXTRACTS OF *Ixora coccinea* IN EA.hy926 CELLS: A PRELIMINARY STUDY

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Ixora coccinea has traditionally been used to treat chronic ulcers, sores, and skin eruptions. The anti-inflammatory and wound-healing effects of *I. coccinea* leaves are scientifically well validated. However, its direct effect on endothelial viability and monolayer integrity remains unexplored. This study evaluated the cytotoxic and morphological effects of *I. coccinea* decoction and fresh leaf extract (FLE) on endothelial cells. EA.hy926 human vascular endothelial cells were treated with a two-fold dilution series (31.25–1000 µg/mL) of decoction and FLE of *I. coccinea* for 6 hours. Cell viability was assessed via the Sulforhodamine B assay, measuring cellular protein content as an indirect estimate of cell density. Concentrations retaining ≥80% of cellular viability were classified non-toxic. One-way ANOVA with Tukey's post-hoc test (including controls; n=6) assessed statistical significance. Intercellular gap area was measured using ImageJ. Results revealed that the decoction-maintained viability >85% across all concentrations tested ($F(5,30) = 1.472$, $p = 0.228$). FLE demonstrated, viability >88% at 31.25–500 µg/mL but declininged to 62% at 1000 µg/mL ($F(5,30) = 6.974$, $p < 0.001$). Both preparations induced concentration-dependent gap formation relative to untreated controls. At 31.25 µg/mL, decoction and FLE induced 1.04-fold and 1.09-fold increases, respectively, rising sharply to 1.79-fold (decoction) and 1.86-fold (FLE) at 62.5 µg/mL, then plateauing at ~2.2-fold (decoction) and 2.24-fold (FLE) from 125 µg/mL onwards ($p<0.05$, 62.5 µg/mL onwards). Decoction maintained viability at all concentrations, while FLE reduced viability at 1000 µ"g/mL". Increased gap formation was observed at concentrations where SRB signal was largely preserved, indicating morphological alterations. Functional assays are required to confirm barrier permeability.

Keywords: Endothelium, *Ixora coccinea*, wound healing, Traditional plants, Integrity

THE ROLE OF AYURVEDA TREATMENTS FOR MALE SEXUAL DYSFUNCTION: A NARRATIVE REVIEW

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Sexual dysfunction among males, such as impotence, premature ejaculation, and low sexual desire, is a health condition that has an impact on the quality of one's life and psychological state. Despite the effectiveness of the existing treatment methods, they have a number of drawbacks, which have resulted in the increased popularity of complementary medicine. This narrative review explores the role of Ayurveda treatments in managing male sexual dysfunctions, aiming to contribute valuable insights to the existing literature on alternative therapies for sexual health issues. The primary objective of the study is to provide a comprehensive overview of the efficacy, safety, and impact of Ayurveda-based treatments in addressing various forms of male sexual dysfunction, such as erectile dysfunction, premature ejaculation, and low libido. Additionally, the study aims to compare Ayurveda's holistic approach with conventional medical treatments while identifying gaps in current research and suggesting directions for future investigations. In order to establish these objectives, the method used included an organized search for high quality literature along with grey literature from sources such as Google Scholar, ResearchGate, ScienceDirect, PubMed, and the 8th World Ayurveda Congress & Arogya Expo 2018. This selection resulted in the inclusion of 17 key sources, with 13 being peer-reviewed articles and 4 important reports from Ayurveda congresses. The inclusion criteria for this study comprised peer-reviewed articles, clinical trials, systematic reviews, and meta-analyses published in the last 15 years. The focus was on Ayurveda treatments for male sexual dysfunction in adult males, including herbal remedies, dietary interventions, and lifestyle modifications. Results mean that the Ayurveda treatment could serve as an alternative for the conventional therapy in male sexual dysfunction because some studies document an improvement in sexual function, sperm quality, and overall vitality. Also, Ayurveda therapies generally show fewer side effects and holistic effects on the mental and physical well-being of the male sexual dysfunction patients. There are gaps in the literature with regard to large-scale RCTs and safety profiles of certain therapies over time. This review further adds to the emerging literature not only by consolidating existing research but also by pointing to the need for more rigorous studies that would establish the calming validity of Ayurveda. These findings bring up the main point of Ayurveda in providing a holistic and patient-centered care, especially in areas where conventional treatments may fall short.

Keywords: Ayurveda, Male sexual dysfunction, Herbal remedies, Erectile dysfunction

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Abstracts

Undergraduate Research Forum

CONSUMER MINDSET IN COSMETIC PURCHASING DECISIONS: A STUDY AMONG THE UNDERGRADUATE STUDENTS OF FACULTY OF INDIGENOUS MEDICINE, UNIVERSITY OF COLOMBO

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Cosmetic use among youth is shaped by cultural, social, and economic influences, and students of indigenous medicine represent a unique consumer group whose academic exposure to natural and herbal health practices may shape distinct attitudes toward cosmetic selection and use. This study aimed to examine the consumer mindset and purchasing decisions related to cosmetics among undergraduate students of the Faculty of Indigenous Medicine, University of Colombo. A cross-sectional survey was conducted among undergraduate students of the faculty. The required sample size, calculated using an online sample size calculator (99% confidence level, 5% margin of error, and 50% expected proportion), was 412. The questionnaire was distributed via Google Forms, yielding 416 valid responses. The data were analyzed descriptively using Microsoft Excel, and priority factors were identified by ranking them according to the frequency and percentage of responses for each factor. Most respondents were female (76%) and purchased cosmetics every 3–6 months. Skincare (71.6%) and haircare (55.5%) were the most commonly used product categories. A majority of respondents (72.8%) preferred a combination of herbal and synthetic products, while 59% perceived herbal cosmetics to be more effective. Price and brand reputation emerged as the leading factors influencing purchasing decisions, whereas advertisements had minimal influence. Students preferred affordable, trustworthy, and health-oriented cosmetics, demonstrating a clear inclination toward herbal alternatives. These findings suggest that educational and cultural exposure may influence the consumer mindset and purchasing behaviour of this population.

Keywords: Consumer mindset, Cosmetic purchasing behaviour, Indigenous medicine students, Herbal cosmetics

PHYSICOCHEMICAL PROFILING OF *KUMBAL MATI* (POTTER WASP CLAY) AND ITS SUITABILITY IN MUD THERAPY

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Mud therapy, is the application of various mineral rich mud and clay for therapeutic benefit. In Sri Lankan traditional medicine several types of clay, including the Potter wasp (*Sceliphron spirifex*) nest clay traditionally called *Kumbal mati* (Potter wasp clay) is used in conditions like hydrocele (*Mutraja vrddhi*), edema (*Shotha*) and ankle sprains (*Ulukkuwa*). This research was designed to characterize the physicochemical properties of Potter wasp clay and compare them with properties reported for therapeutic clays. Multiple samples of Potter wasp clay were collected from the Colombo District. Hydrometer method was applied to analyze the Particle size analysis and identify clay, sand and silt percentages at the Department of Agricultural and Plantation Engineering, Open University of Sri Lanka. pH, total Nitrogen, Carbon, available Phosphorus, Calcium, Magnesium, Sulphur, Manganese, Potassium, Iron, Sodium, Zinc and Copper were determined using standard methods at the Soil and Plant Nutrition Division of the Tea Research institute, Talawakelle. Accordingly, Potter wasp nest clay of this study exhibited 46% clay (mainly kaolin), 28.4% silt and 25.6% sand. The measured pH range was 6.2-6.5. Chemical analysis revealed total Nitrogen of 0.35%, Carbon of 1.68% and 12.3 ppm of available Phosphorus. Furthermore, the predominant elements were revealed to be Sulphur (65ppm), Potassium (62.5ppm), Calcium (19.8ppm), Magnesium (13.4ppm) and Iron (10.25ppm). The study revealed that Potter wasp clay exhibited similar properties to various types of therapeutic clay, implying its healing ability. Therefore, with the findings suggesting potential suitability for further investigation, Potter wasp clay could also be a viable option in mud therapy.

Keywords: Mud therapy, Potter wasp clay, Traditional medicine

A COMPARATIVE LITERATURE REVIEW OF SCLERAL DISEASES (*SHUKLA GATA ROGA*) IN AYURVEDA AND MODERN MEDICINE

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Diseases of the sclera have been described in both traditional Ayurvedic literature and modern Western medical texts, reflecting distinct yet complementary approaches to ocular pathology. This narrative literature review aims to compare the classification, etiopathogenesis, clinical manifestations, diagnostic principles and management of scleral diseases (*Shukla gata roga*) as described in classical Ayurvedic texts, *Sushrutha samhitha, Ashtangaharadaya samhitha, Madhava Nidana, Bhavaprakasha, Yogarathnakaraya* and contemporary – modern medical literature Kanski's clinical ophthalmology. According to Ayurveda ophthalmology, these conditions were interpreted through the framework of *Dosha* imbalance, primarily involving *Vata, Pitta,* and *Kapha*, and are managed using systemic and local therapies such as herbal medications, ocular procedures, and lifestyle modifications. In contrast, Western medicine classifies scleral disorders based on anatomical, pathological, and etiological criteria. Modern texts emphasize inflammatory, autoimmune, infectious, and degenerative mechanisms, utilizing clinical examination, laboratory investigations, and imaging techniques for diagnosis. Treatment strategies involve anti-inflammatory agents, immunosuppressive therapy, antimicrobial medications, and surgical interventions when necessary. The review highlights similarities in clinical observations while underscoring fundamental differences in disease conceptualization and therapeutic approaches. Understanding these perspectives may contribute to a broader appreciation of ocular health, encourage integrative research, and support the development of holistic strategies for managing scleral diseases. Further comparative studies are suggested to evaluate the potential integration of Ayurvedic concepts with contemporary ophthalmic practice.

Keywords: Ayurveda, Ophthalmology, Scleral diseases, *Netra roga*, Comparative medicine

A STUDY ON EFFECTIVENESS OF *MAHA VATA MURTHU* TRADITIONAL OIL IN THE MANAGEMENT OF *JANU SANDHIGATA VATA* WITH SPECIAL REFERENCE TO KNEE JOINT OSTEOARTHRITIS: AN OBSERVATIONAL CASE STUDY

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Janu sandhigata vata, the Ayurvedic correlate of knee osteoarthritis, is a chronic degenerative joint disorder characterized by pain, stiffness, swelling, and impaired joint function. Conventional treatment provides symptomatic relief. *Maha vata murthu* traditional oil is external traditional formulation, may offer a safe and holistic therapeutic alternative. This study aimed to evaluate its clinical effectiveness in the management of *Janu sandhigata vata*. An observational case study was conducted on two patients clinically diagnosed with knee osteoarthritis. *Maha vata murthu* traditional oil was prepared according to the *Taila Kalpana* principles described in *Sharangadhara Samhita* using a traditional formulation in the *Kanda Vaidya Grantha*. The oil was applied twice daily after warm the oil slightly, for one month continuously. Clinical outcomes were assessed before and after treatment using the VAS scale for pain, WOMAC Index for stiffness, TUG Test for functional mobility, goniometry for range of motion, KOOS for quality of life, and clinical evaluation of joint swelling. Both patients demonstrated clinically significant improvement after treatment. The mean pain score decreased by 64.55%, while stiffness and joint swelling were completely resolved (100% reduction). Functional performance improved by 33.13%, and quality of life increased by 70.83%. No adverse effects were reported during the treatment period. The observed clinical improvements attributed to the Ayurvedic pharmacodynamics properties of this Oil, including *Vata shamaka*, *Vedana sthapana* and *Shothahara* properties. This observational case study suggests that *Maha vata murthu* traditional oil may serve as a safe and effective complementary traditional intervention for the management of *Janu sandhigata vata*.

Keywords: *Janu sandhigata vata*, Osteoarthritis, Observational case study, *Maha vata murthu* traditional oil

FORMULATION AND STANDARDIZATION OF RECTAL SUPPOSITORY AND TOPICAL CREAM FROM *SHURANDHI LEPA* INDICATED FOR *ARSHAS*

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Arshas (hemorrhoids or piles) is a common anorectal disorder characterized by pain, swelling, inflammation, and discomfort in the anal and rectal region. Modern medicine attributes the condition mainly to increased intra- abdominal pressure and chronic straining, whereas Ayurveda considers it a disease resulting from the imbalance of *Vata, Pitta*, and *Kapha dosha*. Although conventional treatment options, including oral medications, topical preparations, and surgery, are widely available, they are often associated with recurrence, side effects, and patient discomfort. Therefore, there is a need for safe, effective, and standardized Ayurvedic treatment alternatives. This study aimed to develop and standardize rectal suppository and cream formulations based on *Shuranadi lepa*, described in *Bhaisajya Ratnavali* under *Arsho roga adhikara*, for the management of *Arshas*. The formulations were prepared using *Surana* (*Amorphophallus campanulate*), *Haridra* (*Curcuma longa*), *Citraka* (*Plumbago indica*), *Pushkara* (Borax), *Purana guda* (Jaggery), and *Kanji,* followed by evaluation of their organoleptic, physicochemical, and stability characteristics. Four cream formulations and four suppository formulations were prepared and evaluated. The optimized cream was dark brown, mildly greasy, had a pH of 8.54, and exhibited a spreadability of 7.5 × 10−5 kgms−1, while remaining stable for six months. The optimized suppository was brownish, moderately smooth, and showed a uniform weight of 2.5 g, hardness of 13.1N, melting point of 55 °C, and pH of 8.37. Stability studies revealed no observable changes at 25 °C and −4 °C. Phytochemical screening confirmed the presence of alkaloids, tannins, flavonoids, saponins, and terpenoids. Overall, the developed formulations demonstrated satisfactory quality, stability, and standardization parameters in this preliminary study suggesting their potential as promising Ayurvedic dosage forms for the management of *Arshas*.

Keywords: *Arshas,* Rectal suppository, Cream, *Shuranadi lepa*, Standardization

A SURVEY STUDY ON THE RELATIONSHIP BETWEEN BODY MASS INDEX AND MENSTRUAL CYCLE PATTERN

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Menstrual cycle patterns are influenced by various physiological and lifestyle factors. Among those body mass index (BMI) is one of the significant contributing factors. Understanding the relationship is essential for improving reproductive health outcomes in women as menstrual irregularities are emerging as a significant health concern nowadays. This survey study investigated the correlation between BMI and menstrual cycle patterns among female Unani students of the Faculty of Indigenous Medicine, University of Colombo. A cross-sectional survey was conducted among 132 female Unani students in the age group of 21-26. The samples were selected using simple random sampling method. Data on menstrual cycle characteristics and anthropometric measurements were collected. BMI was calculated and categorized according to WHO standards. Ethical consideration was obtained from the Ethical Review Committee, Faculty of Indigenous Medicine, University of Colombo (ERC UG 25/331). Data were analyzed using descriptive statistics and association testing in Microsoft Excel. The study showed that 57% had normal BMI, 20% were underweight, 20% were overweight, and 3% were obese. The study also found the prevalence of menstrual disorders like oligomenorrhea (13%), irregular cycles (3%), hypomenorrhea (3%), menorrhagia (22%), secondary amenorrhea (1%), and dysmenorrhea (14%). The study revealed a significant association between BMI and menstrual cycle irregularities (p- value=0.0005). Underweight, overweight, and obese subjects reported higher frequencies of menstrual irregularities compared to those with normal BMI. These findings suggest that menstrual disturbances vary across BMI categories, with menorrhagia being the predominant pattern in underweight, overweight and obese groups. Extremes of BMI are associated with increased menstrual disturbances. These findings emphasize the importance of lifestyle modifications and nutritional counseling to maintain a healthy BMI, potentially reducing menstrual irregularities and improving overall reproductive health.

Keywords: Body Mass Index (BMI), Menstrual Cycle Patterns, Menstrual Irregularities

DEVELOPMENT OF THE PROTOCOL FOR *IN-VITRO* PROPAGATION OF *Atalantia ceylanica (Arn.) Oliv.* (RUTACEAE)

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Atalantia ceylanica (Family *Rutaceae*) is an endemic medicinal plant of Sri Lanka whose populations are declining due to habitat loss and overharvesting. *In-vitro* propagation offers a viable strategy for its conservation and suitable utilization. This study aims to develop an optimized *in-vitro* propagation protocol for *Atalantia ceylanica* by evaluating suitable explants, sterilization methods, culture media and plant growth regulators to enhance shoot induction, multiplication rooting etc. Seeds from field grown plants were surface sterilized using 70% alcohol for 1 minutes, followed by 1.8% Sodium Hypo chlorite for 20 minutes and then rinsed three times with sterile distilled water and kept the seeds on soaked filter papers from distilled water for 10 days. After cultured on Murashige and Skoog medium supplemented with two different plant growth regulators. The highest shoot induction (approximately 5-5.5cm) was obtained on MS medium with 2.0mg/L-Benzylaminopurrine (BAP) and 0.1 mg/L – Naphthaleneacetic acid (NAA). The longest root multiplication (approximately 2.312) was obtained on MS medium with 0.1mg/L- Thidiazuron (TDZ). All the cultured plants were kept under 20^0C and sterile environment. The optimized protocol provides a reliable method for large-scale propagation and ex situ conservation of A*talantia ceylanica* and may facilitate future phytochemical and pharmacological studies of this valuable species.

Keywords: *Atalantia ceylanica*, *in-vitro* culture, Murashige and Skoog medium, shoot induction, rooting

COMPARATIVE *IN-VITRO* ANTI-INFLAMMATORY POTENTIALS OF *ATHIVIDAYAM* WITH ITS SUBSTITUTE: *MUSTA*

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Ativisha (Aconitum heterophyllum), an important Ayurvedic anti-inflammatory herb, is not naturally available in Sri Lanka. Although Bhavaprakasha recommends *Musta (Cyperus rotundus*) as its substitute, scientific evidence supporting this substitution is limited. This study compared the *in vitro* anti-inflammatory activity of both species using the egg albumin denaturation assay. The authenticated plant parts were extracted with methanol by hot Soxhlet extraction, and aqueous extracts of *Ativisha* and *Musta* were prepared for the anti-inflammatory assay. Diclofenac sodium was used as the standard drug, and a concentration series of both the standard and plant extracts were prepared. Separate blank samples were included for each concentration. The reaction mixture consisted of the sample, egg albumin, and 0.1 M Tris buffer (pH 6.4) in a ratio of 2.0:0.2:2.4 ml. All mixtures were incubated at 37 ± 3°C for 15 minutes, then heated at 70°C for 5 minutes, and was performed in 03 replicates. Absorbance was measured at 660 nm, and the percentage inhibition of protein denaturation was calculated. Statistical analysis was performed using one-way ANOVA followed by Tukey's HSD post-hoc test. Both plants exhibited concentration-dependent anti-inflammatory activity. However, *Ativisha* demonstrated significantly greater inhibition of protein denaturation than *Mustha*, with relative inhibition values of 663.84% and 271.29%, respectively (P = 0.00001). These findings indicate that *Ativisha* possesses stronger *in vitro* anti-inflammatory activity than *Mustha* in the egg albumin denaturation assay. Although *Mustha* exhibited anti-inflammatory activity, its efficacy was significantly lower than that of *Ativisha*. These findings support the traditional use of *Ativisha* in inflammatory conditions. The comparatively lower activity of *Musta* in this assay suggests it may not effectively inhibit protein denaturation, but it may exert anti-inflammatory effects through other mechanisms involved in the inflammatory response, warranting further investigation using additional *in vitro* and *in vivo* models.

