

*“Empowering youngsters in exploring new dimensions”*



# URCFIM

2022

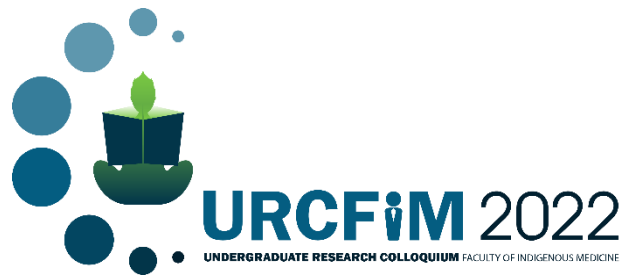
Undergraduate Research Colloquium  
Faculty of Indigenous Medicine

## PROCEEDINGS

21<sup>st</sup> December 2022



# UNDERGRADUATE RESEARCH COLLOQUIUM 2022



Organized by

Faculty Research Committee of the Faculty of Indigenous Medicine  
(FRCFIM)

in collaboration with

Students' Research Circle of the Faculty of Indigenous Medicine (SRCFIM)

Faculty of Indigenous Medicine

Gampaha Wickramarachchi University of Indigenous Medicine, Yakkala

Sri Lanka

Proceedings of Undergraduate Research Colloquium 2022

**Student Sessions - Abstracts**

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## **MESSAGE FROM THE VICE CHANCELLOR**

It gives me immense pleasure to send this message for the book of abstracts of the Undergraduate Research Colloquium of the Faculty of Indigenous Medicine.

Research provides insights and new ideas that enrich human understanding of various social, economic, health and cultural aspects. Universities are generally recognized as centres of knowledge production and transmission which play a vital role in knowledge creation and skill development. In view of this objective, Gampaha Wickramarachchi University of Indigenous Medicine (GWUIM) has always given priority to promote research culture at both undergraduate and postgraduate levels.

This Undergraduate Research Colloquium is undoubtedly a remarkable step towards achieving our university's mission to produce high quality learning environment and to promote innovative research culture in indigenous medical sciences.

I take this opportunity to congratulate the Faculty of Indigenous Medicine of our university for their tremendous commitment in organizing this event. The Faculty of Indigenous Medicine has created a platform towards strengthening our relationships in knowledge sharing while creating opportunities for BAMS undergraduates to develop their research related competencies.

I highly appreciate the active contribution of the students in this research endeavour through the Students' Research Circle in collaboration with the Research Committee of the Faculty of Indigenous Medicine. The active involvement of students in all academic and research activities of the university is something we always encourage, and we are looking at better ways of providing continuous support to develop their potentials.

I fervently believe that this event will boost the quality of research at our university and would like to extend my best wishes for the success of the Research Colloquium.

**Professor Ranjana Wickrema Seneviratne**

MBBS (Ruhuna), MS (Colombo), MSc (Birmingham), FRCS (England)





## **MESSAGE FROM THE DIRECTOR - RESEARCH COUNCIL**



It gives me a great pleasure to welcome you all for the 1st Undergraduate Research Colloquium 2022 organized by the Student Research Circle of Faculty of Indigenous Medicine, Gampaha Wickramarachchi University of Indigenous Medicine (GWUIM). Firstly, I highly appreciate the request made by the students to establish a Student's Research Circle at Faculty of Indigenous Medicine, Gampaha Wickramarachchi University of Indigenous Medicine. It shows their interest and enthusiastic nature towards the research activities.

Therefore, I hope this opportunity will help undergraduates to develop themselves as young researchers and cultivate the necessary skills for their future careers. The main objective of the event is to provide an opportunity for the undergraduates to present and discuss their research findings in a scientific forum. I believe that organizing this event will also provide many opportunities for the undergraduates to improve their soft skills such as event organizing, leadership, communication, creativity and time management etc., which are essential skills required to complete in today's global job market.

I observed that most of the presentations demonstrated the capabilities of students and the spirit of teamwork. The passion for innovation will push the boundaries of science. Young researchers will find the contents of the proceedings helpful to set road maps for their future endeavors. I take this opportunity to thank the Vice Chancellor, Dean of the Faculty, Faculty Research Co-coordinator and all other members for their enormous and incredible support extended towards this.

At last, I would like to convey my special thanks to office bearers of Student Research Circle, Faculty of Indigenous Medicine for organizing a very successful event.

I take great pleasure in wishing this URCFIM – 2022 all the success.

**Prof. (Mrs.) Priyani Peiris**

B.A.M.S. (Hons.)(CMB), M.S. (Ay.)Shalakyia (BHU–India),

Ph.D. (Ayu.)-Shalakyia-(GAU – India)

## **MESSAGE FROM THE DEAN, FACULTY OF INDIGENOUS MEDICINE**

I am delighted to send this message to the first Students' Research Colloquium (SRCFIM) conducted by the Students' Research Circle of the Faculty of Indigenous Medicine of Gampaha Wickramarachchi University of Indigenous Medicine. The event is coupled with presentations of innovations and a photography contest, both of which spark innovative thinking and perception of arts which are essential qualities in moulding a successful graduate.



I am extremely delighted that the young undergraduates of the Faculty showed interest in engaging in research at such an early phase in their education. At a time when many healthcare systems are moving towards evidence-based practice, Ayurveda, one of the oldest healthcare systems of which the treatments and methods are mainly based on empirical evidence, needs more solid scientific evidence. It is encouraging to see the young generation coming forward to fill this gap under the guidance of more experienced researchers. I am sure this colloquium will be a novel and useful experience for the students at this university and will help instill a sense of responsibility, research ethics, and the importance of gaining knowledge in the undergraduates. The event will bring many different skills, talents, and ideas of students onto one platform, which will enable them to see and realize the immense potential within them. The sense of accomplishment they gain will take them a long way.

I will take this opportunity to thank the conference chair, the coordinators of the scientific session, poster, innovations and photography sections, reviewers, resource persons, the conference secretariat, and all the students who have participated in this colloquium, for it is their contribution that made this event a success. I am also grateful to the Faculty Research Committee for their untiring efforts in establishing the Student Research Circle and providing the necessary guidance to make this event a reality.

I wish the student research circle and the first Student Research Colloquium of the Faculty of Indigenous Medicine (SRCFIM) a grand success.

**Dr. (Mrs.) W. J. Wickramarachchi**

D.S.A.C. (Hons.) (GWAV), MD (Ayur) Kayacikitsa (KLN), Ph.D. (India)

**MESSAGE FROM THE CHIEF ORGANIZER –  
URCFIM 2022**

It is with profound pleasure that I extend best wishes and congratulations for the Undergraduate Research Colloquium - Faculty of Indigenous Medicine 2022 (URCFIM 2022) organized by the Students' Research Circle – Faculty of Indigenous Medicine (SRCFIM) in collaboration with the Research Committee of Faculty of Indigenous Medicine – Faculty of Indigenous Medicine (FRCIM), GWUIM.



With the valuable inceptive idea made by the undergraduates of the FIM, the Faculty Research Committee proposed and established the Students' Research Circle (SRCFIM) under the Faculty of Indigenous Medicine with an intention of encouraging and cultivating better research culture among BAMS undergraduates, sharing knowledge, experiences and encouraging the young researchers and new innovators in the Ayurveda sector. This initiative step taken by the faculty to organize the Undergraduate Research Colloquium 2022 will definitely provide necessary guidance and facilitate for introducing novel concepts and innovations into the field and build a common platform providing opportunities for young researchers to present, discuss, debate and critique their findings while capitalizing their creativity and enhancing skills in order to shape them for presenting and disseminating knowledge in more creative and informative manner.

I extend my best wishes for the success of the conference.

**Dr. (Ms.) J. A. D. P. Pushpa Jayakody**

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## **MESSAGE FROM THE PRESIDENT – SRCFIM**

It is with extreme sense of pleasure that I issue this message to the proceedings of the Undergraduate Research Colloquium 2022 of the Faculty of Indigenous Medicine, Gampaha Wickramarachchi University of Indigenous Medicine.



I take this opportunity to thank everyone who involved in the establishment of the Student Research Circle at the Faculty of Indigenous Medicine. The Research Circle has created a platform for all our colleagues to work collaboratively towards the development of indigenous research culture at undergraduate level while we develop various soft skills required for a BAMS undergraduate to face challenges in the digital era. It is in this context that URCFIM – 2022 would be crucial in the academic life of the students.