Keywords: *Cyperus rotundus, Aconitum heterophyllum*, Protein denaturation assay

DEVELOPMENT OF AN HERBAL TRANSDERMAL APPLICATION FOR WOUND HEALING

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Wound healing is a complex biological process that requires effective infection control and tissue regeneration. *Panchavalkala*, a classical Ayurvedic formulation, is traditionally used for *Vrana Ropana* (wound healing). This study aimed to develop and evaluate a herbal transdermal patch for wound healing using a modified *Panchavalkala* formulation. Decoctions and ethanolic extracts of three modified *Panchavalkala* formulations containing *Terminalia arjuna*, *Syzygium cumini*, or *Azadirachta indica* as substitutes were prepared. Qualitative phytochemical screening and quantitative tannin analysis were performed. The extract with the highest tannin content was incorporated into a transdermal patch using HPMC and PEG 400. The patch was evaluated for physical properties and surface pH. Phytochemical screening confirmed the presence of tannins and flavonoids in all formulations. *Terminalia arjuna* exhibited the highest tannin content and was selected for patch preparation. The formulated patch showed a smooth, flexible, non-sticky texture, excellent adhesion. The mean surface pH was 7.1 ± 0.1, indicating skin compatibility. The developed *Terminalia arjuna* transdermal patch demonstrated favorable phytochemical and physicochemical characteristics. The formulation highlights the potential of integrating traditional Ayurvedic knowledge with modern transdermal drug delivery systems for wound management.

Keywords: *Panchavalkala, Terminalia arjuna*, Transdermal Patch, Wound Healing, Ayurveda

A NOVEL COMPUTATIONAL FRAMEWORK FOR THE TOPOGRAPHICAL MAPPING AND DYNAMIC 3D VISUALIZATION OF AYURVEDIC *MARMA* ANATOMY

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According to classical Ayurvedic texts the human body comprises 107 vital anatomical intersections known as Marmas. Mastering the precise topography and clinical significance of these points is foundational for clinical practice but translating classical descriptive text into spatial configurations remains a significant educational challenge for students. The aim of this study was to address this educational challenge by designing a high fidelity, interactive 3D digital human body model dedicated to mapping all 107 Marma locations. The methodology used in this study involves developing a comprehensive 3D digital human body model in Blender software, on which all 107 *Marma* points are precisely marked using specific anatomical knowledge gained from studying classical Ayurvedic texts. These marked points are created as interactive, selectable nodes that are directly linked to a backend clinical database. This configuration enables real time, query-based exploration, allowing users to dynamically obtain multi-dimensional clinical profiles of each specific Marma. The results of this study demonstrate that the platform successfully maps all 107 Marma points, offering instant, comprehensive clinical profiles for each site. It provides accurate data across *Shadanga* (regional), *Rachana* (structural) and *Parinama* (prognostic) classifications, precise *Anguli pramana* (dimensional size) and the specific physiological outcomes associated with trauma. This digital map successfully connects ancient therapeutic wisdom with modern information science, providing an intuitive, interactive tool that modernizes Ayurvedic anatomical education.

Keywords: *Marma*, 3D digital human body, Digital Education, Ayurvedic Anatomy

IMPACT OF SCREEN TIME SLEEP PATTERNS, CONCENTRATION AND ACADEMIC PERFORMANCE IN SCHOOL STUDENTS OF B/AL- ADHAN MAHA VIDYALAYA BADULLA

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These days screen use has become a major part of students' daily lives for both learning and leisure. However, excessive and unregulated screen time has raised concerns about its effects on adolescents' sleep, concentration, and academic performance. This study aimed to assess these impacts among school students. A school-based cross-sectional study was conducted among 288 students of 15-18 years old at B/Al-Adhan Maha Vidyalaya Badulla. The Self-administered questionnaire was used for data collection after the ERC approval. Among 288 school students aged 15–18 years (66.7% female), most were multiple screen users, with 51.7% using only smartphones. A majority (64.6%) used screens in bed before sleep, and many had short sleep duration (37.6% slept 5–6 hours; 12.2% <5 hours). Over half (53.5%) sometimes had difficulty concentrating, and 38.2% were distracted while studying. While 56.9% reported no change in academic performance, 27.8% noted a decline, and 47.9% believed reducing screen time could improve focus and grades. The study found that excessive screen time, especially before sleep, is common among students aged 15–18 years and is associated with poor sleep, reduced concentration, and lower academic performance. Increasing awareness and promoting healthy screen habits and good sleep hygiene may improve students' academic and cognitive outcomes.

Keywords: Academic performances, School children, smartphone, Effect on sleep, Screen time

IN VITRO ANTIOXIDANT AND HEPATOPROTECTIVE ACTIVITY OF *Nauclea orientalis* (L.) L. AND *Neolamarckia cadamba* (ROXB.) BOSSER: A COMPARATIVE STUDY

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Liver diseases are closely associated with oxidative stress, which results from an imbalance between reactive oxygen species (ROS) and endogenous antioxidant defenses. Plant derived phytochemicals have emerged as promising alternatives to synthetic hepatoprotective drugs due to their safety and therapeutic potential. *Nauclea orientalis*(L.) L.and *Neolamarckia cadamba* (Roxb.) Bosser, traditionally used in Sri Lankan and Asian medicine, has been noted for their medicinal value; however, comparative scientific evidence on their antioxidant and hepatoprotective activities remains limited. This study aimed to evaluate and compare the in vitro antioxidant and hepatoprotective properties of methanolic and aqueous bark extracts of these two Rubiaceae species. Phytochemical screening was conducted to determine major classes of secondary metabolites. Antioxidant activity was assessed using the DPPH radical scavenging assay, and IC50% values were calculated. Hepatoprotective activity was evaluated using an ethanol-induced hepatotoxicity model in porcine liver tissue, where AST levels were measured after treatment with plant extracts at concentrations of 1000–100 ppm. Statistical analysis was performed using one-way ANOVA followed by Dunnett's post hoc test, with $p < 0.05$ considered significant. Both extracts contained flavonoids, phenolics, tannins, alkaloids, and terpenoids. *N. orientalis* exhibited strong antioxidant activity, with a low IC50% value (8–10 µg/mL) comparable to ascorbic acid (6.05 µg/mL), while *N. cadamba* showed moderate activity (IC50%: 134–158 µg/mL). In hepatoprotective assays, both species significantly reduced AST levels, indicating protection against ethanol-induced liver damage. *N. cadamba* demonstrated superior hepatoprotective activity, reflected by lower cytotoxicity percentages and greater stabilization of liver enzyme levels. The pronounced antioxidant potential of *N. orientalis* may be attributed to its rich phenolic and flavonoid content, whereas the stronger hepatoprotective effects of *N. cadamba* may result from its broader phytochemical profile, including terpenoids and alkaloids. These findings validate their traditional medicinal uses and suggest their potential as natural sources for hepatoprotective and antioxidant agents.

Keywords: *Nauclea orientalis* (L.) L, *Neolamarckia cadamba* (Roxb.) Bosser, DPPH assay, AST, antioxidant

STUDY ON THE EFFECTIVENESS OF *HIJAMA BILA SHART* (DRY CUPPING) ON *WAJAUL MAFASIL* (JOINT PAIN) – RELATED TO SECONDARY DATA

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Arthritis is a common chronic musculoskeletal disorder worldwide, with higher prevalence among older adults and females. Although conventional treatments provide symptomatic relief, they are often associated with limited long-term effectiveness, adverse effects, and potential complications. *Hijama* (cupping) is a regimenal therapy that has considered as a complementary and alternative approach for the management of musculoskeletal disorders. Therefore, this study aimed to evaluate the effectiveness of *Hijama bila shart* in patients with *Wajaul mafasil*, using secondary data. A retrospective study was conducted at the District Ayurvedic Hospital, Sammanthurai. Sixty outpatient department (OPD) records of patients treated between January 2025 and May 2025 were reviewed. Ethical approval was obtained from the ERCFIM. Data were analyzed using Microsoft Excel 2016 and IBM SPSS Statistics Version 30. The results showed that the majority of patients were aged 60-79 years (93.33%), and 70% were females, indicating that older adults and females are at greater risk of chronic joint pain. The most common presenting complaints were knee joint pain (30%), shoulder joint pain (28.33%), lower back pain (16.67%), sciatica (15%), and neck pain (6.67%), suggesting that *Wajaul mafasil* predominantly affects large, and weight bearing joints. The effectiveness of *Hijama bila shart* was demonstrated by reductions in pain (93.33%), stiffness (80%), numbness (75%), and swelling (60%), along with improvement in range of movement (88.46%). These findings suggest that *Hijama bila shart* is a safe, effective, and affordable non-pharmacological therapeutic modality for the management of *Wajaul mufassil.* However, the study was limited by its retrospective design, small sample size, and reliance on secondary data. Therefore, large scale randomized control trails are recommended to evaluate the effectiveness and safety of *Hijama* in the management of *Wajaul mafasil.*

Keywords: *Wajaul mafasil*, Joint pain, *Hijama bila shart*, Dry cupping, Musculoskeletal

IMPACT OF LIFESTYLE CHANGES ON MENSTRUAL CYCLE AMONG ADVANCE LEVEL STUDENTS IN DHARGA TOWN AREA BASED SCHOOLS

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Menstrual irregularities have become increasingly common among adolescent girls, largely due to changes in daily habits and lifestyle. Unbalanced diets, inadequate sleep, low physical activity, and higher stress levels are major contributors. This study investigates how these factors influence the menstrual health of Advanced Level students attending schools in the Darga Town area, aiming to provide practical insights for prevention and awareness. A descriptive cross-sectional study was conducted among 348 Advanced Level female students selected using simple random sampling. The sample size was calculated using the single population proportion formula based on an estimated prevalence of 29%, with a 95% confidence level and 5% precision, including a 10% allowance for non-response. A validated, self-administered questionnaire assessing menstrual patterns and lifestyle factors was used. Data were analyzed using SPSS. Descriptive statistics were presented as mean ± SD and frequencies. Associations between lifestyle factors and menstrual patterns were assessed using the Chi-square test, with $p<0.05$ considered statistically significant. Questionnaire validation 3months. Among the participants, 283 (81.3%) reported regular menstrual cycles, while 65 (18.7%) experienced irregular cycles. Higher number of students with regular menstrual pattern follow normal BMI (40%), healthy dietary habits, sleep patterns, physical activities. In contrast higher number of students with irregular menstrual pattern show unhealthy dietary habits, like inadequate hydration (13.7%), daily consumption of fast foods (18.1%), inadequate sleep (4-6 hours of night sleep per day, absence of physical activities (18.7%), and higher level of distress (8.9%). These unhealthy behaviors cause imbalance in *Akhlat* (four bodily humours: Blood, Phlegm, Yellow bile, Black bile) and lead many menstrual disorders. Menstrual irregularities among adolescent females are closely associated with modifiable lifestyle factors, including BMI, diet, hydration, sleep quality, physical activity, and stress. These findings highlight the importance of promoting healthy lifestyles and adopting an integrated approach combining evidence-based medical guidance with Unani preventive principles to improve menstrual health and prevent future menstrual disorders.

Keywords: Menstrual irregularity, Lifestyle factors, Adolescents, *Asbab-e-Sitt-e-Zarooriya*, prevention

DEVELOPMENT AND STANDARDIZATION OF HERBAL COOKIE FOR CHILDREN

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According to the World Health Organization (WHO), undernutrition in children results from inadequate intake of essential nutrients, impairing normal growth and development and contributing to conditions such as stunting and wasting. WHO emphasizes the provision of safe, nutrient dense supplementary foods to improve dietary intake and support healthy child growth. This study aimed to formulate a functional herbal cookie as a nutrient-rich supplementary food using natural ingredients with documented nutritional and functional properties. The formulation comprised *Vigna radiata*, seeds of *Cucurbita pepo*, root of *Ipomoea batatas*, leaves of *Moringa oleifera*, dates, cashew nuts, ghee, and butter selected based on published scientific literature. The formulated cookies were evaluated for organoleptic and physicochemical characteristics, including qualitative macronutrient analysis, pH (6.64), moisture content (10.8%) hardness (42.3N), and ash values (total ash-2.57%, water soluble ash-2.45% and acid insoluble ash-0.10%) using standard analytical methods. They are indicating acceptable quality, palatability, and suitability as a supplementary food for children. Dates were incorporated as a natural sweetener to replace refined sugar providing a lower glycemic index. Qualitative analysis confirmed the presence of carbohydrates, proteins and lipids which are essential for growth. Based on published evidence, the selected herbal ingredients are contained antioxidant phytochemicals, thereby enhancing the nutritional value of the product while minimizing the need for artificial additives. Quantitative determination of macro and micronutrients, microbiological evaluation, shelf-life studies, antinutrient and mineral analysis are planned in future investigations. Overall, the formulated herbal cookie demonstrates promising potential as a safe, nutrient-dense supplementary food to support healthy growth and development in children.

Keywords: Herbal cookie, Children, Development, Nutrition, Health

DEVELOPMENT OF NOVEL MULTI -FUNCTIONAL INSTRUMENT FOR *AGNI KARMA*

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Agni karma, a specialized thermal therapeutic procedure in Ayurveda, has long been recognized for its effectiveness in managing chronic pain disorders, *Bhagandara* (fistula), *Granthi* (cystic lesions), and other ailments. Despite its therapeutic significance, the traditional *Dahana upakarana* (cautery instruments) described in classical Ayurveda literature are often limited in terms of practicality, standardization, and adaptability to modern clinical settings. This study aimed to bridge the gap between traditional Ayurveda knowledge and contemporary medical technology through the development of a multipurpose *Agni karma* device. An extensive review of classical Ayurveda texts, particularly the Sushruta Samhitha, was undertaken to analyze the design principles, functional characteristics, and material composition of traditional cautery instruments. Based on these findings, a novel brass-based prototype was designed and fabricated. The device incorporates both electric and non-electric heating mechanisms and utilizes interchangeable modular attachments that replicate the functions of multiple traditional instruments within a single system and include testing method of the instrument. The developed prototype emphasizes precision, safety, portability, and ease of use while preserving the fundamental therapeutic principles of *Agni karma*. By modernizing traditional cautery techniques without compromising their classical foundations, this innovation offers a practical approach for contemporary clinical application. Furthermore, the device has the potential to facilitate the standardization of *Agni karma* procedures, support future clinical investigations, and promote the integration of Ayurveda therapeutic practices into modern healthcare systems.

Keywords: *Agni karma,* Ayurveda, *Dahana upakarana*, Integrative Healthcare, Medical Device Innovation

UNLOCKING THE MARINE BIOREFINERY: A SYSTEMATIC REVIEW ON THE BIOACTIVE COMPOUNDS AND PHARMACOLOGICAL VALUE OF *SARGASSUM* SPP IN SRI LANKA

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Sargassum species are one of the common brown algae of Sri Lankan tropical coastal regions and are a very significant marine resource with valuable biochemical and medicinal properties. Previous studies have identified about 15 species of *Sargassum* found in Sri Lanka. This effort is to evaluate the bioactive compounds and pharmacological value of *Sargassum* spp. in Sri Lanka and assess their potential as a sustainable marine biorefinery resource. This systematic review was conducted in accordance with the PRISMA guidelines. Electronic searches were conducted across four databases: PubMed (n=61), Google Scholar (n=128), EBSCO (n=92) and ScienceDirect (n=20), identifying a total of 281 reports published between 2000 and 2025. Following the inclusion of peer reviewed biochemical or pharmacological studies and the exclusion of ecological surveys or non-authentic extracts, 31 studies were critically evaluated. Analysis revealed the existence of sulfated polysaccharides (fucoidan, laminarin), phenolic compounds, flavonoids, carotenoids (fucoxanthin), altosterols, fatty acids, vitamins and essential minerals were identified. These compounds can be described as having antioxidant, anti-inflammatory, antimicrobial, antidiabetic, anticancer and antiviral activities have been extensively demonstrated and validated through previous *in vitro* cell lines (such as RAW 264.7, K562 and HeLa) and *in vivo* animal models (Wistar rats, mice and rabbits). These results reveal the chemically rich nature of *Sargassum* spp in Sri Lanka and their potential as a source of raw material for the nutraceutical, pharmaceutical and cosmeceutical sectors. These findings provide a foundation for future research focusing on compound isolation, mechanistic-based pharmacological investigations and industrial-scale application to promote value addition from Sri Lankan *Sargassum* spp.

Keywords: *Sargassum spp*, Brown macroalgae, Bioactive compound, Therapeutic potential

PHARMACEUTICAL STANDARDIZATION OF *JAMBU PALLAVADI KWATHA* AND DEVELOPMENT OF A PATIENT - FRIENDLY HERBAL CANDY FOR *CHARDI*

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Chardi (vomiting) is described in Ayurveda as the upward expulsion of aggravated *Doṣha*, mainly *Pitta* and *Kapha*. *Jambu pallavadi kwatha*, prepared from leaves of *Jambu* (*Syzygium cumini*) and *Amra* (*Mangifera indica*), together with *Laja* and *Madhu*, is used for *Chardi*; however, the decoction may have limitations related to palatability, stability and portability. This study aimed to standardize the classical *Kwatha* and develop an herbal candy. Authenticated ingredients were processed. For *Kwatha* preparation, 30 g each of fresh *Jambu* and *Amra* leaves were washed, crushed and boiled with eight parts of water under mild heat until reduced to one-eighth and filtered to obtain 240 mL. For candy preparation, jaggery was dissolved under mild heat, followed by *Kwatha* and ginger juice with stirring; powdered *Laja* was incorporated after heating, and *Madhu* after cooling before molding. The candy was evaluated for organoleptic and physicochemical characteristics, including moisture, ash values, pH, hardness, friability, weight uniformity and dissolution time. Qualitative phytochemical screening for tannins, alkaloids, flavonoids, saponins, glycosides and terpenoids was performed on both formulations. TLC and HPTLC profiling used silica gel 60 F254 plates with toluene acetate (6:3:1, v/v) and ultraviolet visualization. It was brown, pleasant-smelling, sweet, soft and smooth. Moisture content was 7.6%; total ash, water-soluble ash and acid-insoluble ash were 0.925%, 0.725% and 0.15%, respectively, while pH was 5.32. Hardness was 73 N, friability 0.37%, unit weight 4 g and dissolution time 9 minutes. Qualitative screening was positive for the phytoconstituents in both formulations, while TLC/HPTLC demonstrated chromatographic bands. The developed candy exhibited acceptable organoleptic, physicochemical and phytochemical characteristics and may provide a convenient alternative to the classical *Kwatha*. Further studies on stability, microbiological quality and clinical efficacy are required before therapeutic application.

Keywords: *Chardi,* herbal candy, Pharmaceutical Standardization*, Jambu pallavadi kwatha,* phytochemical screening

VALIDATION OF UNANI FORMULATION *QURS DAWA UL SHIFA* IN HYPERTENSION: A REVIEW

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Hypertension (*Zaghtuddam Qawi*) is a highly prevalent global health concern requiring long-term, holistic management. The Unani system of medicine offers diverse remedies, including the classical pharmacopeial compound *Qurs Dawa ul Shiffa*, which has been traditionally employed by physicians for generations to regulate elevated blood pressure and associated neurological symptoms like anxiety and insomnia. The aim of this review is to scientifically validate the medicinal efficacy of the above-mentioned polyherbal compound through a comprehensive evaluation of the pharmacological principles of its constituents. Relevant data have been sourced from classic Unani literature, current pharmacopoeia and scientific indexing database sources, including PubMed, Google Scholar and ResearchGate. The search parameters included the name of the preparation, *Qurs Dawa ul Shiffa* and its major constituents *Asrol* (*Rauwolfia serpentina*), *Filfil Siyah* (*Piper nigrum*), *Samagh e Arabi* (Gum Arabic) and *Nishasta e Makkai* (Zea mays). Pharmacological analysis shows that the drug has multiple targets within the body and works through different pathways for treating hypertension. The key ingredients have been found to have complementary properties: *Asrol* is known to have sympatholytic and nervine sedative properties; Piperine from *Piper nigrum* is a CCB and increases bioavailability; *Nishasta e Makkai* is an Angiotensin-Converting Enzyme (ACE) inhibitor. Most importantly, Gum Arabic lowers systolic blood pressure and helps to stabilize renal biomarkers. The efficacy of *Qurs Dawa ul Shiffa* rests upon the synergistic contributions of its ingredients, delivering a comprehensive strategy that mirrors modern multi-drug therapy. This evidence successfully bridges classical Unani claims with a strong foundation of modern pharmacological data, thereby validating the traditional use of the compound in managing hypertension. Future large-scale Randomized Controlled Trials (RCTs) are recommended to quantify the safety and efficacy for wider clinical integration.

Keywords: *Qurs Dawa-ul-Shifa,* Unani Medicine, Hypertension, *Rauwolfia serpentina, Piper nigrum*

COMPARATIVE PHYTOCHEMICAL AND PHARMACODYNAMIC EVALUATION OF SELECTED MARKET SAMPLES OF *Tribulus terrestris* (*GOKSHURA*)

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Tribulus terrestris (Gokshura) is a widely used medicinal plant in Ayurveda, particularly for its *Mutra virechana* (diuretic) action. The increasing availability of market samples with differences in quality and authenticity highlights the need for their scientific evaluation. However, limited information is available regarding the phytochemical variation among commercially available *Tribulus terrestris* samples in Sri Lanka and their correlation with Ayurveda pharmacodynamic properties related to *Mutra virechana* activity. Therefore, this study aimed to comparatively evaluate the phytochemical profiles of selected market samples of *Tribulus terrestris* and assess their relevance to *Mutra virechana* action based on Ayurveda pharmacodynamics. Four market samples of *Tribulus terrestris* collected from the Sri Jayawardenepura Kotte Municipal Council area were evaluated using preliminary phytochemical screening, Thin Layer Chromatography (TLC) fingerprint profiling and High-Performance Thin Layer Chromatography (HPTLC) analysis. The preliminary screening showed the presence of important phytoconstituents including saponins, flavonoids, alkaloids, steroids, terpenoids, tannins and glycosides. Samples 01, 02 and 04 showed comparatively higher levels of the tested phytochemicals, while Sample 03 showed the absence of saponins, alkaloids and glycosides. TLC fingerprint profiles showed considerable similarity among Samples 01, 02 and 04, whereas HPTLC analysis showed a higher number of peaks in these samples, indicating differences in their phytochemical profiles compared with Sample 03. According to Ayurveda pharmacodynamics, *Tribulus terrestris* possesses *Madhura rasa, Snigdha guna, Sheeta virya,* and *Madhura vipaka*. The predominance of *Prithvi* and *Jala Mahabhuta* is considered to contribute to increased urine formation and excretion, supporting its *Mutra virechana* action. Overall, the findings indicate variation in the phytochemical profiles of the selected market samples, with Samples 01, 02 and 04 showing relatively similar phytochemical patterns. These findings highlight the importance of phytochemical standardization and quality assessment of market samples of *Tribulus terrestris.*

Keywords: *Tribulus terrestris*, Phytochemicals, Pharmacodynamics, *Mutra virechana*

DEVELOPMENT OF A PERFUMED MEDICINAL POUCH FOR HEADACHE

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Shirah shula (Headache) is a common and disabling manifestation that significantly affects quality of life. This study aimed at the development and standardization of a perfumed medicinal pouch as a non-invasive alternative for headache relief, based on the principles of *Nasya* therapy, where the olfactory pathway serves as an important route of drug absorption. The formulation consisted of *Thwak* (*Cinnamomum zeylanicum* Blume), *Ela* (*Elettaria cardamomum* Maton), *Patra* (Cinnamon leaves as substitute), *Naga keshara (Mesua ferrea* Linn.), and *Camphor* (*Cinnamomum capparu-coronde* Blume). All plant materials were authenticated by the National Herbarium, Peradeniya. Raw materials were dried and powdered separately, mixed in equal proportions except camphor (added in half quantity), and blended with one drop of cinnamon essential oil per 17.5 g of powder. The formulation was packed into 2.5 g pouches and stored in airtight containers to preserve volatile constituents. Organoleptic, physicochemical, qualitative phytochemical, and chromatographical characteristics were evaluated. Organoleptic evaluation revealed an aromatic, fine brown powder. Physicochemical analysis showed a total-ash value of 2.5±0.8%, acid-insoluble ash value of 0.75±0.05%, water-insoluble ash value of 0.75±0.07%, moisture content of 1.11±0.36%, and a pH of 5.68±0.05. Phytochemical screening confirmed the presence of terpenoids, tannins, alkaloids, and flavonoids. Thin-layer chromatography (TLC) was performed using Toluene: Ethyl Acetate (9:1, v/v%), and High-Performance Thin-Layer Chromatography (HPTLC) generated a fingerprint profile with nine distinct peaks (Rf 0.01,0.02,0.09,0.20,0.27,0.35,0.46, 0.69,0.81). The low ash and moisture contents indicate minimal impurities and good storage stability. The presence of terpenoids supports the potential use of this aromatic medicinal pouch as a safe, non-invasive complementary formulation for managing headache.

Keywords: *Shirah shula*, Cinnamon, Camphor, Aromatic, Terpenoids

THE ROLE OF PRENATAL YOGA IN PROMOTING MATERNAL MENTAL HEALTH DURING PREGNANCY: A COMPREHENSIVE REVIEW

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Pregnancy is associated with substantial physiological, psychological, and emotional changes that increase women's vulnerability to stress, anxiety, and depression. Poor maternal mental health during pregnancy has been linked to adverse maternal and fetal outcomes, highlighting the need for safe, accessible, and non-pharmacological interventions. Prenatal yoga has gained recognition as a low-cost complementary therapy that may improve psychological well-being by reducing stress and regulating physiological stress responses, including cortisol levels. However, existing evidence remains heterogeneous, and comprehensive synthesis is limited, particularly in low- and middle-income countries such as Sri Lanka. This comprehensive review aimed to evaluate the effects of prenatal yoga on maternal mental health, assess its effectiveness in reducing stress-related symptoms, and identify gaps in the current literature. A literature review with qualitative evidence synthesis was conducted using predefined inclusion and exclusion criteria. Thirty-five peer-reviewed studies published between 2015 and 2026 were identified through searches of PubMed, ScienceDirect, Google Scholar, and ResearchGate. The majority of the included studies reported significant reductions in perceived stress, anxiety, and depressive symptoms, together with improvements in emotional well-being, sleep quality, and maternal–fetal bonding following prenatal yoga interventions. Nevertheless, considerable heterogeneity was observed in intervention duration, yoga protocols, practice frequency, and outcome assessment measures. Overall, the findings suggest that prenatal yoga is a safe, feasible, and effective complementary intervention for promoting maternal mental health during pregnancy. Integrating prenatal yoga into routine antenatal care, including Medical Officer of Health (MOH) clinics in Sri Lanka, may enhance maternal psychological well-being. Further high-quality randomized controlled trials are needed, particularly in Sri Lanka and other low- and middle-income countries, to strengthen the evidence base.

Keywords: Prenatal yoga, maternal mental health, pregnancy, stress, anxiety, psychological well-being

A REVIEW STUDY ON ROLE OF *Terminalia arjuna* IN THE MANAGEMENT OF HYPERTENSION

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Hypertension is a major global public health challenge and one of the leading risk factors for cardiovascular morbidity and mortality. Although conventional antihypertensive drugs effectively control blood pressure, their long-term use may be associated with adverse effects, poor adherence, and increased healthcare costs. Consequently, there is growing interest in evidence-based herbal therapies. *Terminalia arjuna* (*Arjuna*), a renowned cardiotonic medicinal plant used in Ayurveda and Unani medicine, contains bioactive compounds such as flavonoids, tannins, glycosides, and triterpenoids that exhibit antioxidant, anti-inflammatory, and vasodilatory activities. This review evaluates the potential role of *Terminalia arjuna* in the management of hypertension. A narrative literature review was conducted using published scientific articles, clinical studies, pharmacological investigations, and traditional medicine literature. Relevant publications focusing on the antihypertensive effects, phytochemical constituents, mechanisms of action, cardiovascular benefits, and safety profile of *Terminalia arjuna* were critically reviewed and synthesized. The reviewed evidence suggests that Terminalia arjuna contributes to blood pressure reduction through multiple mechanisms, including vasodilation, antioxidant activity, improved endothelial function, and modulation of oxidative stress. Several studies also demonstrate improvements in cardiac function, lipid profile, and overall cardiovascular health. Its phytochemical constituents appear to provide cardioprotective effects while exhibiting a favorable safety profile when used appropriately. However, the available clinical evidence remains limited by small sample sizes and methodological variations. *Terminalia arjuna* shows promising potential as a complementary or adjunctive therapy for hypertension due to its multifaceted cardioprotective properties. While existing evidence supports its therapeutic value, larger, well-designed randomized controlled trials are required to establish its efficacy, optimal dosage, and long-term safety. Integrating traditional knowledge with modern clinical research may strengthen its role in hypertension management.

Keywords: Hypertension, *Terminalia arjuna, Arjuna*, Unani medicine, Cardiovascular disease, Herbal medicine

A SURVEY STUDY ON PREVALENCE AND TYPES OF *FUTOORAT-E-HAIZ* (MENSTRUAL IRREGULARITIES) AMONG ADOLESCENT GIRLS AT BT/BC-AL AZHAR GIRLS' HIGH SCHOOL, ERAVUR

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Menstrual irregularities are common during adolescence due to the immaturity of the hypothalamic-pituitary-ovarian axis following menarche. Understanding their prevalence and patterns among school-going adolescent girls is important for the early identification of menstrual health problems and the promotion of reproductive health awareness. A school-based cross-sectional study was conducted among 290 adolescent girls aged 13–19 years at BT/BC-Al Azhar Girls' High School, Eravur. Data were collected using a self-administered questionnaire following approval from the Ethics Review Committee (ERC). The collected data were analyzed using appropriate descriptive statistical methods. The results revealed that the total of 290 adolescent girls participated in the study. The majority (24.14%) were 14 years old, and 41.7% attained menarche at the age of 12 years. Most participants (72.1%) reported a menstrual cycle length of 21–35 days, while 93.79% had a menstrual duration of 2–7 days. The prevalence of Polymenorrhea was 18.62%, oligomenorrhea 8.6%, secondary amenorrhea 6.9%, metrorrhagia 7.6%, menorrhagia 2.1%, premenstrual syndrome (PMS) 35.2%, and hypomenorrhea 1%. Dysmenorrhea was the most common menstrual irregularity, affecting 55.86% of participants. It was concluded that menstrual irregularities were common among adolescent girls, with Dysmenorrhea being the most prevalent, followed by PMS, Polymenorrhea, and Oligomenorrhea. These findings highlight the need for menstrual health education, early screening, and awareness programs to promote better reproductive health outcomes among adolescents.

Keywords: Menstrual irregularities, Dysmenorrhea, Polymenorrhea, Menorrhagia

A REVIEW OF *VACA (Acorus calamus)* CONTAINING DRUG PREPARATIONS IN AYURVEDA PHARMACOPEIA AND *THALPATHE PILIYAM*

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Vaca (*Acorus calamus Linn*.), commonly known as sweet flag, plays a significant role in Ayurvedic medicine due to its various therapeutic uses and strong pharmacological effects. Classical Ayurvedic texts like *Charaka Samhita, Sushruta Samhita*, and *Ashtanga Hridaya* have thoroughly documented its effects on intellect promotion (*Medhya*), Vata pacification, and scraping (*Lekhana*) action. This study aimed to review drug formulations containing *Vaca*, as listed in the Ayurveda Pharmacopeia and *Thalpathe Piliyam*. It focused on traditional uses, preparation methods, dosage forms, and system-specific actions. Literature study was conducted using prescriptions mentioned in 3 volumes of Ayurveda Pharmacopeia and 21 volumes of *Thalpathe Piliyam.* Collected data carefullly scrutiny of the chosen authentic texts: *Vṛhat - trayi, Bhavaprakasha, Bhavaprakasha Nighaṇḍu, Dhanwantari Nighaṇḍu, Madanaphala Nighantu,* textbook of *Dravyagana Vignana*, and selected modern texts, research papers, journals, and search engines, etc. The review found that *Vaca* appears in a total of 2,348 identified formulations, comprising 49 formulations from the Ayurveda Pharmacopeia and 2299 formulations from *Thalpathe Piliyam* that treat gastrointestinal, neurological, respiratory, cardiovascular, urinary, and reproductive disorders, in different dosage forms as *Kaṣhaya, Churṇa, Guḷi, Kalka, Taila*, and *Avaleha*: highlighting its broad role in traditional healing practices. The findings illustrate that *Vaca* remains important in Ayurveda and indicate that more pharmacological and clinical studies are needed to support its medical claims and expand its uses in modern healthcare.

Keywords: *Vaca, Acorus calamus*, Ayurveda Pharmacopeia, *Thalpathe Piliyam*, Ayurvedic formulations, Indigenous medicine

PHYSICOCHEMICAL STANDARDIZATION OF *ROGHAN-E-KHAS*: A PRELIMINARY EVALUATION

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Roghan-e-Khas is a classical Unani herbo-mineral topical formulation traditionally used for the management of wounds, ulcers, skin diseases, arthritis, and other inflammatory conditions. However, limited information is available regarding its physicochemical quality parameters. This study aimed to prepare *Roghan-e-Khas* according to the formulation used in the study and evaluate selected physicochemical characteristics to establish preliminary quality control parameters. *Roghan-e-Khas* was prepared using sesame oil, leaves of *Calotropis gigantea*, *Datura stramonium*, and *Ricinus communis*, beeswax, *Laccifer lacca*, and Pb_3O_4. The prepared formulation was evaluated for organoleptic characteristics, homogeneity, melting point, washability, container-closure compatibility, and spreadability using standard physicochemical evaluation methods. The formulation was a homogeneous reddish-brown semisolid with a characteristic pungent odour. The mean melting point was 54.26°C, indicating suitable thermal characteristics for topical application. The formulation was insoluble in water but readily washable with detergent solution. Plastic containers maintained the stability of the formulation throughout the 21-day observation period, whereas slight colour changes were observed in glass and metal containers. The spreadability was 1.08 cm s^{-1}, indicating satisfactory application characteristics. The study provides preliminary physicochemical quality parameters for *Roghan-e-Khas* and contributes to its standardization. Further comprehensive physicochemical, pharmacological, toxicological, and clinical studies are required to establish broader quality and safety parameters for the formulation.

Keywords: *Roghan-e-Khas*, Unani medicine, standardization, physicochemical evaluation, topical formulation

COMPARATIVE STUDY OF ANTI-UROLITHIC ACTIVITY OF SELECTED *KEKIRI* SPECIES IN SRI LANKA: AN *IN VITRO* STUDY

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Kekiri (*Cucumis melo* L.), a widely consumed fruit in Sri Lanka, is valued for its nutritional and ethno-medical importance. Although *Kekiri* is widely consumed and traditionally used, scientific studies evaluating the anti-urolithic potential of Sri Lankan *Kekiri* varieties are limited. Among the fourteen *Kekiri* varieties documented in Sri Lankan literature, *Kekiri*, *Hin Kekiri*, *Hen Kekiri*, and *Sini Kekiri* are the most frequently cited. Different parts of the plant have been used to treat urinary disorders, and the anti-urolithic activity of its seeds has been scientifically demonstrated. This study compared the physicochemical parameters and anti-urolithic activity of aqueous extracts from the fleshy parts of selected Sri Lankan *Cucumis melo* L. varieties using an *in -vitro* calcium oxalate crystallization inhibition assay. Authenticated samples aqueous extracts at different concentrations were reacted with sodium oxalate and calcium chloride under physiological conditions, and inhibitory activity was determined by absorbance measurements. The inhibitory potential was compared with a standard drug, revealing that the *Sini kekiri (Cucumis melo var.)* (SK) variety, among *Kekiri* (NK) *a*nd *Gon kekiri (Mukia maderaspatana)* (GK) exhibited the highest inhibition level. The statistical analysis demonstrated a highly significant difference in drug responses across four concentrations with $F=42.91$ and $p< 0.0001$. Post hoc Tukey HSD tests indicated that SD exhibited significantly different responses compared to NK, GK and SK ($p=0.0000$), whereas NK, GK and SK showed no significant differences among themselves. These findings suggest SD has a distinct response profile compared to the other three drugs. Phytochemical screening confirmed the presence of alkaloids, tannins, flavonoids, steroids, glycosides, and carbohydrates in all varieties. *Gon kekiri* exhibited the highest aqueous extractive value (3.2%), while all samples showed a near-neutral pH. These findings provide baseline data for future pharmacological and clinical studies.

Keywords: Calcium oxalate crystallization inhibition assay, *Cucumis melo*, *Sini kekiri, Mukia maderaspatana*

KNOWLEDGE, ATTITUDES AND PRACTICES RELATED TO CERVICAL CANCER SCREENING AMONG WOMEN ATTENDING THE AYURVEDA NATIONAL HOSPITAL, BORELLA, SRI LANKA

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Cervical cancer remains a major public health concern in Sri Lanka, with low participation in screening programmes contributing to delayed diagnosis and poor outcomes. This descriptive cross-sectional study assessed the knowledge, attitudes, and practices (KAP) related to cervical cancer screening among women attending the Outpatient Department of the Ayurveda National Hospital, Borella. A total of 100 women aged 35–50 years were recruited using convenience sampling in 2025. Data were collected using a structured interviewer-administered questionnaire following ethical approval from the Ethics Review Committee of the Faculty of Indigenous Medicine, University of Colombo. Data were analysed using SPSS version 27, with descriptive statistics and Chi-square tests. Among participants, 89.0% had heard of cervical cancer, while 65.0% were aware of cervical cancer screening methods. Overall, 55.0% demonstrated moderate knowledge, 35.0% poor knowledge, and only 10.0% good knowledge. Most participants recognized the importance of Pap smear screening (91.0%) and agreed that regular screening enables early detection (97.0%). However, 58.0% showed poor attitudes due to concerns about pain (65.0%) and embarrassment (57.0%). Only 35.0% had undergone a Pap smear, whereas 65.0% had never been screened. Healthcare professionals and awareness programmes were the primary sources of information. Fear, embarrassment, and the belief that screening is unnecessary without symptoms were barriers. Educational level was significantly associated with knowledge (χ^2=13.905, p=0.031), while age, occupation, and residential area showed no significant associations (p>0.05). Targeted health education programmes are recommended to address misconceptions, reduce barriers, and improve cervical cancer screening uptake.