As the Conference Chair, I wholeheartedly congratulate the URCFIM – 2022 and work towards making it an event of international standards. Further, on behalf of the student community of our faculty, I assure you that we will do our best to fulfill the goals of our lecturers.

**M. A. C. D. Aluthgama**

B. A. M. S. (Undergraduate)

## **MESSAGE FROM THE CHIEF GUEST**

It is with immense pleasure that I issue this short message on the occasion of Undergraduate Research Colloquium (URCFIM) 2022, Gampaha Wickramarachchi University of Indigenous Medicine (GWUIM). In fact, GWUIM has embarked on various activities to improve the quality of research and this Student Research Colloquium is one such programme.



Research is essentially the link among universities and the community. The collaboration among them is mutually beneficial for both parties. Research also has a clear potential to make a significant contribution to the quality of higher education. This Colloquium would provide a platform to present and publish research work carried out by the second-year undergraduates of GWUIM under the guidance of their academic supervisors. I am sure that most of the research presented at this colloquium are applied research including inventions that address most of the issues directly related to the field of indigenous medicine and Ayurveda in Sri Lanka. I would like to extend my best wishes to the young researchers who have contributed towards the development of indigenous medicine and Ayurveda sector.

I would like to add that GWUIM is the only university dedicated for Indigenous Medicine in Sri Lanka with a vision of being the centre of indigenous medicine education and research. This colloquium confirms that the GWUIM is committed to disseminate the knowledge and skills of indigenous medicine through research to serve the society and the humankind in general. I wish to congratulate Student's Research Circle and the Faculty of Indigenous Medicine for organizing the URCFIM 2022 and wish all the success.

### **Professor N. P. Sunil Chandra**

Professor Emeritus, Faculty of Medicine, University of Kelaniya

Research Professor – Sri Lanka Institute of Biotechnology

Former Chairman - Research Council & Senior Professor of Medical Microbiology

University of Kelaniya

## **MESSAGE FROM THE KEYNOTE SPEAKER**

I wish grand success for Undergraduate Research Colloquium - Faculty of Indigenous Medicine 2022 organized by the Faculty Research Committee and Faculty of Indigenous Medicine, Gampaha Wickramarachchi University of Indigenous Medicine in collaboration with the Students' Research Circle, Faculty of Indigenous Medicine (SCRFIM).



As the medical practice is on crossroad across globe, all the stakeholders especially both government and research play major role in carving future of healthcare related policy and practice. Young budding Ayurveda and indigenous physicians when sensitized about the nuance of research will help in strong foundation for building evidence base for traditional systems in Sri Lanka. Hence, I firmly believe that present colloquium will stimulate, sensitize, and inculcate the "research mindedness" in will have far reaching positive impact. I wish all the participants bright future.

### **Professor Girish K. J.**

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Abstract ID: Track 1-1

**AYURVEDA PERSPECTIVE OF ORIGIN OF *BHRAHMA HRIDA* AND RELATIONSHIP WITH THE *DAUHRUDINI LAKSHANA***

***U. M. K. Chathurangani, S. Luckshalini and H. A. R. P. Perera\****

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Ayurveda was introduced to the world to cure diseases and ensure good health. Ayurveda has extensively mentioned about the human body and its development from the foetal period. A controversial topic in Ayurveda is the development of *bhrahma hrida* and the changes which are present in 4th-month during pregnancy. This literature review was based on several texts including *Charaka samhita*, *Sushruta samhita*, *Ashthangahrida samhita*, *Kashyapa samhitha* and research articles published from 2000 to 2021. The study as directed to investigate the aspects concerning the *bhrahma hrida*, the modern correlation of *bhrahma hrida*, and the developmental details of *bhrahma hrida*. A pregnant mother can have desires that are completely different from her normal desires and is made curious. The creation of the *brahma hrida*, activates and controls the sensory organs in addition to the muscular heart of the child in the foetus. The heart located in the head is called the 3rd ventricle and the heart located in the chest is called the heart. The whole body is connected to *the vingyanadi brahma hrida* with six elements. The heart in the chest has no significant relationship to the twelve roots and *vingyana*. If the mind is located in the heart or the heart of the chest, there is no order for the yogi to unite the mind. The reason is that the heart beating defeats the movement of the heart and circulation. The mind is located between the head and the palate. According to the opinion of Ayurveda, *para-ojas* are saturated in the *bhrahma hrida*. According to the modern view 3rd ventricle of the brain is the most vulnerable part of living beings. It is identified as pre bötzing complex. It is the essential point for the generation and modulation of respiratory rhythm. Therefore, it could be nominated as *bhrahma hrida* which is saturated with *para-ojas*. It is the main origin of the living begins and the deciding factor of life and death.

Keywords: *Bhrahma hrida*, Pre Bötzing Complex, 3rd ventricle, Formation of heart

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**Abstract ID: Track 1-2**

## **ASSESSMENT OF WELL-BEING AMONG BAMS UNDERGRADUATES**

*H. I. U. Isurudini, S. H. N. N. Wijethunga and B. P. R. Perera\**

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Mental well-being is regarded as an important aspect of health according to the norms of both Ayurveda and World Health Organization (WHO). The undergraduates following a medical degree may experience mental stress to varying degrees. We conducted a cross sectional study using the validated Sinhala version of WHO-5 well-being index to assess the level of subjective mental well-being of BAMS undergraduates of Gampaha Wickramarachchi University of Indigenous Medicine. A sample of 168 voluntary participants of 21-29 years of age responded to an online questionnaire. The mean well-being score was 42.2 ( $\pm 27.5$ ) which was significantly lower than the population average of 56 ( $\pm 23.9$ ) ( $t=-6.464$ ,  $p<0.001$ ) and other student samples (47.6  $\pm 23.8$ ) ( $t=-2.519$ ,  $p=0.013$ ). However, there was no difference in the well-being score between sexes, age groups, relationship status, area of residence, lodging type, receipt of financial assistance, source of income, or having referred subjects. Those who have a sibling who is still receiving education reported a marginally significant low well-being (9.7 $\pm$ 6.8) than those who did not (11.9 $\pm$  6.8) ( $t =-1.975$ ,  $p=0.05$ ). The study provides evidence that the well- being of BAMS undergraduates is significantly lower than the well-being scores of the general population and other student samples reported in previous studies. However, none of the demographic or socio-economic factors assessed in this study were significant determinants of low well-being. A qualitative study is warranted to investigate the factors associated with low mental well-being of the students and an intervention to improve mental well-being of the students is recommended.

Keywords: WHO-5 well-being index, BAMS, Subjective well-being

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Abstract ID: Track 1-3

**STUDY OF PSYCHOSOMATIC DISORDERS WITH REFERENCE TO AYURVEDA  
CLASSICAL TEXTS**

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The term ‘Psychosomatic disorders’ is derived from psyche (mind), soma (body) and disorders (disturbance in health). Collectively it can be referred to a physical disease that can be caused or made worse by psychological factors. With reference to Ayurveda, literature is found on *manodaihika vyadhi* but they have not been described in Ayurveda classical texts under this category. This study is based on finding the hidden knowledge about psychosomatic disorders as per in Ayurveda classical texts. The study was conducted referring to *Charaka Samhita, Sushruta Samhita, Ashtangahradaya Samhita, Madhawa Nidana* and previous studies taken from electronic databases including PubMed and Google Scholar. The study revealed that there is no separate chapter for *manodaihika vyadhi*. However, in the chapters where the authors have discussed different diseases, they have mentioned about psychosomatic disorders when referring to *nidana*. These disorders can be categorized as direct psychosomatic disorders, psychotic disorders having psychosomatic nature, *dosha* predominant disorders having causative factors of *manasika bhava* and diseases having the influence of *manasika bhava* to manifest diseases.