Keywords: Attitude, Cervical cancer, Knowledge, Pap smear, Practice

PRODUCT DEVELOPMENT AND STANDARDIZATION OF ANTI ACNE HERBAL CREAM

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Acne vulgaris is a follicular disorder affecting susceptible pilosebaceous follicles, primarily on the face, neck and upper trunk of adolescents and young adults. According to Ayurveda, *Yuvana pidaka* (acne vulgaris) is caused by vitiation of *Kapha Dosha, Vata dosha* and *Rakta dhatu*. *Yogarathnakara* recommends *Manjishtadi thaila* for the management of *Yuvana pidaka*. *Manjistha (Rubia cordifolia*), *Madhuka (Madhuca longifolia*), *Laksha (Laccifera lacca) Mathulunga (Citrus aurantifolia), Yashti (Glycyrrhiza glabra*), sesame oil and goat milk are the ingredients of *Manjishtadi Taila*. The present study focused on Product development and standardization of an anti-acne herbal cream using *Manjishtadi thaila* according to *Yogarathnakara*. The cream was prepared using above mentioned *Manjishtadi thaila* as oil base. The cream was evaluated for its physiochemical and stability parameters to ensure quality and efficacy. The formulated cream exhibited a creamy yellow appearance, smooth texture and pleasant smell. The PH was found to be 5.51, which is suitable for skin application. The refractive index was 1.4657, indicating uniform mixing of ingredients. The spreadability value of 125gcm/sec confirmed good consistency and easy application. The total ash values (*Manjishta*-6.175%, *Madhuka* 3.85%, *Yashti* 5.85%, *Laksha* 3.425%) and moisture content (*Manjishta* 7.8%, *Madhuka* 8.6%, *Yashti* 8.7%, *Laksha* 8% showing acceptable purity and stability. No significant changes in color, odor or texture were observed during 60 days of storage room temperature indicating good formulation stability. Overall, the study concludes that the developed herbal anti acne cream possesses desirable physiochemical properties and is suitable for topical application. Further studies are planned to evaluate its clinical efficacy, stability and potential for commercial development.

Keywords: *Manjishtadi taila, Yuvana pidaka,* Development, Cream

DEVELOPMENT AND STANDARDIZATION OF FUNCTIONAL FOOD; A HERBAL PANCAKE

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Modern diets dominated by convenience foods are strongly linked to rising rates of obesity, diabetes, and cardiovascular diseases. Functional foods, designed to deliver health benefits beyond basic nutrition, are gaining global relevance. This study aimed to develop a functional herbal pancake fortified with herbs acclaimed for their therapeutic properties (*Rasadi panchaka*) and scientifically validated with its nutritional value. This study involved ingredient authentication, processing of raw materials, formulation of pancake, nutritional analysis (AOAC), microbial analysis, physico chemical analysis and phytochemical analysis. The formulated pancake made from *Moringa olifera* (Murunga), *Vigna radiata* (Green gram), Oryza *sativa* (Rice), *Avena sativa* (Oats), *Triticum aestivum* (Whole wheat flour), *Cicer arietinum* (Chickpea), *Vigna mungo* (Black gram) and *Glycine max* (Soya bean). Nutritional analysis of the developed breakfast mix revealed a carbohydrate (57.873g/100g), protein (19.63g/100g), Fat (12.66g/100g), crude fiber (5.09 g/100g), sugar (1.04 g/100g), Sodium Chloride (1.25g/100g) and an energy value of 424 KCal/100g). Microbiological analysis demonstrated that all parameters were within acceptable limits, including Total Plate Count (CFU/g 3,29*1000), Yeast and Mould count (CFU/g5.86*10), while total coliform and *Escherichia coli* were absent. The product also exhibited acceptable moisture and total ash contents. Qualitative phytochemical screening confirmed the presence of Alkaloids, Tannins, Flavonoid, Saponins, Steroids, Glycosides, Terpenoids. The developed herbal breakfast mix demonstrated satisfactory nutritional composition, acceptable physicochemical and microbiological quality and the presence of bioactive phytochemicals. Its carbohydrate and protein contents, low sugar level, moderate fat content and adequate dietary fiber suggest that it may serve as a nutritious breakfast option and could have potential as a functional food or meal replacement. Further studies on self-life, sensory acceptability, and clinical efficacy are recommended to support its commercial development.

Keywords: Functional Food, Ayurveda, Herbal Pancake, Nutritional Analysis, Standardization

COMPARISON OF THE PHYSIOCHEMICAL AND PHYTOCHEMICAL PARAMETERS OF THE *HABB E BAWASEERE BAADI*; MARKET SAMPLE (WITH *Berberis aristata*) WITH PREPARED SAMPLE (WITH *Coscinium fenestratum*)

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Habbe Bawaseere Baadi (HBB), a polyherbal Unani formulation mentioned in the Hamdard-pharmacopoeia for the treatment of *Bawaseer* (haemorrhoids), consists of four ingredients: 10 g of each *Maghze Tukhme Neem (Azedarachta indica), Maghze Tukhme Bakain (Melia azedarach), Rasaut (Berberis aristata DC.),* and 1 g *Gonde Keekar (Acacia arabica). Berberis aristata* is not readily available in Sri Lanka, and *Coscinium fenestratum,* which possesses similar therapeutic properties. Considering the widespread use and the effectiveness of *HBB* in hemorrhoids, this study compared the physicochemical and phytochemical parameters of Market-sample of *HBB* (consist *Berberis aristata*) with a Prepared-sample (consist *Coscinium fenestratum*). Market-sample and ingredients for the Prepared-sample were purchased, and Prepared-sample was prepared by adding 10g extract of *Coscinium fenestratum* to the powders of other ingredients. The evaluations were conducted according to WHO guidelines for quality control of herbal medicine and the Unani Pharmacopoeia. Physicochemical analysis of the prepared and market formulations showed respectively 11.5%, 10% of Ash value, 11.11%, 6.66% of moisture content, 0.043%, 0.073% of Friability, 5.69, 4.43 pH value in 1% solution, 5.68, 4.27 pH value in 10% solution, 126kg/cm, 149kg/cm Hardness and 1hour 15 minutes, 1-hour Disintegration time. Phytochemical analysis confirmed the presence of alkaloids, tannins, flavonoids, reduced sugar, coumarins, phytosterols, and phenols in both samples. The findings demonstrated similar phytochemicals and comparable physicochemical parameters between the marketed and prepared formulations, with values remaining within acceptable limits. These results support the replacement of *Coscinium fenestratum* for *Berberis aristata* in *Habbe Bawaseere Baadi.* Further preclinical and clinical studies are recommended to confirm its potency and efficacy in the treatment of Hemorrhoids.

Keywords: *Habbe Bawaseere Baadi*, *Berberis aristata* DC, *Coscinium fenestratum,* Physiochemical parameters, Phytochemicals.

THERAPEUTIC EFFICACY OF SPECIAL FORMULA MENTIONED IN *AL-QANUN FIL TIBB-II* FOR MANAGEMENT OF *HUMMA*: A COMPREHENSIVE REVIEW

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Humma, a common clinical condition in both traditional and modern medicine, is considered in Unani system as a natural defensive response aimed at expelling harmful substances and restoring humoral balance. Classical Unani scholar, Ibn Sina in *Al-Qanun fil Tibb-II*, documented several herbal formulations for its management, among which the combination of *Bakayin* (*Melia azedarach*), *Shahatra* (*Fumaria indica*) and *Haleela* (*Terminalia chebula*) is notable for its potent antipyretic and detoxifying effects. This review synthesizes evidence from classical Unani texts and modern pharmacological research to assess the therapeutic potential of this formulation in fever management. A total of 75 materials were reviewed. Out of that 12 were authentic books and 63 were research articles which were identified through Google Scholar, PubMed and ScienceDirect. After applying inclusion and exclusion criteria only 48 research articles were considered for this comprehensive review. Findings indicate that the formulation exhibits *Daf-e-Humma*, *Musaffiyat-e-Khoon*, *Mubarridat*, *Mudirrat* and *Muqawwiyat-e-Meda wa Amaa* actions, supported by pharmacological properties such as antioxidant, anti-inflammatory, antimicrobial and hepatoprotective activities. These effects are largely attributed to bioactive phytochemicals, particularly Nimbin, Baicalin, Bolidine and Pyrazol-5(2H)-one. The mechanism of action appears to involve modulation of inflammatory mediators, oxidative stress and gastrointestinal functions, which collectively contribute to reducing fever and associated complications. This comprehensive review aims to synthesize existing research on the efficacy of *Shahatra, Bakayin* and *Haleela*, providing insights into its potential integration into clinical practice for the management of *Humma*. However, further clinical trials are recommended to validate the therapeutic potential, dosage and safety of the compound formula mentioned in *Al-Qanun fil Tibb-II*.

Keywords: *Humma*, *Bakayin, Shahatra, Haleela,* Antipyretic

DEVELOPMENT OF HERBAL MOUTHWASH FOR *SHITAADA* (GINGIVITIS)

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Shitaada is a *Dantamulagata roga* comparable to gingivitis, is characterised by gum bleeding, inflammation, and oral malador. The increasing prevalence of periodontal diseases and the adverse effects associated with synthetic mouthwashes have created a need for safe, effective, and natural alternatives. This study aimed to develop and standardize a herbal mouthwash for the management of *Shitaada*. An experimental laboratory- based study was conducted from February to September 2025. A traditional formulation selected from the *Thalpathe Piliyam* book series was used to prepare the mouthwash. The formulation contained *Terminalia chebula* Retz, *Terminalia bellirica* Roxb, *Phyllanthus emblica* L, *Ficus benghalensis* L, *Syzygium cumini* L, and *Cassia fistula* L. Raw materials were standardized by analysing moisture content and total ash value analysis. The final product was evaluated through organoleptic assessment, pH determination, stability testing, phytochemical screening, foam test, extractable value determination, and HPTLC fingerprint profiling. The developed mouthwash was a light brown colour with pleasant odour and a pH of 6.41. Moisture content and ash values of all raw materials were within acceptable limits. Phytochemical screening revealed the presence of alkaloids, tannins, flavonoids, terpenoids, and saponins. The foam test demonstrated satisfactory cleansing activity, while the extractable value was 15.45%. TLC and HPTLC fingerprint were developed by using the solvent system, Toluene: chloroform: ethyl acetate: dichloromethane 7:3:2:1 (v/v) and HPTLC Fingerprint pattern showed 10 peaks. The developed standardization parameters provide a basis for future quality control and further pharmacological and clinical evaluation of the formulation and to need further develop as a safe, natural, and eco – friendly alternative for the promotion of oral health.

Keywords: *Shitaada*, Herbal mouthwash, Periodontal disease, Oral hygiene

PRELIMINARY OBSERVATION OF THE EFFECTS OF *ELA OLINDAADI KASHAYA* AND *PRATHIMARSHA NASYA* (*ANU THAILA*) IN DYSARTHRIA: AN OBSERVATIONAL CASE STUDY

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Dysarthria is a motor speech disorder caused by neurological damage affecting muscles used for speech. In Ayurveda, dysarthria has been described as *Vak sanga, Gadgada,* and *Vak shakthi lopa* under the *Vata vyadhi*. This observational case study aimed to preliminarily observe the effects of *Ela olindaadi kashaya* combined with *Prathimarsha nasya* using *Anu thaila* for the management of dysarthria. A 63-year-old male patient with a two-year history of dysarthria and moderate impairment was selected for the study. *Ela olindaadi kashaya* possesses predominantly *Tikta rasa, Madhura rasa, Lughu guna, Ushna veerya, and Katu vipaka*, indicating *Vata-shamaka* potential, while *Prathimarsha nasya* with *Anu taila* is described for *Urdhavajatrugata* disorders. *Ela olindaadi kashaya* was administered at a dose of 120ml twice daily, morning and evening, for two weeks. Following completion of the *Kashaya* administration, *Prathimarsha nasya* using *Anu taila* was administered at a dose of 2 drops in the morning for three days. Clinical assessment was performed using Bogenhausen Dysarthria Scales (BoDyS) before and after treatments. The baseline total BoDyS score was 20/36 (55.6%). Moderate impairment was observed in respiration and pitch/loudness (score 3), while other parameters showed mild impairment (score 2). After treatments, 7 of 9 parameters unchanged; sound production and nasal resonance showed mild improvement from two to three. Total score increased by two points to 22/36 (61.1%). These findings suggest that the intervention may have supportive benefits in managing dysarthria. Larger controlled clinical trials are warranted to further investigate its potential effectiveness.

Keywords: Dysarthria, Ayurveda, *Ela olindaadi kashaya*, *Prathimarsha nasya, Anu taila*

KNOWLEDGE AND PERCEPTION TOWARDS MENOPAUSE WOMEN ATTENDING PRIMARY HEALTH CARE CLINIC IN PAALAMUNAI DIVISION IN BATTICALOA DISTRICT, SRI LANKA

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Menopause is a period in women's life characterized by permanent cessation of menses. Several symptoms can be experienced by females as a result of menses cessation, including hot flushes and mood swings, which may affect their life. This study aims to assess the knowledge and perception of women regarding menopause. A cross-sectional descriptive study was conducted among 33 women aged 40–65 years at the Primary Health Care Clinic in Paalamunai Division, Batticaloa District, Sri Lanka, from June 2025 to August 2025. According to the inclusion criteria, questionnaires were collected from all natural postmenopausal women aged 40–65 years. We excluded ladies with unnatural menopause (e.g., surgical or radiotherapy for cervical carcinoma), those on medications such as antidepressants and anxiolytics, those having serious disease or mental retardation, and those who did not give consent. Data were collected using a structured questionnaire on knowledge and perception towards menopause. Of 33 participants, the majority belonged to the age group of 51–55 years. Majority (61%) had average knowledge on menopause. The data showed that 67% had hot flushes, 64% dry and thinning skin, 55% hair loss, 39% mood swings, 79% body aches, 73% irritability, 79% fatigue, 45% depression, 67% insomnia, 52% poor concentration, 48%-night sweats, 58% weight gain, 58% frequency of micturition, 79% vaginal dryness, and 55% dyspareunia. The study reveals that while the majority of natural postmenopausal women attending the Primary Health Care Clinic in Paalamunai Division possess an average level of knowledge regarding menopause, there is a notable gap in their awareness of specific menopausal symptoms. Most women view menopause simply as a natural phase of aging and generally maintain a positive perception. However, the high symptom burden combined with incomplete awareness highlights an unaddressed need for targeted health literacy and symptom management in primary healthcare settings. In future studies with a larger, multi-center sample size across the Batticaloa District to obtain broader generalizable data and evaluate the long-term impact of targeted educational interventions.

Keywords: Menopause, Hot flushes, Mood swings, Knowledge, Perception

A STUDY ON CORRELATION BETWEEN AYURVEDA *DEHA PRAKRUTI* AND BLOOD PRESSURE

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Ayurveda, *Deha prakruti* represents an individual's innate physiological and psychological constitution, which is considered to be stable throughout life. Blood pressure is a vital physiological parameter reflecting cardiovascular health. Despite growing interest in integrating traditional Ayurvedic concepts with modern medical science, limited research has explored the correlation between *Deha prakruti* and blood pressure variations. This observational analytical study included 88 healthy undergraduate students aged 20–29 years from the Faculty of Indigenous Medicine, University of Colombo, selected by simple random sampling. *Deha prakruti* was assessed using a standardized and validated questionnaire, while systolic and diastolic blood pressure were measured by qualified BAMS medical professionals. Data were analyzed using descriptive statistics, One-Way ANOVA, and Chi-square tests. Ethical approval was obtained from the Ethics Review Committee of the Faculty of Indigenous Medicine, and written informed consent was obtained from all participants. Among 88 participants, no statistically significant association was observed between *Deha prakruti* and systolic or diastolic blood pressure. Systolic BP showed no noticeable variation across *Prakruti* types. A slight variation was observed in diastolic BP, but it was not statistically significant (ANOVA $p = 0.302$; Chi-square $p = 0.444$). No statistically significant association was observed between Deha Prakruthi and blood pressure. Systolic BP showed no noticeable variation, while diastolic BP demonstrated a slight variation across *Prakruthi* types; however, this was not statistically significant (ANOVA $p = 0.302$; Chi-square $p = 0.444$). These findings suggest that blood pressure may be influenced more by lifestyle, diet, stress, and environmental factors than by inherent constitution alone.

Keywords: Ayurveda, *Deha prakruti,* Blood pressure, Hypertension, Cardiovascular health

NEURO PHARMACOLOGICAL POTENTIAL OF *WOJ TURKI* (*Acorus Calamus*): A SYSTEMIC REVIEW

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Woj Turki (Acorus calamus) is traditionally used in Unani medicine for various therapeutic purposes and has attracted interest for its potential neuropharmacological effects. To systematically review the available evidence on the phytochemical composition, pharmacological activities, and neuroprotective potential of *Acorus calamus* in neurological disorders and to correlate these findings with its traditional Unani applications. A systematic literature review was conducted using Unani classical texts and electronic databases, including PubMed, Google Scholar, and ResearchGate. Studies evaluating the neuropharmacological effects of Acorus calamus were identified and reviewed. Evidence relating to antioxidant, anti-inflammatory, neuroprotective, cognitive, anxiolytic, antidepressant, and memory-related effects was assessed. The methodological quality of randomized controlled trials (RCTs) was considered using reported Jadad scores. Forty-eight research articles and eight classical Unani texts were reviewed. Preclinical evidence indicated antioxidant, anti-inflammatory, and neuroprotective activities, with potential effects on cognition, anxiety, depression, memory impairment, and neurodegenerative conditions. These effects were associated with modulation of oxidative stress, inflammatory pathways, and neurotransmitter systems, particularly those involving α- and β-asarone. Seven RCTs were identified, of which only one achieved a Jadad score >4, indicating limited methodological quality. β-asarone toxicity remains an important safety concern. *Acorus calamus* demonstrates promising neuropharmacological potential, but clinical evidence remains limited. Well-designed human studies are required to establish efficacy, dosage, standardization, and long-term safety. From *Unani* perspective, neurological disorders are closely linked to disturbances in *Zo'e Mizaj* of *Meda* and *Bad Hazm.* Further research should explore the potential relationship between traditional actions with neurological disorders, thereby integrating classical *Unani* concepts with contemporary neuro pharmacological insights.

Keywords: *Woj turki, Munaqqi e dimagh*, Antioxidant, α-asarone

EFFECT OF *RASAKIDADI KASHAYA*, *SEVENDARADI THEPUL* AND *TRIPHALA GHRITA AKSHI TARPANA* IN THE MANAGEMENT OF *TIMIRA*: AN OBSERVATIONAL CASE STUDY

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Timira is a *Drushtigata roga* described in Ayurvedic classics, characterized by progressive impairment of vision. Based on its clinical features, *Timira* can be correlated with myopia, a common refractive error in which distant objects appear blurred due to the eye focusing images in front of the retina. Myopia is a major global public health concern and can significantly affect visual function and quality of life if left uncorrected. This single case study aims to evaluate the clinical effectiveness of a Traditional and Ayurvedic treatment regimen in a 25year old male patient diagnosed with *Timira* (myopia) at the Shalakya Clinic, Outpatient Department, National Ayurveda Hospital, Borella, Sri Lanka. A 25years old male patient presented with a one-year history of blurred distance vision and eye strain in both eyes. His unaided distance visual acuity was 6/24. Based on the clinical presentation and symptomatology, the condition was diagnosed as *Timira* (myopia). The patient was managed with *Kriyakalpa* (Ayurvedic ocular therapeutic procedures) in combination with oral *Rasakidadi kashaya*, external application of *Sevendaradi thepul*, and *Triphala ghrita akshi tarpana* for 28 days, followed by a one month follow up period. Following the treatment, eye strain was completely resolved, and distance visual acuity improved from 6/24 to 6/9, indicating a clinically meaningful improvement in visual function. These findings suggest that the selected traditional and Ayurvedic treatment regimen may have potential benefits in the management of *Timira* (myopia). However, well designed controlled clinical studies with larger sample sizes are required to establish its safety and efficacy.