Keywords: Ayurveda, Psychosomatic disorders, *Manodaihika vyadhi*

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**Abstract ID: Track 1-4**

## **SURVEY ON THE PREVALENCE OF ANAEMIA (*GARBHANI NĒRAKTI*) DURING PREGNANCY**

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Pregnant women who suffer from anaemia have a risk of maternal mortality. In fact, anaemia, a multifactorial condition, is a major public health issue for young children and expectant women, according to the World Health Organization. Worldwide, 42% of children under the age of five and 40% of pregnant women have been identified as anaemic. The most frequent causes of pregnant anaemia include nutritional deficiencies such as iron insufficiency, folic acid shortage, vitamin B12 deficiency, and protein deficit as well as illnesses like malaria, tuberculosis, and parasitic (hookworm) infections. The analysis of the level of haemoglobin in the peripheral blood can help detect anaemia in pregnant women. Anaemia is defined as haemoglobin levels of 11 g/dl or below. However, haemoglobin dilution during pregnancy causes an increase in plasma volume, which is why haemoglobin levels below 10 g/dl at any point during pregnancy are regarded as anaemia. The main objective of this study was to identify the prevalence of anaemia during pregnancy in the Gampaha district. Further, the study critically analysed the data to identify a possible anaemic relationship with age, gravidity and parity. The community-based, prospective, and observational study was conducted in three antenatal care centres in the Gampaha district. The study was carried out over a period of three months from September to December 2022. A total of 35 pregnant mothers were selected for the study. Data were collected via lab test results representing their haemoglobin levels, which served as the primary source of data. Data was critically analysed according to the guidelines of World Health Organization. According to statistical analysis, during pregnancy, 42.86% of women are not anaemic, 40% are mildly anaemic, 11.43% are seriously anaemic, and 5.71% are severely anaemic. It was observed that the anaemic conditions are highly prevalent throughout pregnancy. More than 50% of pregnant mothers are anaemic. It is concluded that an anaemic condition is highly prevalent in pregnancy which can cause serious health issues.

**Keywords:** Anaemia, Pregnant mothers, Haemoglobin level, *Garbhani nērakti*

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Abstract ID: Track 1-5

**A PILOT STUDY TO PREDICT HUMAN FERTILITY WITH SPECIAL REFERENCE TO  
BEEJASPHUTA AND KSHETRASPHUTA IN ASTROLOGY: A HYPOTHETICO-  
DEDUCTIVE APPROACH**

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Transitioning from being a married couple to a family of three is a dream of every wedded pair. However, not every couple is lucky enough to enjoy the feeling of parenthood mainly due to fertility issues. Despite the endless evolution of medical science and technology, infertility is still a major issue for around 1 in 7 couples worldwide. Fertility testing holds a huge importance in discovering any of such fertility challenges before they become significant. *Narayanan Nambutiri's Prasna Marga*, a major classical text on Astrology provides a dual-factor concept called *Beejasphuta* (Potency of father) and *Kshetrasphuta* (Bearing capacity of mother) to predict the male and female fertility respectively. In this context, fertility has been assessed by considering the *Beejasphuta* and *Kshetrasphuta* fall in *Rashi* chart (D1) and *Navamsha* chart (D9). But no consideration has been given to the *Saptamsa* chart (D7) though it is the divisional chart that indicates the progeny - children. This study was set out to investigate the validity of analysing D7 chart comparative to D1 and D9 charts in evaluating the level of filial bliss in relation to the above mentioned dual-factor concept. A sample of nine volunteer married couples was selected by purposive sampling technique including 3 for each category. Namely, couples having children with difficulty, without difficulty and having no children at all. Then their D1, D9 and D7 charts were thoroughly analysed. According to the results, the prediction of human fertility using *Beejasphuta* and *Kshetrasphuta* fall in D7 chart is found to be very much similar to the combined result of both D1 and D9 charts. Therefore, it can be concluded that *Beejasphuta* and *Kshetrasphuta* fall in D7 chart alone is sufficient to predict human fertility.

Keywords: Fertility testing, Astrology, *Beejasphuta*, *Kshetrasphuta*, *Saptamsa* chart (D7)

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Abstract ID: Track 1-6

**SURVEY ON MEDICINES USED TO PREVENT COVID-19 BY INDIGENOUS PHYSICIANS IN WESTERN PROVINCE**

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The Corona disease (COVID-19) is caused by Corona virus (SARS CoV-2) with severe acute respiratory syndrome. In December 2019, COVID-19 outbreak occurred in Wuhan city, Hubei Province, China and spread worldwide. According to Ayurvedic classics, *Sannipata Jwara* is likely to be correlated with the symptoms of COVID-19, which comes under *Janapadadodhvamsa Vikara* and can be grouped in *Bhutabhisanga Agantuja Vikara*. This survey was set out to evaluate the group of medicines used by the indigenous physicians in the Western Province, Sri Lanka. Primary data collection was done by using a self-administered, semi-structured questionnaire distributed among 170 government Ayurvedic and traditional physicians in the Western Province. Secondary data collection was done from Ayurveda textbooks, previous research articles, and trusted websites. Data were analysed by using the descriptive statistical procedures. The survey revealed that the medicines frequently used included *Suwadharani* 50%, *Sudarshana* 28.23% and *Guduchyadi Churnaya* 12.35%, *Desadun Kalkaya* 2.94%, confidential special recipes Powder No.01 4.76% and Powder No.02. 1.76%. The reasons underlying the use of such medicine were attributed to factors such as anti-inflammatory, anti-viral, antioxidant, anti-microbial and immunomodulatory effects and enhanced digestive power. Two types of gruels and drinking lukewarm water were non-medicinal internal practices and gargling with warm salt water, hot water steam, steam using medicated mixture and practice *pranayama* daily were identified as non-medicinal external applications. *Suwadharani Churnaya* was identified as the mostly recommended drug prescribed by the physicians in the Western Province.

Keywords: COVID-19, Pandemic, Indigenous physicians, Prevention, Western Province

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Abstract ID: Track 1-7

## LITERATURE REVIEW OF MANAGEMENT OF EPIDEMICS WITH REFERENCE TO AYURVEDA

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Epidemics are highly complicated diseases which are defined as *janapadodhwansha*, *aupasargika roga*, *māraka*, *janamāra*, and *āganthuja roga* in the Ayurveda classics. According to Ayurvedic evidence, *Adharmaya* (iniquity) is the main causative factor of Epidemics. The most effective factors which are affected by epidemics include *Vayu* (air), *Jala* (water), *Kala* (seasons), and *Desha* (land). These factors are vitiated due to unrighteous rule and when people become unrighteous. Not only in the present era but also during the ancient period, massive deaths were reported due to pandemics. Ayurveda classics mentioned suitable management procedures by using behavioral patterns, dietary regimens, and preventive measures. Further, therapeutic methods have been mentioned for preventing outbreaks and curing the diseases after spreading. This literature review was carried out with *Charaka Samhita*, *Sushruta Samhita*, *Ashthangahridda Samhita*, and research articles published from 2010 to 2020. According to scientific opinion, agent, host, and environmental factors have influenced the development of infectious diseases. Moreover, according to Ayurveda concepts, *Susrutha samhitha* views that without the involvement of *Ritu* (season), *Kshestra* (optimal period), *Ambu* (nutrition), and *Beeja*, neither a plant nor a fetus can germinate and grow. Similarly, these four factors are essentially involved in the manifestation of the *Janapada roga* within the community. On the whole, Ayurveda has mentioned proper preventive measures like avoiding *prasangath* (mutual contacts), *gatransparsath* (touching), *sahabojanath* (eating together) to break the transmission chain. *Dinacharya*, *rithucharya*, *sadvritta*, and *achara rasayana* are extremely beneficial for the break of transmission chain and developing righteous life patterns. If epidemic diseases are to be prevented therapeutically, the theory of *vyadhikshamathwa* is the main point for managing epidemics after spreading out all over the community, and *rasayana karma* (rejuvenation therapy), *panchakarma* (purification procedures) help to promote the *Kshestra*. In addition, *ojowardhaka* therapy, *vajikarana* therapy, and *lehena karma* are the other Ayurvedic therapies of management. This literature study has revealed people should change from their substandard behaviours to standard behaviours to break the pandemic chain in addition to therapeutic management.

Keywords: *Janapadhodhwansha*, *Dinacharya*, *Rithucharya*, Epidemics management

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Abstract ID: Track 1-9

## COMPREHENSIVE REVIEW ON VIRECHANA KARMA IN THE MANAGEMENT OF COVID-19 ASSOCIATED LIVER DISORDERS

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COVID-19 is a pandemic and viral infection caused by severe acute respiratory syndrome coronavirus-2(SARS-CoV-2). SARS- CoV-2 creates inflammatory environment on endothelial cells and platelets more generally and then with a hepatic focus. Liver injury leads to increased level of alanine aminotransferase (ALT), aspartate aminotransferase (AST), Gamma-glutamyl transferase (GGT) and Bilirubin. Reduced level of serum albumin can be resulted in COVID-19 associated liver injury. *Virechana karma* is the best therapy amidst *panchakarma* which can be used to eliminate the vitiated *pitta dosha* completely along with toxic materials from the body through anal canal. *Pitta dosha* is responsible for body metabolism. Complete evacuation of vitiated *pitta dosha* with stool brings back body metabolism functions including liver functions into normal state. Due to COVID-19 complications, excessive bilirubin may undergo sterco bilirubin through faecal material. Drugs which are used in *virechana karma* has several properties including *ushana* (hot), *teekshana* (penetrating), *sukshama* (subtle), *vyavai* and *vikasi*. Authentic ayurvedic texts, peer review articles and research journals were reviewed during the study. The review revealed the significance of Ayuervdic management through *virechana karma* in liver related complications in COVID-19. *Virechana* works at small cellular level within the internal system and expel the bio-toxins from body. *Virechana karma* can act as a curative, preventive, and health-promoting measure. Excess level of bilirubin should be evacuated when accumulated in the liver. *Virechana karma* hydrolysed in small intestine by lipase, and it irritates and requires bile for hydrolysis. Bile initiates excretion of wastes including bilirubin which is derived from haemoglobin destruction and excess cholesterol synthesised by the liver cells. Hepatocytes can be recovered from their damages. *Virechana karma* is the most effective *shodhana therapy* among *panchakarma*. The therapeutic purgation *virechana karma* is safe and effective since it eliminates the excessive bilirubin within the body while it prevents inflammatory condition and promotes hepatic functions.

Keywords: *Virechana karma*, Liver injury, COVID-19 complication, Bilirubin

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**Abstract ID: Track 1-10**

**DEVELOPING SWARNA PRASHANA INTO IMMUNIZATION VACCINATION FORM AGAINST COVID-19 FOR CHILDREN IN SRI LANKA – REVIEW**

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Sri Lanka is facing coronavirus variant mortality; children are at risk based on global trends. Children with co-morbidities and infants have shown post COVID-19 complications, which are specific disease condition called multisystem inflammatory syndrome in children (MIS-C) that leads to mortality. Effective antiviral drug for COVID-19 is yet to be discovered. *Swarna Prashana* is one of significant products in Ayurvedic paediatric. *Kashyapa* mentioned *Swarna Prashana* has the potential, improvement of digestive power, improvement of strength, improvement of longevity, fertility, complexion, and protection from evil. It has *swarna* (gold nanoparticle), *go ghrita* (cow ghee), *madhu* (honey) and fortified *medhya* herbals. The use of irregular gold particles in *swarna prashana* (Nano powder) acts as a prophylactic and therapeutic vaccine. *Vyadhishamatwam* (Immunity) is attained through *Swarna Prashana* with safety and efficacy. The present review was carried out to study the possibility of developing *Swarna Prashana* as immunization vaccine for pandemic condition. It gives children resistance and protection against the corona variant and any kind of infectious diseases, while it can reduce the mortality among children in Sri Lanka and prevent the complications of COVID-19. Authentic Ayurvedic texts, peer review articles and research journals were reviewed. The results suggest that *Swarna prashana* induces non-specific immunity by activating both cellular and humoral immunity through plausible mechanism and it helps to increase the superoxide dismutase and catalase which reduces the free radical. SP acts as immune therapy and shows immunogenic response. *Swarna*, *madhu* and *siddha ghrita* elicit the response of immunological system, elevate the level of total proteins and serum IgG levels. *Swarna Prashana* has nootropic and anti-acetylcholinesterase actions. *Swarna bhasma* does not encourage blood cell aggravation or protein adsorption, non-cytotoxic and has the ability to open tight junction and safety to develop as vaccine. This review revealed cost effective and prevention-centric approach of *Swarna Prashana* and develop into immune booster vaccine for children against COVID-19 or any pathogens, and it is necessary to validate its safety and efficacy through systematic research in Sri Lankan context.

Keywords: *Swarna Prashana*, Immuno-modulator, Vaccine, COVID-19

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Abstract ID: Track 1-11

**RASAYANA PROPERTY IN *SEMECARPUS ANACARDIUM* (BHALLATAKA); A  
LITERATURE REVIEW**

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*Bhallataka/ Senkottan (Semecarpus anacardium)* that belongs to the family of Anacardiaceae. It is a rare plant in Sri Lanka and mainly found in Central India, which contains high *Rasayana* property. The purpose of this literature-based study is to identify the *rasayana* effect of *Bhallataka*. Data was collected through Vruddathraya, nighantus, and google articles (n=11) and newspaper articles selected from the library of the University. *Bhallataka* shows *Rasayana* properties by increasing the *agni* in the human body and nourishing the body due to its hot potency. It has many toxicological effects such as burning, *shotha* and *visarpa*. Therefore, it should be purified prior to the medical applications. It has the ability to penetrate deeply into the tissue and rejuvenate the body; hence it used to be held in high esteem by ancient stages of Ayurveda. This study reviewed the *rasayana* property of *bhallataka* which was emphasized by Acharya Charaka in Chikitsa Sthana (Chapter 1). Although *rasayana* is not mentioned in Nighantu, *Medhya*, *Vrunhana*, *Vrushya* actions are mentioned. *Bhallataka rasayana* is prepared using *bhallataka* fruits and considered as the *rasayana* best medicine. Further Charaka *Chikitsa Sthanana* mentioned 10 types of preparations where the use of *Bhallataka* is considered as the best for *kaphaja vyadhi* and it is also mentioned in Ashtangahrudaya Samhita and Susruta Samhitha as a main medicine used for *shushka arshas*. According to the research articles, *Rasayana aushadha* helps to promote medicinal nutrition and geriatric health care. It has antioxidant and cyto-protective properties and helps in G-cell and tissue regeneration. Research has further confirmed the medicinal effect of *Bhallataka* on the tissues of the human body. It is used to induce cell repair in various cancer conditions. Also, the compounds of phenols, glycosides and lipids present in it further highlight its chemical properties. *Rasayana* action is further enhanced by the presence of *medhya*, *vrushya* and *vrunchana* actions. It is stated that while taking medicines prepared from *Bhallataka*, as well as in the use of *rasa* drugs, *Kakarashtaka* should not be used. It has high *rasayana* property and *Badulla (Semecarpus pubescens)* is used as a substitute instead of *Bhallataka* in Sri Lanka.

Keywords: *Rasayana, Bhallataka, Semecarpus anacardium, Badulla*

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Abstract ID: Track 1-12

**SURVEY STUDY ON THE AWARENESS OF *RITHUMATHI PARICHARYA* AMONG UNIVERSITY STUDENTS**

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The menstrual cycle is viewed as a reflection of reproductive health. There are several *paricharyas* (diet and regime) for women in Ayurveda for sustaining health, including *Garbhini paricharya*, *Soothika paricharya*, *Rithumathi paricharya*, etc. *Rithumathi paricharya* refers to the *paricharya* mentioned by a *Rithumathi* (woman who is menstruating) which is the most ignored aspect of the contemporary civilization. Diet and regimes which are indicated and contraindicated for maintaining health during the menstrual period were mentioned by *Acharyas*. Though some of them were in current practice, others are neglected. The *Rithumathi paricharya* helps women to cope with the physiological changes taking place in the body during the menstrual period and it helps to prevent diseases of the reproductive system. Hence awareness of *Rithumathi paricharya* among university students was assessed using survey studies. The design of the study was community-based, approaching and observational, based on four *paricharyas* which are frequently used and can represent the overall *Rithumathi paricharya*. 60 female students, who have regular menstruation and studying various levels in 2022 of Gampaha Wickramarachchi University of Indigenous Medicine, within the age group of 20 – 30years were provided information about their knowledge and awareness regarding *Rithumathi paricharya*. These data served as primary sources of data. The data was analysed by Microsoft Excel. According to statistical analysis, 70% of females are aware that they should avoid bathing throughout the first 4 days of their menstrual days, 26% of female students are aware that they should avoid sleeping during the daytime during menstrual days, 80% of female students are aware that they should avoid foods with hot potency on menstrual days 35% of female students are aware that they should avoid in heavy exercise on menstrual days. This study shows that there is a lack of awareness of *Rithumathi paricharya* among university female students. It may cause improper reproductive health. Awareness programmes may help to bridge this gap.