Keywords: *Timira*, Myopia, *Rasakidadi kashaya, Sevendaradi thepul*

DEVELOPMENT AND ANALYSIS OF HERBAL GRUEL PREPARED USING *BABILA SUDULUNU ULUHAL ANUPANA*

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Anupana is an adjuvant administered along with or immediately after a medicine to enhance its therapeutic action. It is an important component of *Bhaisajya Kalpana*, as it improves the absorption, bioavailability, and therapeutic efficacy of the principal medicine. *Anupana* prepared from *Babila* (*Sida acuta* Burm. f.), *Sudulunu* (*Allium sativum* L.), and *Uluhal* (*Trigonella foenum-graecum* L.) is a commonly used traditional home remedy for the management of *Vataja* disorders. This study aimed to develop an herbal gruel powder based on this formulation and evaluate its physicochemical, phytochemical, and chromatographic characteristics. The raw materials were collected, authenticated, and used to prepare the *Anupana* by boiling 60 g of the ingredients in 1920 mL of water and reducing the volume to 240 mL. The *Anupana* exhibited a brownish colour, bitter-astringent taste, and liquid consistency, with a pH of 6.22±0.01 favourable for the gut. The herbal gruel powder was prepared using the powdered *Babila, Sudulunu, Uluhal* and *Kalu heenati* rice powder in the ratio of 3:2:1:9, respectively. After reconstitution with water, the gruel exhibited a greenish-brown colour, pleasant taste, and semi-solid consistency. Total ash (5.31±0.05%), acid-insoluble ash (0.15±0.035%), water-soluble ash (1.95±0.02%), and moisture content (7.87±0.01%) were within acceptable limits. Phytochemical screening confirmed the presence of tannins, alkaloids, flavonoids, saponins, cardiac glycosides, and carbohydrates. HPTLC fingerprint of the methanolic extract of the gruel powder using Chloroform: Methanol: Toluene (8:1:1 v/v%) as the mobile phase revealed 11 distinct peaks at 254 nm wavelength, indicating multiple phytochemical constituents. These findings provide baseline quality control parameters for the standardization of the developed herbal gruel powder.

Keywords: *Anupana*, Herbal gruel, *Babila, Sudulunu, Uluhal, Vataja* disorders

DEVELOPMENT AND QUALITY CONTROL STANDARDIZATION OF A COMPLEXION ENHANCING AYURVEDIC POLYHERBAL FACE PACK

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Ayurveda describes *Varnya* herbs as complexion-enhancing and associates skin complexion with *Bhrajaka pitta*. However, standardized Ayurvedic polyherbal cosmetic formulations remain limited. This study aimed to develop and characterize a non pharmacopoeial Ayurvedic polyherbal face pack based on selected *Varnya* herbs. *Haridra* (*Curcuma longa*), *Manjishta* (*Rubia cordifolia*), *Shwetha chandana* (*Santalum album*), *Yashtimadhu* (*Glycyrrhiza glabra*), and *Rosa* (*Rosa rubiginosa*) were selected based on classical Ayurvedic references and scientific literature. Raw materials were standardized according to WHO and Ayurveda Pharmacopoeia of India (API) quality control guidance. The herbs were shade dried, powdered, sieved through #120 mesh, and geometrically mixed. The final formulation was evaluated for organoleptic properties, pH, moisture content, total ash, and preliminary phytochemical constituents. Quantitative results were summarized using mean ± SD. The face pack showed a brownish yellow colour, pleasant odour, smooth texture, and uniform consistency. The pH was 6.02. Moisture content was 9.90 ± 0.28% (n=2), while total ash was 7.15% (n=3). Tannins, saponins, flavonoids, and terpenoids were detected, whereas steroids and glycosides were absent. The selected herbs have traditional *Varnya* indications and reported antioxidant, anti-inflammatory, and skin supportive properties, providing a rationale for the formulation's potential complexion-enhancing activity. The developed formulation demonstrated satisfactory preliminary quality-control characteristics and a favourable phytochemical profile, supporting its potential as an Ayurvedic herbal cosmetic. However, efficacy and safety were not clinically evaluated. Future studies should include microbial limit testing, heavy metal analysis, chromatographic fingerprinting, long-term stability studies, and clinical evaluation.

Keywords: Ayurveda, Poly herbal face pack, Quality control, Standardization, *Varnya*

PREPARATION AND PRELIMINARY STANDARDIZATION OF A BEVERAGE USING *CHINCHA PANAKA*

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Chincha panaka is a classical Ayurvedic summer beverage traditionally described in Ayurvedic texts with *pitta*-pacifying, thirst-relieving, and appetite-stimulating properties. It is indicated in the management of conditions like *Aruchi* (anorexia) and *Agnimandya* (weak digestion). This study aimed to formulate a value-added Ayurvedic beverage based on the traditional recipe and to establish its preliminary quality parameters. All the ingredients were authenticated at the Department of Ayurveda Pharmacology, Faculty of Indigenous Medicine, prior to formulation. The beverage was prepared according to classical Ayurvedic methods using *Tamarindus indica* L. (tamarind), *Cuminum cyminum* L. (cumin), *Piper nigrum* L. (black pepper), rock salt, sugar, and water. The ingredients were thoroughly churned to obtain a homogeneous formulation. Preliminary physicochemical and organoleptic evaluations were carried out to assess the quality and standardization parameters of the final product. The evaluated parameters included appearance, colour, odour, taste, consistency, and pH. The final beverage exhibited a characteristic thick liquid consistency, brown colour, and a distinctive aromatic odour dominated by tamarind and cumin. It possessed a refreshing acidic taste with a baseline pH of 2.95, indicating its acidic nature. The formulation retained the characteristic sensory qualities of its traditional ingredients. The naturally low pH and inclusion of traditionally recognized digestive spices are consistent with its traditional use as a digestive beverage. The observed organoleptic and physicochemical characteristics provide baseline quality parameters for further standardization. The formulation demonstrates the potential of *Chincha panaka* as a value-added Ayurvedic beverage based on a classical formulation. Further pharmacological and clinical investigations are warranted to provide scientific evidence for the traditionally attributed therapeutic properties of the formulation.

Keywords*:* *Chincha panaka*, *Tamarindus indica*, Functional Beverage, Physio-chemical evaluation

COMPARATIVE STUDY ON MYOPIA DEVELOPMENT DUE TO DIGITAL DEVICE USAGE AMONG SCHOOL CHILDREN IN SRI JAYAWARDANAPURA HINDU VIDYALAYA (URBAN) VS R/EMB/SPRINGWOOD TAMIL VIDYALAYA (RURAL) SCHOOLS

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Myopia among school aged children is rising globally, with digital device use, prolonged near work and reduced outdoor activity identified as major risk factors. Urban-Rural differences in lifestyle and screen exposure may influence the development of myopia. This study compares the myopia prevalence and associated risk factors among urban and rural school children in selected schools. A cross-sectional comparative study was conducted among 62 students aged 14-18 years. Data were collected using a self -administered questionnaire and visual acuity testing with Snellen's chart. Assessed variables included spectacle use, screen time, types of digital devices, protective screen practices, outdoor activity, sleeping patterns and parental vision history. Myopia indicators were higher among urban (SJHV) students: 29% wore spectacles compared to 10% in rural (STV) students. Recent worsening of vision was reported by 36% SJHV and 13% of STV students. SJHV students had longer daily screen exposure, with 32% using digital devices for 3-4 hours per day, vs 10% in rural students. STV students spent more time in outdoors, particularly on weekends, and engaged more in physical activities. Use of protective screen settings was low in both groups (SJHV 19% and STV 6%). Parental vision problems were slightly more frequent in the urban (SJHV) group. SJHV students showed a higher prevalence of myopia, strongly associated with prolonged screen time and limited outdoor exposure. Promoting balanced digital device use, increasing outdoor activities and improving awareness among students and parents are essential to reducing myopia progression.

Keywords: Myopia, Digital device, Screen time, School children, urban vs rural

SCIENTIFIC VALIDATION OF *SHARBAT E SUAL* IN TREATMENT OF *SUAL* (COUGH)

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Cough is a common respiratory symptom and contributes to morbidity and healthcare utilization. It is a protective reflex that clears irritants and pathogens from the respiratory tract. In Unani medicine, cough is described as "*Sual*", a protective action of the body's internal power (*Quwwat-e-Dafiya*) to expel harmful substances. Sharbat-e-Sual is a traditional Unani polyherbal formulation containing *Adhatoda vasica* (*Barg-e-Adosa*), *Hyssopus officinalis* (*Gul-e-Zoofa*), *Glycyrrhiza glabra* (*Aslussoos*), and *Adiantum capillus-veneris* (*Persiaoshan*). The aim of this study was to evaluate the traditional claims and modern pharmacological evidence regarding the therapeutic potential of *Sharbat-e-Sual* and its individual ingredients. Literature review was conducted using PubMed, Google Scholar, and ResearchGate, supplemented by Unani and Ayurveda texts, pharmacopoeias, modern books, and journal articles. Keywords included "*Sual*," "cough," "Sharbat-e-Sual," the scientific names of the four plants, "phytochemicals," "antitussive," "expectorant," "anti-inflammatory," and "bronchodilator." Relevant literature on traditional uses, phytochemistry and pharmacological activities published up to 2014-2024 were reviewed; duplicates and irrelevant studies were excluded. "*Adosa*", particularly vasicine support expectorant and bronchodilatory activity. "*Zoofa*" contains volatile oils and phenolics with anti-inflammatory and antioxidant effects. "*Aslussoos*", rich in glycyrrhizin and flavonoids, demonstrates anti-inflammatory and demulcent properties, while "*Persiaoshan*" reported antioxidant and anti-inflammatory activities. These findings partially support traditional Unani claims, although direct clinical evidence for the complete formulation remains limited. It was concluded that the *Sharbat-e-Sual* has a plausible pharmacological basis for its traditional use, but clinical studies are required to establish its efficacy and safety.

Keywords: *Sual,* Cough, *Sharbat e sual, Barg e Adosa, Gul e Zoofa, Aslussoos, Persiaoshan*

DEVELOPMENT OF AN HERBAL PET SHAMPOO FOR DOMESTIC ANIMALS

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Dermatological disorders are common in domestic animals, and commercial veterinary shampoos contain synthetic ingredients that may cause skin irritation and hypersensitivity. This study developed and evaluated a herbal pet shampoo based on the Ayurveda decoction, *Nimba patoladi kwatha* (NPK) as a natural alternative for pet skin care. NPK is described in the Indian Ayurveda Pharmacopoeia (Volume 4) and comprises six ingredients: *Azadirachta indica* A. Juss. (*Nimba*), *Trichosanthes cucumerina* L. (*Dummella*), *Phyllanthus emblica* L. (*Amalaki*), *Terminalia bellirica* (Gaertn.) Roxb. (*Vibhitaki*), *Terminalia chebula* Retz. (*Haritaki*) and *Acacia catechu* (L.f.) Willd. (*Khadira*). Decoction was prepared by mixing 60 g of ingredients with 3840 mL of water and reducing it to 2/16th volume. It was freeze-dried and formulated into a shampoo by combining with aqueous phase, oil phase (coconut and neem oils), vitamin E, aloe-gel and lemongrass essential oil. The developed shampoo was evaluated through organoleptic, physicochemical, phytochemical and chromatographic analyses. The final product was brown in colour, lemongrass odour and uniform liquid consistency. It demonstrated a pH of 4.73±0.05, within the acceptable range for pet skin (4.5–6.5), indicating dermal compatibility. The formulation had a density of 0.90±0.05 g/mL, suggesting acceptable physical stability of the product. Qualitative phytochemical screening confirmed the presence of saponins, tannins, alkaloids, flavonoids and terpenoids. Saponins likely enhanced the foaming ability of the formulation. Chromatographic analysis identified eight characteristic peaks (R_f: −0.28, −0.26, 0.07, 0.42, 0.45, 0.54, 0.72, 0.82), supporting the presence of multiple phytoconstituents. Overall, the herbal pet shampoo demonstrated favourable physicochemical and phytochemical properties. Further studies on microbial safety, shelf-life stability and dermatological efficacy are recommended to establish its suitability for veterinary use.

Keywords: Herbal shampoo, Veterinary dermatology, Ayurveda, *Nimba patoladi kwatha*, Pet care

DEVELOPMENT OF HERBAL-DYED LINEN TEXTILE AND EVALUATION OF ITS FUNCTIONAL PROPERTIES

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Herbal dyes have been explored as alternatives to synthetic dyes, including their application to linen and evaluation of colour fastness and functional properties in previous studies. However, comparative evaluation of linen dyed with *Azadirachta indica*, *Curcuma longa*, and *Pterocarpus santalinus*, combining standardized colour fastness and basic functional properties tests remains limited. This exploratory study aimed to develop and comparatively evaluate linen textile dyed with these three medicinal plants for potential everyday clothing applications. Five cotton fabrics were initially screened for dye uptake, and linen was selected for further investigation based on its superior dye uptake. The fabric was pretreated with alum and separately dyed using aqueous extracts of *A. indica* leaves, *C. longa* rhizomes and *P. santalinus* heartwood. The dyed textiles were comparatively assessed using ISO and AATCC standard textile testing methods including colour fastness tests like rubbing fastness, washing fastness, light fastness, perspiration fastness, acid, alkali fastness/sensitivity and ironing fastness, as well as pH, moisture absorption, flame behavior and UV absorbance. Among the tested textiles, *A. indica* dyed linen demonstrated the best overall colour fastness in gray scale values, while *C. longa* and *P. santalinus* dyed linen showed greater sensitivity to alkaline conditions. Moisture absorption was highest in *P. santalinus* dyed linen, whereas at 300 nm, *A. indica* dyed linen showed the highest recorded UV absorbance. These findings provide a preliminary comparison of the tested herbal dyes and indicate potential for further investigations. Further standardized testing is needed to establish their suitability and durability under actual clothing use conditions.

Keywords: Herbal dyeing, *Azadirachta indica*, *Curcuma longa*, linen, *Pterocarpus, santalinus*

INVESTIGATION OF ELEMENTAL TRANSFORMATIONS AND ELEMENTAL CHARACTERIZATION IN THERMALLY TREATED TRADITIONAL COMMON SALT USING ENERGY DISPERSIVE X-RAY SPECTROMETRY

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Traditional thermal processing methods utilized in indigenous salt preparation are believed to significantly alter the physicochemical and crystalline properties of common salt. Integrating traditional Ayurvedic knowledge with modern analytical frameworks provides a crucial opportunity to scientifically validate these ethno-mineral practices. This study's main objectives were to identify the changes in the elemental modifications and elemental characterization in thermally treated traditional common salt utilizing Energy Dispersive X-ray Spectrometry (EDS) compared with raw samples. Raw salt samples 500g from each, sourced from Puttalam and Bundala Salterns, served as comparative controls for elemental baseline analysis. Mimicking traditional methodologies, finely crushed salt crystals bearing a weight of 500g from each saltern were densely packed into grounded coconut shells, compressed manually, inverted using aluminum sheets, and thermally treated from above utilizing dry coconut leaves and firewood as organic combustion materials until the coconut shell turned black. Following a 24-hour cooling period, the treated samples (5g from each) were vacuum sputter-coated with gold at 10 mA for 5 minutes and subsequently analyzed via EDS within a vacuum setting at clean room facility premises of Faculty of technology, University of Colombo. The EDS analysis revealed substantial elemental redistribution and elemental characterization within the matrix compared to untreated controls. Elemental compositions of the Sputter coating were excluded during the study. Thermally treated Puttalam salt exhibited predominant elemental compositions of Carbon (55.48%), Sodium (24.10%), and Chlorine (12.13%). Similarly, Bundala salt demonstrated major constituents of Carbon (54.36%), Sodium (19.29%), Oxygen (15.55%), and Chlorine (8.76%). These findings provide supporting evidence that traditional thermal treatments induce measurable elemental transformations, most notably a substantial carbon enrichment likely originating from organic combustion materials of coconut shell. This study further highlights the scientific relevance of traditional ethno-mineral processing and establishes a robust foundation for future ethnopharmacological research, mineral stability assessments, surface assessments and the modernization of indigenous food-processing technologies.

Keywords: Thermal processing, Energy Dispersive X-ray Spectrometry (EDS), Traditional knowledge, Elemental transformations, Ethnomineral processing

A SURVEY TO ASSESS THE ASSOCIATION BETWEEN EARLY MENARCHE AND BREAST CANCER AMONG FEMALE PATIENTS AT APEKSHA CANCER HOSPITAL, MAHARAGAMA

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Breast cancer remains one of the leading causes of cancer-related morbidity and mortality among women worldwide. Early menarche has been recognized as a potential non-modifiable risk factor for breast cancer due to prolonged lifetime exposure to estrogen. This study aimed to assess the association between early menarche and breast cancer among women aged 30–55 years diagnosed breast cancer. A cross-sectional study and convenience sampling method was used. Study includes women undergoing treatment for breast cancer stage1, stage2, stage3 age 30-55 yrs at Apeksha cancer hospital, Maharagama. In addition, did not include who weren't willing to participate and couldn't recall their menarche age. Data collected through self-designed interviewer-administered questionnaire. Statistical analysis included one-sample proportion z-test to compare the prevalence of early menarche with that of the general population and chi-square tests to assess associations between variables. Among the 100 participants, 21% reported experiencing early menarche (before 12 years age). This prevalence was significantly higher than the reported prevalence in the general population (12.9%) ($Z = 2.41$, $P = 0.008$). A statistically significant association was observed between early menarche and breast cancer in the study population. Early menarche was significantly more prevalent among women diagnosed with breast cancer, supporting its role as potential risk factor. These findings underscore the importance of early risk identification and targeted preventive strategies, particularly for women who experience early menarche.

Keywords: Early menarche, Breast cancer, Risk factor, cancer, estrogen

STUDY THE CAUSTIVE FACTORS OF RHINITIS AMONG PATIENTS VISITING AYURVEDA NATIONAL HOSPITAL

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Rhinitis is a common condition that may persist for many years and can be influenced by environmental, dietary, seasonal, allergic, and hereditary factors. In Ayurveda, rhinitis is correlated with *Pratishyaya*. Understanding these factors may support better prevention and management. Objective of this study was to identify and analyse the commonly reported factors associated with rhinitis among patients attending the Ayurveda National Hospital. A descriptive cross-sectional survey was conducted among 75 patients aged over 15 years diagnosed with rhinitis. Data were collected through face-to-face interviews using a structured questionnaire after obtaining informed consent. Descriptive statistics were used to summarize the findings. Among participants, 60.0% were female, and 49.3% had experienced symptoms for more than 20 years. A family history of rhinitis and a history of allergies were each reported by 73.3% of participants. Exposure to dust, pollen, or animal dander was reported by 93.3%, while 90.7% frequently consumed spicy or processed foods. Winter-related worsening was reported by 62.7%. Dust was the most frequently reported trigger (97.3%), followed by weather changes (68.0%), pet dander (62.7%), pollen (56.0%), and cold air (53.3%). Allergic rhinitis was the predominant type (77.3%). Rhinitis was commonly associated with environmental exposures, dietary practices, seasonal changes, allergies, and family history, with dust being the most frequently reported trigger. These findings highlight the value of identifying individual triggers and improving patient awareness of preventive measures and appropriate Ayurvedic approaches to support effective rhinitis management.

Keywords: Rhinitis, *Pratishyaya,* triggers, allergic rhinitis, Ayurveda

A STUDY ON SYMPTOMS OF GASTRITIS (*WARM E MEDA*) AND ITS RISK FACTORS ASSOCIATED WITH *MIZAJ* (TEMPERAMENT) OF THE PERSON

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Gastritis (*Warm e Meda*) is a growing health issue in developing countries and negatively affect schoolchildren, causing poor concentration, increased absenteeism, and reduced academic performance. Unhealthy dietary habits, inadequate physical activity, sedentary lifestyle, and psychological stress may contribute to its development. This study aimed to evaluate the symptoms of gastritis (*Warm e Meda*) and associated risk factors in relation to *Mizaj* (Temperament), and to assess the influence of dietary habits, lifestyle, and psychological factors with the occurrence of gastritis symptoms. This community-based cross-sectional study was conducted among secondary students at AL-Qamar Central College, Bammanna, Kurunegala. Ethical approval was obtained from the Ethics review committee of the faculty of indigenous medicine (ERCFIM). Proxy-informed consent was obtained from the parents or guardians, and informed consent was obtained from all participants. A total of 206 participants age between 12-18 were included in the study, comprising 102 Male and 104 females. Participants were selected using a random sampling technique. Data was collected using structured questionnaires. Data was analysed using excel software. Epigastric pain and a burning sensation in the stomach were more among individuals with *Safravi Mizaj,* while Frequent sour eructation was more common among individuals with *Saudavi mizaj*, nausea/vomiting and abdominal bloating were more frequently reported among *Balghami mizaj.* The results showed that symptoms of gastritis were present among result show that 96.70% of *Safravi*, 72.80% of *Damavi*, 66.70% of *Saudavi,* and 36.70% of *Balghami* individuals. Symptoms were more prevalent among females (71) than males (47) and were more common in the 13-16 age group. These findings suggest that individuals with *Safravi Mizaj* may have a higher predisposition to developing symptoms of gastritis, which may be compounded by poor dietary habits (43.20%), skipping main meals (87.40%), and psychological stress (61.01%). Though, symptoms were insignificantly associated with the *Mizaj* ($Z^2 = 1.96$, $p = 0.16$) further research studies to be conducted need for culturally sensitive and community-specific strategies to address the prevalence of gastritis among school children.

Keywords: *Warm e Meda*, symptoms of gastritis, *Mizaj* (Temperament), associated, Risk factors

KNOWLEDGE AND USE OF FOLIC ACID AMONG PREGNANT WOMEN ATTENDING ANTENATAL CLINIC: COLOMBO CENTRAL AREA, MALIGAWATTA, SRI LANKA

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Neural tube defects (NTDs) are congenital malformations affecting the brain and spinal cord, resulting in significant mortality, morbidity, disability, and psychological burden. Periconceptional folic acid (FA) supplementation is an effective preventive measure. In Sri Lanka, the prevalence of NTDs is estimated at 1.21 per 1,000 births. This study assessed the knowledge and use of FA supplementation among pregnant women. Methods: A descriptive cross-sectional study was conducted among 91 pregnant women attending the antenatal clinic at Maligawatta Primary Health Care Clinic, Colombo, from June to August 2025. The sample size was calculated using the formula $n = Z^2p(1-p)/d^2$, with a 95% confidence level (Z = 1.96), an estimated prevalence of 92.2% (p = 0.922) based on Pathiraja et al. (2020), and 5% precision (d = 0.05), giving a sample size of approximately 91 participants. Participants were selected using a simple random sampling technique. Pregnant women who attend the clinic and who consented to participate were included, while women aged below 18 years, those unwilling to participate, and those with serious illnesses were excluded. Data were collected using an interviewer-administered questionnaire and analysed using descriptive statistics. Ethical approval was obtained from the Research Ethics Committee of the Faculty of Indigenous Medicine (ERC/UG/25/333), and permission was obtained from the Medical Officer of the Antenatal Clinic, Maligawatta. Informed consent was obtained from all participants, and confidentiality and privacy were maintained. No undue harm was inflicted and no cost was incurred by participants.
Results: Out of 91 participants, 94% were Muslims and 89% were unemployed. Mean age was 32.02 ±8.625 years. Although 98% had heard of FA, only 31% knew its role in neural tube and brain development, and 19% recognized its importance in preventing NTDs. 68% identified the need for FA supplementation three months before conception, while only 26% knew the recommended dosage. Awareness of dietary sources was poor (76% unaware). FA use was reported by 81% in previous pregnancies and 92% during the current pregnancy. Pregnant women demonstrated significant gaps in knowledge regarding the role, dosage, and dietary sources of folic acid, while the folic acid use was high. Strengthening targeted antenatal health education on appropriate periconceptional folic acid use is essential for improving knowledge and preventing neural tube defects.
Keywords: Neural tube defects, folic acid, pregnancy, morbidity, mortality

DEVELOPMENT OF HERBAL BABY CREAM USING *RATHMAL* AND *POKURU WADAMAL*

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Kaumarabhrtya emphasizes preventive and therapeutic approaches to child health, including pediatric skin care. Due to the delicate nature of infant skin, gentle and naturally derived topical preparations are important. This study aimed to develop and evaluate an herbal baby cream using *Rathmal* (*Ixora coccinea*) and *Pokuru wadamal* (*Hibiscus rosa-sinensis*). These two plants mentioned in traditional Sri Lankan medical literature in relation to the management of *Rathagaya*. Four trial formulations were prepared using a decoction of *I. coccinea* and *H. rosa-sinensis* incorporated into an oil-in-water cream base. The base contained virgin coconut oil, cocoa butter, beeswax, emulsifying wax, cetearyl alcohol, cetyl alcohol, glycerin, xanthan gum, vitamin E, Liquid Germall Plus, lavender oil and distilled water. The most satisfactory formulation was selected based on overall organoleptic and physicochemical characteristics. Ingredient concentrations were adjusted according to their functional roles and observed physical characteristics during formulation development. Evaluation included organoleptic characteristics, pH, homogeneity, spreadability, preliminary irritancy observation, qualitative phytochemical screening, TLC and HPTLC fingerprinting. Physicochemical results were reported as observed values. The preliminary irritancy observation was conducted by the investigator herself on the dorsal hand for 24 hours. HPTLC was used for fingerprint profiling. The cream showed a smooth texture, creamy consistency, pleasant fragrance, easy washability and good homogeneity. Spreadability was 11.33 g·cm/s and pH was 5.70. No visible erythema, edema, blistering or other irritation was observed during preliminary 24-hour self-application. Phytochemical screening demonstrated alkaloids, tannins, saponins, flavonoids, terpenoids, glycosides and reducing sugars. TLC was performed using hexane:chloroform:ethyl acetate:n-butanol (7:1:0.25:0.25), while HPTLC fingerprinting produced chromatographic profiles with multiple peaks. The formulation demonstrated *Kashaya* and *Madhura Rasa*, *Laghu* and *Snigdha Guna, Katu Virya* and *Sheeta Vipaka*, indicating *Pitta–Kapha Shamaka* activity. Overall, the cream showed favorable physical and phytochemical properties and potential for Ayurvedic pediatric skin care. Further analytical, stability and clinical studies are recommended to establish pediatric safety and efficacy.

Keywords: Ayurveda, Skin care, *Ixora coccinea*, *Hibiscus rosa-sinensis*, Herbal baby cream

PREVALENCE, SYMPTOM SEVERITY, AND ASSOCIATED FACTORS OF PREMENSTRUAL SYNDROME AMONG FEMALE UNDERGRADUATE STUDENTS: A CROSS-SECTIONAL STUDY

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Premenstrual Syndrome (PMS), is characterized by various cyclical physical, psychological, and behavioral symptoms that may significantly affect women's daily functioning. This study aimed to assess the prevalence and symptom severity of PMS among female undergraduates, and examine the relationship between *Deha Prakriti* (Body constitution) and PMS. A non-interventional cross-sectional survey was conducted among 120 eligible female undergraduates of the 2019/2020 Ayurveda batch of the Faculty of Indigenous Medicine, University of Colombo, who provided informed consent. Data were collected using a Google Form questionnaire incorporating the Premenstrual Symptoms Screening Tool (PSST) and a statistically validated *Prakriti* assessment tool, and descriptive and inferential statistics (p<0.05 considered significant) were applied. PMS prevalence was 85.9%, while symptom severity was mild in 34.2%, moderate in 30.0%, and severe in 21.7% of participants. Fatigue was the most frequent symptom (n=95), while Impact on work efficiency was the predominant functional impairment (n=98). According to descriptive statistics, *Vata* and *Pitta Prakriti* predominance showed greater symptom severity, while *Kapha* predominance showed lower severity. Pearson's Correlation Coefficient revealed a significant, small positive relationship between *Vata Prakriti* and PMS Severity (r = 0.1849, p = 0.0433), while, although non-significant, *Pitta* showed a small positive relationship and *Kapha* showed a very small negative relationship. Fisher's Exact Test detected a significant difference between symptom severities of *Vata* and *Kapha Prakriti* (p = 0.0313). Overall, PMS prevalence and severity proved to be high, significantly affecting daily life and academic efficiency. Findings also show associations between *Prakriti* and PMS severity, warranting further studies on using *Prakriti* assessment to identify higher-risk individuals for PMS.

Keywords: Premenstrual syndrome, Ayurveda, *Deha prakriti*, Premenstrual Symptoms Screening Tool, Assessment

DEVELOPMENT AND PRELIMINARY QUALITY EVALUATION OF AN AYURVEDIC HERBAL OINTMENT FOR "*SHWITHRA KUSHTA*" BASED ON A CLASSICAL FORMULATION FROM *THALPATHE PILIYAM*

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Shwithra kushta (leucoderma/vitiligo) is a chronic pigmentary disorder characterized by depigmented patches and may have considerable psychosocial impact. Ayurveda describes various formulations for its management, including preparations mentioned in *Thalpathe Piliyam*. This study aimed to develop an Ayurvedic herbal ointment for *Shwithra kushta* based on a classical formulation and to conduct preliminary quality evaluation of the developed formulation. Eight authenticated herbal ingredients were collected and processed according to Ayurvedic procedures. *Siktha taila* was prepared using beeswax and sesame oil, and two proportions (1:5 and 1:8) were evaluated, with the 1:8 proportion selected based on better spreadability, consistency, and stability. The herbal powders were subsequently incorporated into the selected *Siktha taila* to prepare the ointment. Preliminary quality evaluation included organoleptic characteristics, physicochemical analysis, pH, spreadability, stability testing, phytochemical screening, and TLC and HPTLC fingerprinting. The raw herbal ingredients demonstrated moisture and total ash values within the specified limits. The final ointment was yellowish, pleasant in odour, and semisolid, with a pH of 6.64 and satisfactory spreadability. No observable changes in colour, odour, consistency, or spreadability were noted under the tested storage conditions over 30 days. Phytochemical screening indicated alkaloids, tannins, saponins, flavonoids, and terpenoids, while TLC and HPTLC demonstrated characteristic chromatographic profiles. Skin sensitivity testing showed no observable reaction. The findings provide preliminary quality characteristics of the developed Ayurvedic herbal ointment and support further pharmacological and clinical evaluation.

Keywords: *Shwithra kushta*, Vitiligo, Herbal ointment, Ayurveda, Preliminary Quality Evaluation

OBSERVATIONAL CASE STUDY ON A TRADITIONAL FOMENTATION (*WAL AMBARELLA KOLA POTHU THEVILLA*) AND *GREEVA VASTI* ON CERVICAL SPONDYLOSIS (*GREEVA SANDHIGATA VATA*)

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Cervical spondylosis, known in Ayurveda as *Greeva sandhigata vata*, is a degenerative condition of the cervical spine characterized by stiffness, pain, and restricted neck movements. It is commonly associated with *Vata dosha* aggravation and age-related changes. The study has been focused to observe and evaluate the therapeutic effect of *Wal ambarella thevila*. It consisting of five key ingredients: *Spondias pinnata* (*Wal ambarella*), *Crataeva religiosa* (*Lunuwarana*), *Curcuma Zedoraria* (*Harankaha*), *Cocos nucifera* (*Kottapol*), *Maduca longifolia* (*Mee atamada*). Equal quantities of the required ingredients were taken, finally grinded and bundled in a clean cloth to prepare the *Thevilla* and *Greeva vasti* in the management of *Greeva sandhigata vata*. A patient diagnosed with cervical spondylosis and purposively selected to the study and data collected from a special prepared proforma at the Ayurveda Hospital. A 60 years old male from Kaduwela was admitted to NATH Borella IPD with main complaints of lower back pain and it radiating to the right lower limb since 4 years. When developed neck pain, neck stiffness, disability to moved neck & left upper limb difficulty to abduction lasting 4 days after admitted. Treatment given *Wal ambarella thevila* as external fomentation followed by *Greeva vasti* using *Mee* oil for a period of one month. In *Wal ambarella kola pothu thevila*, the choice of leaves/herbs (*Patra/Pottali*) should be in accordance with their Vata-hara, *Sothahara* and *Svedana* properties. The assessment was done based on clinical symptoms such as pain, stiffness, tenderness, and range of neck movement before and after treatment. The combined therapy showed a clinical improvement in pain and stiffness, with marked improvement in neck mobility and daily activities (before treatment neck rotation in right side 43.75%, after treatment it improved 78.75%, neck flexion before treatment it was 70%, after the treatment it improved 92%, Extension was before treatment 60%, after the treatment it was 84.44%). The patients reported better comfort and relief without major adverse effects. The traditional fomentation with *Wal ambarella kola pothu thevila* along with *Greeva vasti* clinical improvement was observed in alleviating the symptoms of *Greeva sandhigata vata*. This combination therapy can be considered a safe and beneficial Ayurvedic approach for managing cervical spondylosis.

Keywords: *Greeva sandhigata vata, Wal ambarella thevila*, Ayurveda

HARITHALA (RAN HIRIYAL) CONTAINING MEDICINAL PREPARATIONS IN TRADITIONAL SRI LANKAN MEDICINE: A REVIEW OF *VATIKA PRAKARANAYA* AND *THALPATHE PILIYAM*

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Harithala (yellow orpiment/As_2S_3), known as *Ran hiriyal* in Sinhala, is a mineral compound historically used in Ayurveda and Traditional medicine in Sri Lanka despite its toxicity. *Harithala* has been incorporated into numerous formulations following traditional purification procedures. The objective of this review is to analyze *Harithala*-based formulations documented in ancient ola-leaf manuscripts, particularly *Thalpath Piliyam* (TP) and *Vatika Prakaranaya hewath Beheth Guli Kalka Potha* (VP), focusing on their prevalence and therapeutic uses. Data were extracted from 21 treatises of TP and two editions of VP. The identified formulations were categorized according to therapeutic indications, dosage forms, composition, *Harithala* concentration, purification methods, and adjuvants. A total of 904 formulations were identified, of which 864 formulae were unique. The highest number of formulations was prescribed for Sanni*, Kola, Walippu, Jwara* (febrile illnesses), *Aruchi* (Anorexia)*, Chardi* (Vomiting), and *Atheesaara* (Diarrhoea). *Guli* (Pills) was the leading dosage form, comprising 497 formulations. Among 896 formulations, 311 compositions incorporated *Harithala* at concentrations below 5% of total weight. However, 26 medicines were prepared exclusively with *Harithala* as the sole ingredient. A total of 714 preparations combined *Harithala* alongside herbal and mineral constituents. Over 910 adjuvants were recorded, with ginger juice and bee honey among the most frequently used. In conclusion, these findings reveal the sophistication of traditional Sri Lankan pharmaceutics through purification, precise dosing, and synergistic combinations reflecting a deliberate strategy to balance efficacy with safety. Further scientific studies integrating modern methodologies are recommended to evaluate their toxicological safety and therapeutic potential.

Keywords: *Harithala, Thalpathe Piliyam, Vatika Prakaranaya hewath Beheth Guli Kalka Potha*

A STUDY ON THE PREVALENCE OF SELF-REPORTED OCULAR SYMPTOMS AMONG WOMEN EMPLOYED AT CASHEW FACTORIES IN MEERAKERNY GRAMA NILADHARI DIVISION, ERAVUR

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Eye health is essential for overall well-being, yet it is frequently threatened by occupational exposures. Women in cashew factories are particularly at risk due to continuous contact with dust, cashew oil, poor ventilation, inadequate lighting and repetitive strain. While global studies have identified these risks, no research has been conducted in Sri Lanka in this population, highlighting a significant gap. This study aimed to assess the prevalence of self-reported ocular symptoms among women employed in cashew factories in Meerakerny, Eravur, and to examine their association with occupational risk factors, while also considering the Unani medical perspective. A cross-sectional survey was conducted among 254 women aged 20 to 60 years who were employed in cashew factories in the study area and selected using a convenience sampling technique. Data were collected using a structured, interviewer-administered questionnaire covering demographics, occupational exposures and ocular symptoms. Women with systemic diseases affecting eye health, with major eye conditions unrelated to occupation and those not working in cashew factories were excluded. Ethical approval was obtained from the Ethics Review Committee, Faculty of Indigenous Medicine, University of Colombo. More than half of the participants (54.7%) reported at least one ocular symptom. Blurred vision (31.6%), itching and redness (23.4%) and headache (21.1%) were the most common complaints. Prevalence was highest among shelling workers (60.2%) and those exposed to dust (68.3%). Age and longer employment duration were also strongly associated with symptoms. The strong link between dust exposure and ocular symptoms highlights an urgent need for preventive measures in this understudied population. Self-reported ocular symptoms are highly prevalent among women in cashew factories, with dust exposure, prolonged working hours and type of work being the strongest determinants. This is aligned with the Unani concept that an imbalance in *Asbab e Sitta Zarooriya* by the working environment may predispose workers to ocular symptoms. The findings emphasize the need for the use of protective eyewear, health awareness programs and workplace interventions such as dust control, improved ventilation and lighting.