Keywords: Ayurveda, *Rithumathi paricharya*, Diet and Regime

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**Abstract ID: Track 1-14**

**SEX DETERMINATION OF FETUS THROUGH AYURVEDA APPROACH**

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Every pregnant woman is curious to know the gender of the baby before delivery. Nothing can be more exciting than predicting the sex of the unborn child. Ayurveda has clearly defined the formation of an embryo. Rishis contributed great significance to the determination of sex. They have explained several signs and symptoms of pregnant mothers to identify the sex of the fetus. The present study focuses primarily on interpreting these observations based on modern scientific knowledge. From modern medical perspective, sex determination of the fetus is done by an ultrasound scan at the end of the first trimester and during the second trimester. It is determined according to the nub theory. The accuracy of this method varies with the period of gestation. Likewise, it is high from 12 weeks onwards. However, it does not have 100% accuracy in determining the sex of the fetus. The basis of the current study is information on sex determination collected from Ayurvedic texts and information acquired from pregnant mothers in antenatal clinics through a questionnaire. It was comprehensively discussed with modern scientific knowledge. In regard to 30 registered pregnant mothers compared with ultrasound scan reports, 80% of the mothers showed positive results while the remaining 20% showed unclear results. The results of the study demonstrate that Ayurveda explains sex determination in a variety of methods compared to modern science and that how successfully Acharyas have applied and understood the idea of embryology. Thus, the review of the subject signifies that the concepts of sex determination are comparable in Ayurveda and Modern medicine.

Keywords: Sex determination, fetus

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Abstract ID: Track 1-15

## ROLE OF *UTTARA BASTI* ON FALLOPIAN TUBE BLOCKAGE

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Infertility is a disease of the male or female reproductive system defined by the failure to achieve a pregnancy after one year or more of regular unprotected sexual intercourse. In the female reproductive system, infertility may be caused by a several abnormalities of the ovaries, uterus, fallopian tubes, and the endocrine system. Among those, the tubal blockage is one of major associated diseases related to the female infertility. Tubal factor infertility or tubal disease refers to a blockage of one or both fallopian tubes including scarring, damage, or other obstructions. According to Ayurveda, permanent infertility is known as *Vandhyatva* and it is considered as *yonigata vikara*. There are five types of *Vandhyatva*, namely *Kakavandhya*, *Anapatya*, *Garbhasravi*, *Mrutavatsa*, *Balakshaya*. *Anapatya* is primary sterility where the lady never conceives. In Ayurveda, *basti* is considered as one of the best *vata shamana chikitsa* while *uttara basti* is considered as the most widely used and unique treatment concept of *Stree Roga*. *Uttara Basti* is a nonsurgical and important *Panchakarma* procedure commonly used and capable of performing all sorts of action like *shodana*, *samana*, *brahmana*. It is a special and highly admired procedure in Ayurveda treatment for infertility. Hence the objective of this study was to collect literature data on the effect of *Uttara basti* on tubal blockage. Primary data was collected from Ayurveda texts and the secondary data was collected from journal articles on *Uttara basti* and tubal blockages. According to the literature analysis, all collected data concluded that *Uttara basti* removes the blockage of tubal lumen by directly acting on obstruction and restores the normal endometrium. Further, it restores the normal functions of cilia breaks the tubo-peritoneal adhesions when applied with proper indications and aseptic precautions; according to the actions of ingredients, it helps in scraping of obstructing substances and promotes rejuvenation.

Keywords: Ayurveda, *Uttara basti*, Tubal blockage, Infertility

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Abstract ID: Track 1-16

**PHARMACOLOGICAL ACTIONS OF PANCHAVALKALA AGAINST  
SHLESHMAJA YONI VYAPATH**

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*Panchawalkala* (PW), which has two clearly distinguishable forms is mentioned in different ways in different texts. Out of these five plants, one is controversial whilst the remaining four have been uncontroversial. The aim of the current study is to identify the ingredients of PW properly and their antifungal effect in preventing *Shleshmaja yoni vyapath*. According to *Bhāva Prakāsha*, the barks of the five species of PW are mentioned in the *Vatādhi Ganaya*. The five trees are botanically identified as *Vata* (*Ficus bengalensis* Linn) *Udumbarā* (*Ficus recinosa* Linn), *Ashvaththa* (*Ficus trimenii* King) *Pārisha* and *Pulila*. Here *Pārisha* is a synonym for *Gansuriya* (*Thespesia populnea soland* Ex Corre), and *Pulila* is said to be *Kavudu Bo* (*Ficus tsiacle* Burm) which is controversial. According to the *Sharangadhara*, the five barks belong to the five species *Bo*, *Dibhul*, *Pulila*, *Nuga* and *Vétasa*. Here *Dibul* is the *Attikka* plant, *Pulila* is the *Kavudu bo*. *Vetasa* is the *Gamboge* (*Garcinia cambogia* Desr). Due to the change of the plants, the properties of those plants will also change, leading to the varying degrees of effectiveness. Vaginitis is correlated with *Shlëshmaja yoni Vyāpath*. Its therapeutic treatment is obtained by *Avagahana* (acid-bath treatment) using *PW kvātaya*. *Slëshmala Yoni Vyāpath*, which develops when *Kapha vriddhi* (vitiating *Kapha*) permeates the entire body and advances toward the yoni due to *kha vaigunya* leading to *yoni dushiti*. *Yoni Kandu* and *Srāva*, are the manifestations of this condition. It can result in *krimi utpatti* and aggravate the symptoms once again. Vulvo-Vaginal Candidiasis, which is caused by *Candida albicans*, is the second most prevalent form of vaginitis. The symptoms include pruritus, vaginal pain, and abnormal vaginal discharge. Hence it can be correlated with *Kaphaja Yoni Vyāpath*. *PW Kwātha* has the properties *Laghu*, *Rūksha*, *in Guṇa*, *Kashaya Rasa*, *Kaphahara*, *Karma*, and *Yóni Shodanaas* karma as mentioned in *Bhāvaprakāsha*. Due to aforementioned properties, it has *Kapha*-alleviating action and is highly successful in the treatment of *Shlëshmaja yoni Vyāpath* because the *dósha* involved in this situation is *kapha*. Hence it can be concluded that *PW Kwātha* is beneficial in *Sleshmaja Yoni vyapath*.

Keywords: *Sleshmaja yoni vyapath*, *Panchawalkala*, Treatment

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Abstract ID: Track 1-17

**COMPREHENSIVE STUDY ON *GRANTHIBHUTA ARTHAVA DHUSTHI* AND  
POLYCYSTIC OVARIAN DISEASE AS PER *SUSRUTA SAMHITA***

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Ovarian cyst is a rising concern in the modern era. Any ovarian follicle greater than 2 cm in diameter is defined as an ovarian cyst. Acharya Susruta has given an extensive description of *Granti* from its etio-pathogenesis classification and its management. The present literary study focuses mainly on interpreting these observations based on modern scientific knowledge and discovering how *Granthibhuta arthava Dhusthi* mentioned in *Susruta Samhita* is associated with PCOD in a modern view. Currently, there is no successful cure for PCOD in allopathic medicine. The treatment of PCOD in modern science consists mainly of hormonal therapy and surgical intervention. There is a need in present era to find out some appropriate and effective solutions to this issue. Ayurveda has a very satisfactory line of treatment for PCOD. *Acharya Susruta* provided the characterization of "*Granthi*," when *Raktha* (blood), *Mamsa* (muscles), and *Meda* (fat/adipose tissue) is vitiated by *Tridosha* and combined with *Kapha*. It is characterized by rounded glandular, protuberant, and firm swelling. This statement *Granthi* is a term used to describe twisted oedema. This particular kind of glandular enlargement has been compared to the word "cyst" used today which denotes an unusual, epithelium-lined, closed chamber holding liquid or semisolid inside the body materials that are once more sonographically depicted. The growth of follicles has been stopped in PCOD at one or more levels & stays the same at different phases of development and atresia; they are known as cysts that would not cause ovulation. The traditional textbooks do not include any directly correlated conditions to PCOD or any other clinical presentation is analogous to *Granthibhuta artava dusti*. However, the symptoms of *Granthibhuta arthava dhushti* mentioned in *Susruta Samhita* could be considered as a concept which has the symptoms similar to Poly cystic Ovarian Disease.

Keywords: *Granthibhuta arthava dhusthi*, PCOD, *Susruta Samhita*

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Abstract ID: Track 1-18

### ANTIFUNGAL ACTIVITY OF *CASSIA ALATA* LEAVES ON DADRU

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*Cassia alata* (Leguminosae) which is called *Eththora*, is a large shrub, whose leaflets are located in pairs. The leaves and seeds of the plant are used for medicinal purposes. Phytochemical components contain in *C.alata* leaves include alkaloids, tannins, steroids, glycoside, sterols, terpenoids and flavonoids. The objective of this review is to study the action of *C.alata* for relieving *dadru* (*Kshudra kushta*). Authentic Ayurveda texts and scientific journals were used as the main literature sources of this review. According to the Authentic Ayurveda texts, *Cassia alata* is used to relieving skin diseases which is called *dadru* or *Kshudra kushta*. *Dadru* is correlated with the skin fungal disease. It affects the cutaneous and subcutaneous tissues in the skin. In addition, it has been used for treating ringworm and wounds. Even though this plant has important medicinal value and health benefits, a smaller number of phytochemicals and their bioactivities have been identified. With this background, this study was set out to find antifungal activity of *C.alata* and identify the potential phytochemical in *C.alata* extract for relieving *Dadru* (*Kshudra kushta*). Literature relating to antifungal activity of *C.alata* in PubMed, PMC and Science Direct were extensively studied. Furthermore antifungal biobiochemical activity compounds of *C.alata* and their mechanism were searched in some popular search engines like Google scholar to gather secondary data. Generally, antifungal activity caused by allyamines, imidazoles, econazole, lulucobazole, fluconazole, itraconazole, ketoconazolenafine and terbinafine. *C.alata* is included ketaconazole. The ketoconazole has an antifungal property. Furthermore, ketoconazole contains in *C.alata* leaves.

Keywords: Antifungal, *Cassia alata*, *Dadru*

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Abstract ID: Track 1-19

**COMPREHENSIVE STUDY ON FORMATION OF PANCHAGNANAINDRIYA  
(SENSORY ORGANS) IN FOETUS**

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The human body is an amazing psychosomatic creation, unparalleled in its ingenuity. During uterine life, a lot more than simply physical growth takes place. During the early gestational age, new-borns begin excitedly detecting the environment around them in addition to busying themselves with bodily adjustments to operate after birth. The formation of a human foetus is well elaborated according to *Ayurveda*. The human foetus is formed by the union of *Shukra* (Sperm) and *Sonita* (Ovum) along with *Ātma* (Soul) in *Garbhāsha*. (Uterus). *Shad bhāva* and *Shad dhātu* along with the combination and interchanges of *Panchamahabhuta* (Five basic elements) help in the development of the foetus. *Ayurveda* classics give considerable importance to the formation of *Panchagnānéndriya*. It is believed that the knowledge of *Indriya* does not simply mean sensory organs, such as the eye, nose, tongue, ear, and skin. It deals with aspects beyond this. The primary goal of the current literary analysis was to interpret these facts based on the current scientific understanding. Information about formation of *Panchagnānéndriya* was collected from *Ayurveda* texts. Hence, the association was deeply discussed with modern scientific knowledge. According to contemporary medicine, in foetuses process, the olfactory sensations can be found in addition to the tactile, vibroacoustic, auditory, and visual stimulations during infancy life. Using modern equipment such as Ultra Sonography, for a stimulant and the response was visibly recorded in the developing foetus. With these references to early in-utero sensory development, changes in the mother's external sensory environment during pregnancy will begin to affect the surroundings of the unborn child, as the foetus is dependent on its mother. The same theory was explained by *Ayurveda* classics, which is dated back to three thousand years, where, it explains, that the regimens (*Garbhini paricharyā*) followed by the pregnant mother can positively influence an unborn baby. This regimen includes nutrition, medication, and behaviour that should be followed by the mother to deliver a healthy baby. Therefore, it can be concluded that the sagas of great knew that the developing foetus has sensory faculties that can be altered by external stimulations, which could be the main reason as to why it is important to follow *Garbhini paricharyā* as per the relevant ancient *Ayurvedic* manuscripts.

Keywords: *Panchagnānéndriya*, Sensory organs, foetus, *Garbhini paricharyā*

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Abstract ID: Track 1-20

### AYURVEDA APPROACH FOR PRE-CONCEPTIONAL CARE

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Ayurveda mainly focuses on the prevention and cure of disease. The main aim of Ayurveda is disease management and maintaining the health of healthy individuals. Reproduction is one of the congenital, chromosomal and genetic issues in new-borns. Further, pregnancy complications challenge the modern era mainly due to environmental, physical, mental, and socio-cultural factors. Pre-conception care could be considered one of the preventive measures and it helps in the early identification of high-risk factors and prevents their adverse effects. Such an approach improves maternal, paternal, and child health in both the short and long term. Pre-conception care can be defined as the provision of biomedical, behavioural, and social health interventions to women and couples before conception. The Ayurveda medical system is rich with well-described pre-conception care in terms of *Garbhadhana vidhi* since centuries back and mainly emphasizes healthy and strong progeny by following the regimens. In such a situation, Ayurveda can contribute tremendously with effective preconception care, and it helps to minimize complications of pregnancy by changing the physical and mental status of couples willing for pregnancy. Hence, the objective of this study was to collect literature data on pre-connectional care as per Ayurveda by correlating its scientific aspect through authentic Ayurvedic texts, scientific journals, and other authentic texts. According to the literature analysis, all collected data concluded that proper pre-conception care provides insights into building up of optimal health for mother and baby through Ayurveda concepts and related modern concepts. Through this review, it was possible to establish de nova concept among the youth on the importance of preconception care in order to have a wholesome childbirth. Additionally, this will aid in developing pre-conception counselling techniques and making the standard Ayurvedic pre-conception care routine easily accessible to promote healthy pregnancies and healthy offspring.

Keywords: Pre-conception care, *Garbhadana vidhi*, Pregnancy

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Abstract ID: Track 1-21

**A COMPARATIVE REVIEW OF MASANUMASIKA GARBHINI PARICHARYA AND  
MODERN ANTENATAL CARE**

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Antenatal care is an opportunity to promote a positive pregnancy experience and improve maternal and child survival. *Prasuti tantra* holds a unique place in Ayurvedic medicine. It is explained under the *Kaumarabrutya tantra* in the *Ashtanga Ayurveda* of the Ayurvedic system of medicine. The foetus spends 9 months; 280 days in the womb, from embryonic development to the womb, until it is born as a baby. Before 3000 years, Ayurveda suggested a healthy lifestyle protocol for pregnant women which is called “*Garbhini paricharya*”. Dietary habit is the most important component of *Garbhini paricharya*. This study aimed at investigating as to how to ensure a normal pregnancy with delivery of healthy baby from healthy mother. The health of the baby completely depends on mother, so it is better to take care the mother is getting adequate care and nutrition and proper food for healthy baby delivery without complications. According to various *Acharyas*, *Garbhini paricharya* is a complete observation carried out to ensure proper nutrition of the mother and foetus. It eventually affects foetal growth and has no defects in it along with no complications, maternal health and post-delivery and lactation. *Garbhini paricharya* has classified under major aspects of *Masanumasika Pathya* and *Apathya*, *Garbhopaghatakara Bhavas*, and *Garbhastapaka Dravyas*. The review was carried out based on *Charaka Samhita*, *Susruta Samhita*, and *Ashtanga Hridaya Samhita*. Data were collected by using recent research articles with the help of PubMed and Google Scholar. According to modern science, antenatal care is described as an antenatal diet including extra calories, diet to prevent anaemia, personal hygiene, rest, sleep, exercise, drug prohibition and it includes screening and diagnosis to prevent maternal death, miscarriage, birth defects, low birth weight, the complication of pregnancy and neonatal infections. According to this evidence, the ancient Ayurvedic literature described in various Samhita, is not only unique but also scientific in terms of current advances in modern medical science. So antenatal care should be done in an integrated way as per modern science and as described in Ayurveda.