Key words: Self-reported ocular symptoms, Cashew factory workers, Occupational health, Dust exposure, Sri Lanka

FORMULATION AND DEVELOPMENT OF AN HERBAL-INCORPORATED HYDROGEL FOR THERAPEUTIC FOOT CARE APPLICATIONS

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Padadari, described in Ayurvedic literature as cracked heels resulting from *Vata dosha* aggravation, represents a prevalent yet underestimated foot disorder affecting quality of life and mobility. This study aimed to formulate and developed an herbal hydrogel formulation for the management of *Padadari.* Formulation integrated *Shatadhauta ghrita, Pinda* Oil, Aloe vera gel and Turmeric powder. Raw materials were authenticated and standardization with organoleptic, physical and phytochemical evaluations, pH determination, Spreadability, moisture content, refractive index, acid and peroxide value, ash content and TLC profiling. Hydrogel was developed through systematic formulation trials optimizing ingredient ratios for optimal therapeutic efficacy and patient acceptability. Moisture content of hydrogel was 3.32%. Phytochemical screening confirmed the presence of therapeutically significant compounds including saponins, flavonoids, tannins and alkaloids. The alkaloid content was 0.033% (w/w). Peroxide value of Pinda oil was 3.8 meq/Kg. Acid values of Pinda oil and *Shatadhauta ghrita* were 1.4586 and 3.7026. Ash value of Turmeric was 4.505%. The Brix% of Pinda oil was 74%. TLC profile showed Rf values for Pinda oil (0.065, 0.25, 0.40, 0.63) using Toluene: Ethyl acetate: Hexane (4:1:7) and for Turmeric (0.125, 0.281, 0.468, 0.656) using Water: Chloroform: Methanol: Hexane (2:6:3:5). However, comprehensive quality control evaluation of the final product was not performed in the present study and will be addressed in future studies. The developed herbal hydrogel exhibited desirable physicochemical properties, stability and topical suitability, which may represent a safe, evidence-based Ayurvedic formulation that supports sustainable therapeutic foot care applications.

Keywords: *Padadari*, standardization, herbal-incorporated hydrogel formulation

A STUDY ON THE IMPACT OF SLEEP DEPRIVATION ON COGNITIVE PERFORMANCE AND ITS ASSOCIATION WITH *MIZAJ*

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Sleep plays a vital role in cognitive functioning, memory consolidation, and emotional well-being. Medical students are particularly vulnerable to sleep deprivation due to academic demands. In Unani medicine, *Mizaj* is considered a fundamental determinant of an individual's physical and psychological characteristics. This study aimed to assess the impact of sleep deprivation on cognitive performance and determine its correlation with *Mizaj* among Unani medical students of The Faculty of Indigenous Medicine. A comparative cross-sectional study was conducted among 246 Unani medical students aged 20–28 years using a convenience sampling technique. Data were collected using a self-developed sleep and cognitive assessment questionnaire, and the *Ajnas-e-Ashra* method for *Mizaj* assessment following ethical approval from the Ethics Review Committee. Data were analyzed using SPSS, and chi-square was applied to determine associations between study variables. Sleep deprivation was highly prevalent, with 84.96% of participants reporting inadequate sleep duration. It was associated with impaired concentration (28.03%), daytime sleepiness (31.83%), reduced memory, problem-solving ability, and examination focus (46.75%). *Damavi* was the predominant *Mizaj* (62%). A significant association was observed between sleep deprivation and *Mizaj*; however, no statistically significant correlation was found between *Mizaj* and cognitive performance ($p = 0.20$). It was concluded that sleep deprivation was highly prevalent among Unani medical students and adversely affected cognitive performance. Although sleep deprivation showed an association with *Mizaj,* no significant correlation was observed between *Mizaj* and cognitive performance ($p = 0.20$). These findings emphasize the importance of promoting healthy sleep practices to improve students' cognitive functioning and academic performance.

Keywords: Sleep deprivation, Cognitive performance, *Mizaj, Ajnas e Ashra*

PHARMACEUTICAL PROCESSING AND QUALITY CONTROL OF *BRUNGAMALAKA TAILA* (OIL) FOR *AKALA PALITHA*

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Akala palitha (Premature graying of hair) is becoming increasingly common among young people due to stress, poor diet, pollution and life style changes. *Bhrungamalaka taila*, documented in *Sahasrayogam*, is a traditional Ayurveda formulation used in the management of this condition. The present study aimed to prepare *Bhrungamalaka taila* according to standards of Ayurveda pharmaceutical procedures and evaluate the quality control parameters through physiochemical and phytochemical analysis. The formulation was prepared using *Eclipta alba* L., *Phyllanthus emblica* L., *Glycyrrhiza glabra* L., Cow's milk and *Murchita tila taila*. Information was collected from authentic Ayurvedic and modern medical texts, scientific databases and relevant online sources. Observations were recorded and data were analyzed accordingly. The prepared oil was evaluated for organoleptic, physiochemical and phytochemical parameters. The refractive index was 1.4728, demonstrating proper formulation and clarity, pH ranging from 6-7 indicating scalp compatibility and suitability for topical use, density was 0.895gml-1and specific gravity was 0.9196, reflecting suitable consistency and no evidence of adulterations. Study revealed that the oil exhibited desirable characteristics, including a smooth texture, natural color and pleasant aroma. Phytochemical analysis confirmed the presence of alkaloids, flavonoids, tannins, saponins, glycosides and terpenoids. The findings suggest that *Bhrungamalaka taila* possesses acceptable quality characteristics, physiochemical stability and a favorable phytochemical profile, supporting its potential use in the management of *Akala palitha*. Further studies, including clinical evaluation and shelf-life assessment are recommended to establish the therapeutic efficacy and long-term stability.

Keywords: *Akala palitha*, Premature graying, Physiochemical values, Phytochemical

DEVELOPMENT AND STANDARDIZATION OF UNANI ANTI-ACNE CREAM

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Acne vulgaris (*Busoore labaniya*) is a common chronic inflammatory disorder of the pilosebaceous unit that affects physical appearance and psychological well-being. Although allopathic medicines are effective, their adverse effects, highlight the need for safer alternatives. Based on Unani classical texts, a paste of *Neem* (*Azadirachta indica*) and *Rasaut* (*Berberis aristata*) is mentioned for acne management. This study aimed to review the literature on *Busoore labaniya*, develop and standardize the above paste into an Unani anti-acne cream to enhance stability, shelf life, efficacy, and convenience. Three formulations were prepared with varying concentrations of *Neem*, *Rasaut*, and excipients, including moisturizer, emulsifying agents, a binding agent, humectant, and preservatives. (F1) contained (3.5%) each of *Neem* and *Rasaut* with (5%) binding agent, whereas (F2) and (F3) contained (4.5%) each of *Neem* and *Rasaut* with (4%) and (5%) binding agent, respectively and were evaluated for organoleptic characteristics, pH, spreadability, greasiness, washability, irritancy, phase separation, stability, homogeneity, and after-feel using standard evaluation procedures. All formulations exhibited acceptable physicochemical characteristics and remained stable throughout the study period (10-14 days). The pH of(F1), (F2) and (F3) was 4.6 (10% solution) and 5.1, 5.0 and 5.1(1%solution), which is suitable for facial skin. The spreadability of (F1), (F2) and (F3) was 0.80gcm/s, 2.94 g.cm/s and 1.77 g.cm/s, respectively, indicating suitability for topical application. Among the formulations, (F3) showed the best overall properties, including smooth texture and good homogeneity, satisfactory spreadability, non-greasiness, easy washability, skin-compatible pH, and stability without irritation or phase separation. The literature review also suggests, this Unani herbal cream has potential for managing acne. Further antimicrobial and well-designed clinical studies are required to establish its safety, stability and therapeutic efficacy.

Keywords: Acne vulgaris (*Busoore labaniya*), *Azadirachta indica*, *Berberis aristata* (*Rasaut*), Herbal anti-acne cream, Standardization

A SYSTEMATIC REVIEW ON POLYCYSTIC OVARY SYNDROME AND ITS MANAGEMENT IN UNANI MEDICINE

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Polycystic Ovary Syndrome (PCOS) is one of the most prevalent endocrine and metabolic disorders, affecting 8–21% of women of reproductive age. Clinical features including hyperandrogenism, menstrual irregularities, obesity, insulin resistance, and infertility characterize PCOS. This systematic review aimed to evaluate the evidence on the effectiveness of Unani medicine in the management of PCOS. A systematic review was conducted to review the literature published between February and November 2025. It was searched in PubMed, ScienceDirect, Springer, and ResearchGate using the keywords Polycystic Ovary Syndrome, PCOS, Unani medicine, *Ilaj-bil-Dawa*, *Ilaj-bil-Ghiza*, *Ilaj-bil-Tadbeer,* herbal medicine, *and* regimenal *therapy.* Classical Unani texts were reviewed separately to identify Unani concepts. Original research articles, clinical studies, and review articles relevant to Unani management of PCOS were included, while duplicate and irrelevant studies were excluded. Owing to heterogeneity among the included studies, the findings were synthesized narratively. Sixty-one eligible sources were included. The reviewed evidence demonstrated that Unani medicinal plants, including *Curcuma longa*, *Nigella sativa*, *Cinnamomum zeylanicum*, and *Ferula asafoetida*, possess anti-inflammatory, antioxidant, insulin-sensitizing, ovulation-inducing, and fertility-enhancing activities that may improve PCOS symptoms. Regimental therapies such as exercise, cupping, and sitz baths were also reported to improve metabolic and reproductive outcomes. Classical Unani literature attributes PCOS to *Ghair-e-Tabayee Balgham* (abnormal phlegmatic imbalance) and *Sue-Mizaj Barid* (abnormal cold temperament), concepts that broadly correspond to metabolic dysfunction and impaired ovarian function described in modern medicine. Current evidence suggests that Unani medicine offers a holistic complementary approach for the management of PCOS. However, the available evidence is limited by methodological heterogeneity, highlighting the need for well-designed randomized controlled trials to establish the efficacy and safety of Unani interventions.

Keywords: Polycystic Ovary Syndrome, *Mizaj, Balgham*, Unani management

PHARMACEUTICO-ANALYTICAL STUDY ON *ABHAYADYAVA LEHA* AND FORMULATION AS NOVAL HERBAL LOZENGES

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Abhyadyavaleha is a classical Ayurvedic formulation traditionally indicated for gastrointestinal disorders. However, its conventional semisolid dosage form may limit patient compliance due to issues related to palatability, portability, and ease of administration. Therefore, reformulation into a lozenge may enhance therapeutic acceptability while preserving its classical pharmacological relevance. This study aimed to develop a standardized herbal lozenge based on *Abhyadyavaleha* and to evaluate its pharmaceutico-analytical characteristics for potential application in gastritis-related gastrointestinal conditions. Four principal herbal ingredients, *Terminalia chebula, Vitis vinifera, Tragia involucrata*, and *Piper longum*, were selected based on classical Ayurvedic indications and reported gastroprotective actions. Authenticated raw materials were processed using standardized pharmaceutical procedures, and the lozenge was prepared with a sugar–honey base. The formulation was subjected to preliminary phytochemical screening and physicochemical evaluation. Phytochemical analysis revealed the presence of therapeutically significant constituents, including tannins, alkaloids, flavonoids, terpenoids, glycosides, and reducing sugars. Physicochemical parameters showed total ash of 1.81 ± 0.18%, moisture content of 3%, recorded pH range of 7.5–8.5, and lozenge hardness of 82 N. The observed phytochemical profile supports the potential anti-inflammatory, anti-ulcer, antimicrobial, antioxidant, digestive, and gastroprotective activities of the formulation. The developed *Abhyadyavaleha*-based herbal lozenge demonstrated acceptable pharmaceutical characteristics and therapeutic relevance as a patient-friendly dosage form. The findings provide preliminary evidence for further standardization, stability assessment, and clinical evaluation of this novel Ayurvedic lozenge formulation.

Keywords: *Abhyadyavaleha,* herbal lozenge, gastritis, pharmaceutico-analytical evaluation, Ayurveda, standardization

THE STUDY ON KNOWLEDGE AND SAFETY PRACTICES IN HOUSEHOLD TOXIC SUBSTANCES AMONG MOTHERS IN SELECTED PRE-SCHOOLS IN THE GALAGEDARA MADIGE GRAMA NILADHARI DIVISION

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Household toxic substances pose a significant risk to preschool children due to their natural curiosity and vulnerability to accidental poisoning. Mothers, as primary caregiver, play a crucial role in preventing exposure through appropriate knowledge and safe household practices. This study aimed to assess knowledge of common household toxic substances and the associated risks, evaluate safety practices used protect preschool children, identify source of information related to household toxic substances and determine barriers to implementing effective safety measures among mothers of preschool children in selected preschools within the Galagedara Madige Grama Niladhari Division. A community base cross-sectional study was conducted after the ethical approval from the ERC of Faculty of Indigenous Medicine and permission from the Divisional secretary. Total 148 mothers were enrolled after getting the written consent and self-administered questionnaire was used to collect the data. Excel and IBM SPSS Version 30 were used to interpret data. The results showed that the prevalence of toxic exposure among preschool children was only 4%. It demonstrated a statistically significant increase in preventive practices, including safe storage, child supervision, proper disposal, and inspection of labels. Overall knowledge regarding household toxic substances was satisfactory, and awareness of pesticides and cleaning agents was 71.62% and 76.35%, respectively. Barriers included high costs, limited availability of safer alternatives, cultural factors, and knowledge gaps. Most mothers relied on informal information sources, while engagement with healthcare professionals was limited. This study demonstrated satisfactory knowledge and safety practices. However, awareness gaps and barriers to safety practices indicate for the structural educational programs, reliable information, and safer household products. Further large-scale studies are recommended to support national prevention strategies.

Keywords: Household poison, Knowledge, Safety practices, Preschool children

FORMULATION AND STANDARDIZATION OF A POLYHERBAL POWDER WITH ANTIAGEING PROPERTIES

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Aging is associated with progressive collagen degradation, oxidative stress, and reduced tissue regeneration, contributing to impaired skin integrity and visible signs of aging. In Ayurveda, *Rasayana* therapy promotes longevity and tissue rejuvenation through herbal interventions. A polyherbal formulation comprising *Aralu (Terminalia chebula), Bulu (Terminalia bellirica), Nelli (Phyllanthus emblica), Gotukola (Centella asiatica), black sesame (Sesamum indicum), beetroot (Beta vulgaris), cinnamon (Cinnamomum zeylanicum),* and cardamom (*Elettaria cardamomum*) was developed as an herbal powder with potential collagen-supportive and anti-aging properties. The objective of this study was to develop and standardize the formulation and evaluate its pharmaceutical quality using organoleptic, physicochemical, phytochemical, and chromatographic parameters. Authenticated raw materials were shade-dried, finely powdered separately, and blended according to the formulation. Physicochemical parameters were evaluated in [triplicate/number of replicates] and expressed as mean ± standard deviation. The herbal powder exhibited acceptable organoleptic characteristics, with a moisture content of 6.44 ± 0.7% and a pH of 4.56 ± 0.16, indicating satisfactory physicochemical characteristics. Phytochemical screening indicated the presence of tannins, flavonoids, alkaloids, saponins, terpenoids, and glycosides, demonstrating the presence of phytochemical classes associated with antioxidant and potential skin-supportive activities. TLC and HPTLC analysis demonstrated distinct chromatographic fingerprints with multiple well-resolved bands, indicating a diverse phytochemical profile and providing characteristic fingerprints useful for quality control and standardization. Overall, the findings support the potential of the formulation as a standardized Ayurvedic herbal product with possible antioxidant and skin-supportive applications. However, collagen enhancement was not directly evaluated in the present study. Further in vitro, pharmacological, and clinical investigations are warranted to establish its safety, efficacy, and potential collagen-supportive effects.

Keywords: *Rasayana*, collagen enhancing, herbal powder, phytochemicals, standardization

STUDY THE DETERMINANTS OF SPECTACLE WEAR AMONG STUDENTS OF MAHANAMA PRIMARY SCHOOL, MONARAGALA, SRI LANKA

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Refractive errors are a leading cause of visual impairment among school-aged children and can adversely affect academic performance and quality of life. Although spectacles effectively correct refractive errors, regular spectacle wear remains a challenge, particularly in rural communities. This study assessed the prevalence, determinants, and compliance of spectacle wear among students of Mahanama Primary School, Monaragala. A school-based cross-sectional descriptive study was conducted among spectacle-wearing students in Grades 1–5. Ethical approval was obtained from the Ethics Review Committee, Faculty of Indigenous Medicine, University of Colombo (ERC UG 25/324). Data were collected using a structured interviewer-administered questionnaire completed by parents, and compliance was assessed using the Spectacle Wear Compliance Scale (SWCS). Descriptive statistics and logistic regression were used for data analysis. Among 1,246 students, 97 were spectacle wearers, giving a prevalence of 7.8%. Spectacle wear increased with age and was slightly higher among females (52.6%). Blurred vision was the most common reason for spectacle prescription (58.8%), followed by squint (21.6%) and headache (15.5%). Better compliance was observed among younger students and those with a parental history of spectacle use. Peer pressure, embarrassment, forgetfulness, and discomfort were the main barriers to regular spectacle wear. Most participants (83.5%) received eye care services through government hospitals. Spectacle wear among primary school children in Monaragala remains low and is influenced by demographic, family, and psychosocial factors. Strengthening school-based vision screening, promoting parental involvement, and implementing awareness programs may improve spectacle wear compliance and help prevent avoidable visual impairment.

Keywords: Spectacle wear, Compliance, Refractive errors, School children, Visual impairment

FORMULATION AN ANTIUROLITHIATIC (*ASHMARIBHEDANA*) HERBAL PRODUCT USING *Aerva lanata*

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In Ayurveda, urinary calculi are termed *Ashmari* and drugs with stone-dissolving action are called *Ashmaribhedana*. *Aerva lanata* is traditionally used for *Ashmari*. This study aimed to standardize *Aerva lanata* and evaluate its phytochemical profile and *in vitro* antiurolithiatic activity. Authenticated *Aerva lanata* whole plant was obtained from the Unit of *Dravya Guna Vignana*, Faculty of Indigenous Medicine. It was washed, shade dried for 1 day, powdered and passed through sieve no.80. 60g of powder was boiled with 1920ml water in a clay pot under mild heat until reduced to 1/8th volume. The decoction was filtered through 4-fold cotton cloth and freeze-dried for 48 hours. In vitro dissolution was assessed using synthesized calcium oxalate crystals placed in a semipermeable egg membrane model. Different concentrations of freeze-dried extract were incubated with crystals in tris-buffer solution. Dissolution was measured titrimetrically using $KMnO_4$. Crude ethanol and aqueous extracts were prepared for qualitative phytochemical screening. TLC and HPTLC were performed using toluene: ethyl acetate: hexane (6:3:1 v/v). Physicochemical parameters were compared with Ayurvedic Pharmacopoeia of India, 2016, Vol 3 - *Pashanabheda*: *Aerva lanata*. Reference standards: total ash ≤12%, water soluble extractive ≥18%, pH 5.5-6.5. Observed values were; total ash 10.03%, water soluble extractive 22%, pH 6.48. All were within API limits. Both aqueous and ethanol extracts tested positive for alkaloids, tannins, terpenoids, and glycosides. Saponins, simple sugars, and iodine were detected only in aqueous extract. Dissolution percentage increased with extract concentration. The 50 mg freeze-dried decoction showed the highest calcium oxalate dissolution. It was concluded that the *Aerva lanata* decoction conforms to API standardization parameters and demonstrates significant in vitro calcium oxalate dissolution activity. This supports its traditional use as an antiurolithiatic agent. Further phytochemical quantification, toxicity studies, and clinical trials are recommended.