Keywords: Antenatal, Dietary habits, *Masanumasika garbhini paricharya*

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Abstract ID: Track 2-3

## REVIEW ON THE HERBS USED IN PRAJASTHAPANA DASHAKA IN THE MANAGEMENT OF MENOPAUSAL SYNDROME

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Menopause is a natural phenomenon that decreases ovarian function resulting in the cessation of menses. Usually, women face hormonal fluctuation and menstruation irregularities. According to Ayurveda, an imbalance of *Doshas* and a decrease in the *Ojas* are the main causes of menopause. Due to the insufficiency of sex hormones and imbalance of *Doshas*, menopausal symptoms such as hot flashes, anxiety, depression, osteoporosis, insomnia, and vaginal dryness will manifest in the individual. In Ayurveda, rejuvenating therapy, aphrodisiac, *Dosha* specific diets are the major theories used to treat menopausal symptoms. *Prajasthapana dashaka* is one of the important *kashaya* included in the *Panchashath maha kashaya* in *Charaka Samhita*. It consists of *Aindriya* (*Citrullus colocynthis*), *Brahmi* (*Bacopa monnieri*), *Shathavirya* (*Cynodon dactylon*), *Sahasra virya* (*Cynodon dactylon*), *Amoga* (*Stereospermum suaveolens*), *Avyatha* (*Tinospora cordifolia*), *Shiva* (*Terminalia chebula*), *Arishta* (*Picrorhiza kurroa*), *Vatya pushpi* (*Sida cordifolia*), *Vishvak* (*Callicarpa macrophylla*). This research aimed at scientifically investigating the herbals in *Prajasthapana dashaka* to develop the mechanism of managing menopausal symptoms. Data were collected by using recent research articles with the help of PubMed and Google Scholar. According to the findings, all the herbs have the effect of inhibiting Tumor necrosis factor- $\alpha$  (TNF-  $\alpha$ ), Interleukin-1 beta (IL-1 $\beta$ ), Nitrogen oxide (NO), and Interleukin-6 (IL-6). These herbals presented a significant effect of free radical scavenging activity, which contributes to decreasing the enzyme of reactive oxygen species. Recent research reveals that the amount of TNF-  $\alpha$ , IL-1 $\beta$ , IL-6, and oxidative stress has a direct relationship to age. These pro-inflammatory cytokines and oxidative stress lead to develop rheumatoid arthritis, increase blood pressure, and may affect a wide range of depressive symptoms. The vasodilation effects of the TNF-  $\alpha$ , and IL-6 lead to the generation of hot flashes. According to this evidence of the anti-inflammatory and antioxidant effects with the special inhibition of pro-inflammatory cytokines such as TNF-  $\alpha$ , IL-1 $\beta$ , and IL-6 of the herbals in *Prajasthapana dashaka*, it is useful in the management of menopause symptoms.

Keywords: Menopause, *Prajasthapana dashaka*, Anti-inflammation, Antioxidant

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Abstract ID: Track 3-1

## MEDICINAL PLANTS USED FOR BATHING RITUAL OF PUBERTY CEREMONY IN SRI LANKA: A SURVEY

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In Sri Lanka, particularly among the Sinhalese, a girl's first menstruation is known as *kotahaluweema* or *malwaeraweema*. There are many rituals associated with this event. Most Sri Lankan women have had experience with these rituals. Although the practices vary from region to region, there are several common rituals being practiced in Sri Lanka. This study was conducted to identify the popularity and the principal plants used in the bathing ritual in *Malwaracharithra* in Sri Lankan society. Data was collected through authentic Ayurveda and traditional texts and self-administered paper-based questionnaire among 50 women from different areas of Sri Lanka from 28<sup>th</sup> of October 2022 to 06<sup>th</sup> of November 2022. The mean age of the respondents was 42.2 years. According to 96% (n=50), bathing ritual is performed in their areas. 92% of women were familiar with the medicinal pot of bathing ritual (*Beheth kalaya*). In this survey, priority was given to the main ingredients contained in the medicinal pot and it was revealed that there are twenty herbs that are widely used. According to the data, plant species such as *Jasminum officinale* (92%), *Ixora coccinea* (88%), *Coscinium fenestratum* (85%), *Santalum album* (84%), *Amomum curcuma* (84%), *Lingoum santalinum* (82%), *Acorus calamus* (68%), *Cynodon dactylon* (60%), *Zingiber officinale* (56%), *Saussurea lappa* (46%), *Magnolia champaca* (44%), *Moringa oleifera* (44%), *Nardostachys jatamansi* (40%), *Vetiveria zizanioides* (40%) were mentioned by the women. Ayurveda texts indicate that most of these plants have beneficial effects on the skin and the reproductive system. 88% said that the girl was bathed with water after keeping the related medicinal substances (roots, flowers, leaves, rhizomes etc.) overnight. 78% believe that this bathing ritual will have a positive effect on the girl's health. From this study, it is clear that the bathing ritual is performed after the first menstruation of a girl in Sri Lanka and medicinal herbs are added to the water and this ritual is performed with greater value. Further studies should be conducted to examine the scientific aspects of this ritual.

Keywords: Bathing ritual, Medicinal pot, Puberty, Sri Lankan girl

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Abstract ID: Track 3-2

## HAIR GROWTH AND HAIR CARE EFFECT OF *ZINGIBER ZERUMBET* INFLORESCENCE

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*Zingiber zerumbet* is a rhizomatous plant that belongs to the Zingiberaceae family, known as shampoo ginger in English, *Wal iguru* in Sinhala, *Ahava* in Sanskrit. The inflorescence of the plant is about 6–12 cm in height, which is green when young and it becomes red when mature and there is a viscous substance inside it. This viscous substance which is squeezed from the inflorescence is used directly as a shampoo by some people. Although this substance is used as a shampoo, studies have not been conducted so far on as to whether its use is effective or whether it contains compounds important for hair care. This review was conducted to identify the compounds of this viscous substance that affects hair care and assess its contribution to hair care through those compounds. Data were gathered from scientific journals and authentic Ayurveda texts. According to Ayurveda pharmacological properties, *katu* in *rasa*, *guru*, *ruksha*, *teekshna* in *guṇa*, *ushna* in *vīrya*, *madhura* in *vipāka* exist. Among the compounds contained in this viscous fluid, calcium, potassium, camphor, quercetin, luteolin, phenolic acids, gallic acid, ferulic acid, linalool, saponins and polyphenols are important for hair care effects. Camphor strengthens hair follicles, prevents hair breakage and hair fall, gallic acid, luteolin, quercetin and polyphenols promote hair growth, saponins cleanse hair, remove scurf and prevent scurf regeneration, ferulic acid acts as an antioxidant and anti-inflammatory agent to aid in healthy hair growth, linalool promotes hair growth of those who suffer from an infected scalp due to it has antifungal properties, phenolic acids regrowth hair, potassium strengthens hair follicles and prevents hair fall, calcium helps to get thicker and fuller hair that grows faster. Thus, according to the presence of these compounds, it is clear that the viscous substance inside the inflorescence affects the health of hair in various ways and it can be used for hair care. Further, these findings suggest that the extract of the inflorescence can be developed as natural hair products.