Keywords: Urinary calculi, *Aerva lanata*, freeze-dried aqueous extract, ethanol extract

DEVELOPMENT AND STANDARDIZATION OF A HERBAL DRINK BASED ON SELECTED DRUGS IN *VEDANASTHAPANA MAHA KASHAYA* MENTIONED IN *CHARAKA SAMHITA*

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Each drug in *Vedanasthapana maha kashaya* mentioned in Caraka Samhita carries out same therapeutic action of the respective drug group. Main objective of this research was developing a pain-relieving herbal drink based on selected drugs of *Vedanasthapana maha kashaya.* Three easily available herbs, *Albizia lebbeck, Anthocephalus cadamba, and Saraca indica* were selected from pain-relieving drug group to provide symptomatic pain relief through beneficial pharmacodynamic properties, including *Tridosha shamaka, Shothahara, and Vedanasthapana Prabhava,* based on their anti-inflammatory and smooth-muscle-relaxant effects, specifically for reducing uterine contractions and inflammation regarding dysmenorrhea. Pomegranate, Watermelon, ginger, coriander, lime, Jaggery were the selected additives for flavor and palatability enhancement. Study was carried out at pharmacology laboratory, Faculty of Indigenous Medicine, University of Colombo. Decoction was prepared according to standard methods. Organoleptic parameters and physicochemical parameters were observed under standardization of raw materials. PH, TSS, Density, organoleptic characters, stability, shelf life and qualitative phytochemical screening were carried out under standardization of final product. Selected drugs mainly contained saponins (*Albizia saponins*), Tannins (*Saraca indica*), and Alkaloids (*Anthocephalus cadamba*). Phytochemical analysis of the drink detected alkaloids, saponins and tannins, proving it contains target phytochemicals which are beneficial in pain relieving. PH was 4.01, TSS was 17.035%, Stability and Shelf life was 4 months under 4 degrees of Celsius. Organoleptic characters exhibited brownish, aromatic, tangy and sweet beverage. Herbal drink demonstrated acceptable organoleptic features, physicochemical characteristics, contained key bioactive compounds, ensuring its potential as a standardized herbal infusion to relieve pain.

Keywords: Ayurveda, pain relieving, herbal drink, standardization

DEVELOPMENT AND STANDARDIZATION OF A HERBAL LIP BALM USING SELECTED HERBAL MATERIALS REFERENCED IN AUTHENTIC *AYURVEDIC* TEXTS

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Lips are particularly susceptible to dryness, cracking and environmental damage due to their limited protective properties. The increasing demand for natural and herbal cosmetic products has encouraged the development of plant-based lip-care formulations. Although individual herbal ingredients are widely used in cosmetic preparations, limited information is available on the systematic development and quality evaluation of a lip balm combining selected *Ayurvedic* ingredients. The current research work deals with preparation lip balm by using maximum natural ingredients and study aimed to develop and evaluate a herbal lip balm using selected ingredients with *Ayurvedic* references. Selected ingredients including, *Glycyrrhiza glabra* L. (*Yashtimadhu*), *Aloe vera* (L.) Burm.f., *Cocos nucifera* L. (coconut), beeswax and honey, were incorporated using the fusion method. The formulated lip balm was evaluated for organoleptic properties, pH, spreadability, melting behaviour and stability under different storage conditions. The total ash value and moisture content were determined using the dry *Yashtimadhu* raw material. The formulated lip balm was yellowish, semi-solid and had a pleasant odour. The total ash value and moisture content of the dry *Yashtimadhu* raw material were 5.4% and 8.75% respectively. The formulated lip balm showed pH of 6. The melting range was 46–64°C, with a spreadability of 0.882 g·cm/s. The formulation remained satisfactory under room-temperature and refrigerated conditions, while changes in consistency and colour were observed at elevated temperatures. The findings demonstrate the feasibility of developing a herbal lip balm with acceptable physicochemical and stability characteristics.

Keywords: Herbal lip balm, *Ayurveda*, *Ayurvedic* cosmetics, formulation, quality evaluation, stability

PRELIMINARY PHYSICOCHEMICAL STANDARDIZATION OF *MANJAN E SURKH*: A UNANI HERBAL TOOTH POWDER

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Manjan e Surkh is an Unani tooth powder used in the treatment of oral disorders such as toothache, pyorrhea, and alveolitis. As no sufficient standardization studies exist in relation to *Manjan e Surkh* tooth powder, this study attempts to develop physicochemical standards. Local raw material, *Terminalia chebula* (*Post e Haleela Zard*), *Piper nigrum* (*Filfil e Siyah*), *Nicotiana tabacum* (*Filaku*), *Gil e Armani* (*Armenian bole*), and *Cassia auriculata* root bark (*Post e Beekh e Tadwar*) were procured and authenticated. Three batches of each sample (n=3) were studied in three replicates (m=3) according to WHO guidelines for quality control methods for medicinal plant materials. Standard analytical procedures were employed for determining the parameters along with the official reference limits. Data were analyzed by applying descriptive statistical measures (mean ± SD). The observed moisture content was 5.00±0.12%, total ash content 12.50±0.35%, aqueous extractive value 7.50±0.20%, and pH of 1% and 10% aqueous solution was found to be 4.90±0.05 and 4.20±0.04, respectively. Bulk density was 0.368±0.01 g/cm^3 and tapped density was 0.496±0.02 g/cm^3. Carr's index (26%) and Hausner's ratio (1.3) indicated fair powder flowability. The physicochemical parameters were within the limits of accepted references ranges for the herbal samples. Yet without any further analysis for stability, mineral analysis, and chemical components, no statements can be made concerning their shelf-life stability, identification of minerals, and chemical components. In summary, these results serve as a preliminary stage in physicochemical characterization of the *Manjan e Surkh.*

Keywords: *Manjan e Surkh*, Unani system of medicine, physicochemical standardization, herbal tooth powder, WHO guidelines

EXPLORING THE ROLE OF *Eclipta alba (BHANGRA)* IN PROMOTING HEALTHY HAIR: A LITERARY REVIEW

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Hair health is important for both physiological function and psychosocial well-being, and disorders such as hair loss, premature greying and dandruff affect millions of individuals worldwide. Conventional therapies often demonstrate limited efficacy, recurrence and adverse effects, creating interest in safe, effective and affordable plant-based alternatives. *Eclipta alba* (*Bhangra*), a medicinal herb widely used in traditional medicine, has gained attention for its potential role in promoting hair health. This literature review aimed to explore the traditional uses, phytochemical constituents, potential mechanisms of action and topical applications of *Eclipta alba* in relation to hair health. A total of 66 sources were initially identified, comprising 53 research articles and 13 authentic classical books. After applying predefined inclusion and exclusion criteria, 38 research articles were selected for detailed analysis. The findings revealed that *Eclipta alba* contains several bioactive compounds, including Wedelolactone, Demethylwedelolactone, Ecliptine, Eclabatin, 25-β-hydroxyverazine, β-sitosterol and Stigmasterol, which possess antioxidant, anti-inflammatory, antifungal and anti-androgenic properties. Mechanistic evidence suggests that these constituents enhance follicular microcirculation, prolong anagen phase, stimulate growth factors such as IGF-1, KGF, HGF and VEGF, inhibit 5α-reductase activity and provide nutritional support to hair follicles. Based on the reviewed literature, topical preparations from *Eclipta alba* including oils, gels and pastes were reported to be generally well tolerated with minimal adverse effects. Overall, the available evidence indicates that *Eclipta alba* is a promising natural, safe, and cost-effective therapeutic agent for promoting hair health. However, further standardized clinical trials, phytochemical standardization and mechanistic investigations are required to establish its optimal dosage, long-term safety and clinical efficacy.

Keywords: *Eclipta alba*, *Bhangra*, Hair growth, Anti-androgenic, Wedelolactone

DEVELOPMENT AND STANDARDIZATION OF A HERBAL OINTMENT FOR "*DADRU KUSHTA*" BASED ON A CLASSICAL REFERENCE IN BHAVAPRAKASHA

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"*Dadru kushta*" is an Ayurveda skin disorder characterized by circular, elevated, reddish lesions and itching, with clinical features comparable to modern tinea infections. This study aimed to develop and standardize a topical herbal ointment for *Dadru kushta* based on a classical textual reference in *Bhavaprakasha* (Chapter 54, Sloka 145). The selected formulation comprised *Saussurea lappa* roots, *Embelia ribes* seeds, *Cassia alata* seeds, *Curcuma longa* roots, *Brassica juncea* seeds, and Rock salt. The selected raw materials were collected from Ayurveda drug suppliers and relevant natural sources and were authenticated at the Dravyaguna Vijnana Laboratory, Faculty of Indigenous Medicine. The ointment was prepared using the traditional *Thaila Paka* method, with sesame oil as the base, vinegar as the sour juice, and beeswax as the ointment base. Quality assessment of the raw materials included determination of total ash and moisture content. Phytochemical screening and HPTLC fingerprinting were conducted on the herbal paste (*Kalka*), while the finished ointment was evaluated for organoleptic characteristics, pH, spreadability, melting point, stability, and skin sensitivity. The total ash values of the herbal ingredients ranged from 2.75% to 5.85%, while moisture content ranged from 5.9% to 9.4%. Phytochemical screening indicated the presence of alkaloids, tannins, saponins, flavonoids, terpenoids, and glycosides. The developed ointment exhibited a natural yellowish colour, pleasant odour, and semisolid consistency, with a pH of 5, spreadability of 0.778 g·cm/s, and a melting range of 46–61°C. During 30-day stability assessment at room, refrigerated, and elevated temperatures, no changes were observed in colour, odour, consistency, or spreadability. The findings demonstrate that the selected classical reference can be developed into a physically stable and standardized topical herbal formulation using traditional pharmaceutical procedures supported by contemporary quality-control techniques. However, the antifungal efficacy of the finished formulation was not directly evaluated in this study and requires confirmation through appropriate in vitro and in vivo investigations.

Keywords: *Dadru Kushta*, Herbal ointment, *Bhavaprakasha*, Tinea infection, Ayurveda

PREPARATION AND ANALYSIS OF A DIET JELLY USING MULTI-PETALED SHOE FLOWER (*Hibiscus rosa-sinensis* L.) AS A SUPPORTIVE DIETARY FORMULATION FOR MENORRHAGIA

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Menorrhagia, or excessive menstrual bleeding is a common gynaecological disorder that can cause anaemia, weakness, and reduced quality of life in women. In Ayurveda, it is known as *Rakta pradara*, resulting from vitiation of *Pitta dosha* and imbalance of *Rakta dhatu*. *Hibiscus rosa-sinensis* L. (*Japa Pushpa*) holds *Pitta-shamaka*, *Rakta-stambhaka* and *Rasayana* actions and it is traditionally used to regulate menstrual flow. This study aimed to formulate and analyse a natural diet jelly prepared from multi-petaled Hibiscus flowers as a supportive dietary formulation for menorrhagia. Fresh flowers were authenticated at the National Herbarium, Peradeniya, processed into a hot aqueous extract and combined with a gelatin-based jelly without artificial colours or flavours. The formulation was evaluated for organoleptic properties, physicochemical parameters, qualitative phytochemical screening and chromatographic analysis. It showed a natural red colour, pleasant odour, smooth texture and acceptable sweet taste. Physico-chemical parameters revealed pH of 5.27, indicating a mildly acidic formulation suitable for stability, with a total-ash value of 2.45%, acid-insoluble ash of 1.15%, water-soluble ash of 0.85%, and moisture content of 8%, indicating acceptable quality and purity. Qualitative phytochemical screening confirmed the presence of tannins, carbohydrates and alkaloids. The presence of tannins suggests potential antioxidant activity, while alkaloids may provide anti-inflammatory effects. Carbohydrates support the energy content of the formulation, supporting its role as a dietary supplement. HPTLC fingerprinting using Toluene:Ethyl Acetate:Methanol (5:4:1 v/v%) gave 9 characteristic peaks, confirming the presence of phytoconstituents. The findings demonstrate acceptable preliminary quality characteristics of the formulation. Furthermore, its safety and therapeutic efficacy in menorrhagia require further evaluation through appropriate preclinical and clinical studies.

Keywords: *Hibiscus rosa-sinensis*, *Japa pushpa*, Menorrhagia, *Rakta pradara*, Herbal Jelly

AN AI ENABLED KNOWLEDGE GRAPH FOR RETRIEVAL OF CLASSICAL DRUGS AND FORMULATIONS

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Ayurvedic knowledge on drugs and formulations is distributed across numerous classical texts, making retrieval of information through manual searching time consuming. This study presents an AI enabled approach for structuring and retrieving classical textual ayurvedic knowledge with importance on personalized decision making. This study digitalizes and structures Ayurvedic literature using knowledge graph technology and Artificial Intelligence. Relevant information on Ayurvedic drugs and formulations was collected from classical texts and organized into structured digital data. The information was grouped according to drugs, formulations, indications, properties, dosage and their relationship were represented using a knowledge graph. The patient queries are processed through artificial intelligence and relevant knowledge is identified from the available data. Response will be provided on the basis of *Dashavidha pareeksha* and *Rasapanchaka* to assess the suitability of a formulation supporting individualized analysis and therapeutic decision making. This study facilitates retrieval of relevant classical drugs and formulations from the structural knowledge base. It bridges the gap between the textual knowledge and its clinical application. Instead of prescribing a formulation only based on a disease name, this considers the patient specific factors and Ayurvedic principles while providing the suitable drugs and formulation. The study provides a systemic digital method for accessing scattered classical textual ayurvedic knowledge and supports its application in personalized healthcare. It shows how AI can assist in retrieving and organizing traditional knowledge while keeping classical Ayurvedic principles as the basis for decision making.

Keywords: Digitalization, Personalized medicine, Textual knowledge, Artificial Intelligence, Traditional knowledge

ANALYSIS OF PHYTOCHEMICAL CONSTITUENTS OF *BARU KOKU* (*Blechnopsis orientalis* (L.) C. PRESL) – AN EDIBLE PLANT

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Ferns are a diverse group of plants distributed worldwide, but only a limited number of species are known for both their edible uses and medicinal properties. *Blechnopsis orientalis* (L.) C. Presl (Family: Blechnaceae), locally known as *Baru Koku,* is one edible fern widely consumed in Sri Lanka and other Asian countries. It grows in moist habitats, and young fronds are cooked with spices and valued as an affordable, readily available food among rural communities. Limited scientific information is available regarding its medicinal potential, and its use is not well documented in Ayurvedic literature. Therefore, this study aimed to evaluate the organoleptic, physicochemical and phytochemical characteristics of the young fronds. The plant was authenticated at the National Herbarium, Peradeniya. Organoleptic evaluation was performed for edible young fronds. Physicochemical analyses were carried out using powdered samples in triplicate, while a hot aqueous extract was prepared for qualitative phytochemical screening and chromatographical analyses. The young fronds were firm and fibrous, light green with reddish coloration, and exhibited no characteristic odour or taste. Physicochemical analysis revealed total-ash (7.45±0.23%), acid-insoluble ash (0.9±0.05%), water-insoluble ash (1.95±0.1%), moisture content (10.95±0.35%), all within acceptable limits, with a slightly acidic pH of 5.17±0.02. Qualitative phytochemical screening confirmed the presence of tannins, alkaloids, and carbohydrates, which are associated with potential antioxidant properties. HPTLC fingerprint (Toluene:Chloroform:Ethyl acetate 4:5:1 v/v%) revealed 9 distinct peaks (Rf: 0.00,0.06,0.08,0.13,0.19,0.36,0.42,0.52,0.77) at 254 nm wavelength, indicating the presence of multiple phytochemical constituents. These findings provide preliminary evidence of the nutritional and medicinal potential of *B. orientalis* and support further studies on its pharmacological properties.

Keywords: *Blechnopsis orientalis*, fern, edible, phytochemical, antioxidant

DEVELOPMENT AND PHARMACEUTICAL STANDARDIZATION OF A NATURAL HAIR PACK FOR ANTI-DANDRUFF AND SCALP HEALTH ENHANCEMENT

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The increasing consumer preference for natural and safe personal care solutions has encouraged the development of herbal alternatives that integrate traditional Ayurveda knowledge with modern pharmaceutical standards. The objective of this study was formulation and standardization of a natural hair pack using *Psidium guajava* (guava leaves), *Trigonella foenum graecum* (fenugreek seeds), Citrus peels, and purified potash alum (*Shuddha sphatika*). All the collected raw materials were dried and ground into a fine powder after authentication process. Hair pack was prepared as a sachet packet of 15 g fine powder for hair wash. Three repetitive samples were done for standardization. The formulations ware evaluated through organoleptic properties, physicochemical tests and phytochemical analysis. The average moisture content was 0.65% and the total ash was 8.81%. The lowest moisture refers stability of the product. The washability test and foamability tests exhibited its practical applicability. Phytochemical screening confirmed the presence of flavonoids, tannins, alkaloids, and saponins. Thin Layer Chromatography further supported the presence and performance of active constituents using toluene, ethyl acetate and n-butanol in a ratio of 2.5:1.5:3.5 v/v solvent system. The product demonstrated good stability and cleansing ability with antifungal activity. Literature review of each ingredients supported to prove the potential anti-dandruff activity. The synergistic combination demonstrated notable in antifungal activity, which is expected to effectively reduce dandruff, improve scalp condition, and support hair health. The preparation process was simple, sustainable, and followed traditional guidelines with modern hygiene practices. It is recommended to conduct further clinical testing to assess efficacy and safety in a wider population.

Keywords: Herbal hair pack, Anti-dandruff, Ayurvedic cosmetology, Scalp health, Natural formulation

EVALUATION OF AYURVEDA AND TRADITIONAL TREATMENT REGIMEN IN THE MANAGEMENT OF LOWER LIMB ARTERIAL ULCER: AN OBSERVATIONAL CASE STUDY

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Arterial ulcers are chronic ischemic wounds associated with peripheral arterial disease, causing pain, delayed healing, and tissue loss. Ayurveda and Sri Lankan traditional medicine offer holistic approaches to wound management and circulation improvement. Objective of this study was to evaluate the clinical outcomes of an integrated Ayurveda and Sri Lankan traditional treatment regimen in managing a lower limb arterial ulcer. An observational case study was conducted on a 55-year-old male patient with a three-month history of a painful ulcer on the medial aspect of the right fourth toe and a significant history of heavy smoking. Examination revealed a 1.5×2×1cm wound involving the dorsal and medial aspects, with blackish discoloration suggestive of ischemia. Arterial duplex ultrasonography on 22nd December 2025 revealed complete anterior tibial artery occlusion with absent blood flow. The condition was classified as Rutherford Grade IV. Treatment included *Eranda saptaka kashaya, Kaishora guggulu, Sudarshana choorna, Dashamoola kashaya,* and *Dantimooladi Kashaya* internally. External therapies comprised *Matra vasti, Abhyanga* with *Narayana taila,* and topical *Hondapara* paste. Clinical progress was monitored through symptoms, wound healing, and repeat arterial duplex ultrasonography. The results revealed that the resting pain and intermittent claudication gradually improved, with complete ulcer healing within two months. Follow-up duplex ultrasonography on 11th March 2026 demonstrated restoration of normal arterial blood flow. No adverse effects were observed during the study. It was concluded that the integrated treatment regimen demonstrated promising outcomes in symptom relief, ulcer healing, and peripheral circulation restoration, with limb preservation. Further controlled studies are required to establish its efficacy.

Keywords: Arterial ulcer, Ayurveda, Sri Lankan traditional medicine

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