Keywords: Hair care, Hair growth, Shampoo, Viscous fluid, *Zingiber zerumbet* inflorescence

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Abstract ID: Track 3-3

## REVIEW ON TRADITIONAL HERBAL RECIPE

### “ARANYA THULASI MOOLADI YOGA”

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Ayurveda medical science is the oldest health care system in the world which has an over 5000 years of history. Sri Lankan Ayurveda medical system is a mixture of Sri Lankan traditional medicine and Ayurveda system of medicine. *Jwara* (fever) is considered as the "Lord" among all diseases in Ayurveda. *Vishama jwara* is a variety of *jwara* that can be identified by *Vishamatha* (irregularity). *Aranya Thulasi Mooladi Kashaya* (decoction) is indicated for *Vishma jwara* conditions in Sri Lankan traditional medicine in two different formulae. The main objectives of the study are to identify the efficacy of *Aranya Thulasi Mooladi Kashaya* for *Vishama jwara* through literature-based study and to collect the available literature data on this decoction using Ayurveda authentic texts and published research articles within the period of year 2000-2021. Statistical analysis was done as a simple analysis by using Microsoft Excel 2017 software. Each of the four ingredients individually contains *Katu*, *Tikta* and *Kashaya rasas*, *Ushna virya*, *Jwaraghna*, *Krimighna guna*, antipyretic, antimicrobial, antioxidant, and anti-inflammatory activities. Therefore, the two decoctions made of these ingredients may also contain those properties. According to the results of the study, the decoction mentioned in *Sarartha Sangraha* contains *Katu*, *Tikta* and *Kashaya rasa*, *Ushna virya*, *Jwaraghna* and *Krimighna guna*. According to Ayurveda pharmacodynamic actions, decoction mentioned in *Sarartha Sangraha* is the most effective decoction for *Vishama jwara* condition compared to the other decoction. According to the previous studies, pharmacological actions of the decoction mentioned in *Kashaya Sagaraya* are more effective for fever than the other conditions. Based on the results of this research, it can be concluded that *kashaya* formulations of *Aranya Thulasi Mooladi yoga* can be effectively used for *Vishama jwara*. Further, the results can be verified using laboratory research and clinical trials.

Keywords: *Aranya Tulasi Mooladi Kashaya*, Traditional medicine, *Vishama jwara*, *Jwara*, antipyretic

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Abstract ID: Track 3-5

**SYSTEMATIC REVIEW ON SHUDDHA TANKANA USED IN  
URDHAVAJATRUGATA ROGA**

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*Tankana* is a *Rasa Aushadiya* which has been used for long time in Ayurveda and it has wide therapeutic effects. This study aimed at conducting a systematic review of *Shuddha Tankana* used in *Urdhavajatrugata roga* through classical texts of Ayurveda, e-journals and research papers. The present study was conducted to compile its anti-microbial, anti-inflammatory, anti-septic, analgesic and wound healing effects and actions in *Urdhavajatrugata roga* through available literature. The data was collected from 35 published research article written in English language within the period of 2000 to 2022. According to the findings, it has the pharmacodynamic properties of *Ruksha*, *Tikshna*, *Laghu*, *Snigdha* and *Saraka* in *Guna*, *Katu* in *Rasa*, *Ushna* in *Virya*, *Amla* and *Katu Vipaka*. The pharmacological actions of anti-microbial activity tests were carried out using the agar disc diffusion method and screening by the membrane stability and protein inhibitory methods and anti-inflammatory activity, analgesic, anti-septic and wound healing activity assessed through the clinical studies. The results of the study showed *Tankana* is effective against bacterial strains of *Escherichia coli*, *Pseudomonas aeruginosa*, *Staphylococcus aureus* and *Streptococcus pyogenes* and fungal strains of *Candida albicans*, *Aspergillus niger* and *Aspergillus clavatus*. Due to these actions, this is effective in the management of *Mukha roga*, *Shiro roga*, *Nasa roga*, *Karna roga* and *Netra roga*.

Keywords: *Tankana*, Borax, *Urdhavajatrugata roga*, Antimicrobial activity, Anti-inflammatory activity

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**Abstract ID: Track 3-6**

**LITERATURE REVIEW ON THE THERAPEUTIC ACTION OF *PSIDIUM GUAJAVA* L.**

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*Psidium guajava* L. (Guava, Myrtaceae family), an important food crop and an important medicinal plant widely used in the Sri Lankan traditional medical system is commonly known due to its food and nutritional values throughout the world and is mostly found in tropical and subtropical regions. All parts of the *Psidium guajava* L. tree, including leaves, fruits, seeds, roots and bark, have been used for various diseases. Hence, the aim of this present study was to undertake the compilation of the literary review of *Psidium guajava* L. and the general objective of this study was to identify the valuable therapeutic actions of *Psidium guajava* L. The specific objectives were to find out the most valuable and hidden therapeutic actions and to find out which part of the *Psidium guajava* L. was most commonly used for therapeutic purposes, through secondary data collection like authentic traditional texts, Ayurveda texts, scientific journals and research, other texts regarding medicinal plants. The primary data collection was done by using in-depth interviews, telephone conversations and standard structured questionnaires. The medicinal plant *Psidium guajava* L was reported to possess various pharmacological properties like antimicrobial, anti-hyperglycaemic, antioxidant, anti-infective, antidiarrheal, cardio protective, anti-cough and hepatoprotective effects, etc. Overall data analysis indicated that it was commonly used for skin infections with the highest percentage of 36%. It has been determined to be 54% antimicrobial effect at all. Second, 27% of the data were identified for *madumeha* (diabetes) as an anti-hyperglycaemic activity. According to the analysis, considering the usage of plant parts, 74% used guava leaves. Moreover, this review provides easy access to the antimicrobial work performed on *Psidium guajava* L. and to develop new drugs against infectious pathogens and would contribute to develop anti-hyperglycaemic drugs in the future.

**Keywords:** *Psidium guajava* L., Guava leaves, Therapeutic actions, Antimicrobial, Anti-hyperglycaemic

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Abstract ID: Track 3-9

**RELATIONSHIP OF MENSTRUAL CYCLE AND BODY MASS INDEX:  
SURVEY STUDY**

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The female reproductive system undergoes changes during the menstrual cycle as the body gears up for a potential pregnancy. The duration of each female's menstrual cycle is different. The menstrual cycle typically lasts from 21 to 35 days, occurring once a month. Menstrual irregularities are caused by the fact that the time between the start of menstrual periods fluctuates considerably. The survey's goal was to investigate any association between an individual's menstrual cycle and the body mass index. Through the use of an online questionnaire, data was gathered. For a set amount of time, girls were permitted to answer the pre prepared questionnaire based on their menstrual cycle. Girls were given the opportunity to respond to short-answered and multiple-choice questions. Secondary data associated with gynaecological diseases were gathered from recent scientific journals and electronic media. The responses to the questionnaire were received from 86 respondents (n = 86) from various regions of Sri Lanka. Based on data, 77.9% of those interviewed reported having normal menstrual cycles, while 22.1% indicated that their cycles were irregular. 37% of regular cycle individuals were overweight, 12% underweight, and 51% had a healthy weight. 55% of those with irregular cycles were overweight, 30% were underweight, and 15% were not experiencing menstrual issues. According to women with irregular menstruation who are not in the optimal range of BMI, 89% (63% are overweight and 26% are underweight) suffer from severe pain. This survey showed that the majority of women with an optimal BMI had fewer complications related to their menstrual cycle as well as the majority of women with a non-optimal BMI had menstrual cycle irregularities.

Keywords: Body mass index, Menstrual cycle, Overweight, Underweight

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Abstract ID: Track 3-10

**COMPARATIVE LITERATURE REVIEW ON PHARMACOLOGICAL AND  
NUTRITIONAL PROPERTIES OF *OLEA EUROPAEA* (OLIVE) AND *ELAEOCARPUS  
SERRATUS* (CEYLON OLIVE -*VERALU*)**

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The studies have confirmed that the quality of the Tea Cinnamon Cannabis Agarwood plant which is grown in Sri Lanka is higher than the quality of the same plant grown in other countries. The Olive tree *Olea europaea* is one of the most valuable and popular trees around the world. *Elaeocarpus serratus*, also called Ceylon olive is a species which is indigenous to Sri Lanka. There is another popular street food known as “*Veralu*”. The objective of the research is to compare the pharmacological and nutritional properties of Olive and *Veralu*. Hence the study aimed at collecting literature-based data on the pharmacological and nutritional values of *veralu and olive* and compare and correlate its scientific aspect through authentic ayurvedic texts, scientific journals, and other authentic texts regarding the properties of *Veralu* and olive. According to the literature analysis and collected data, it was concluded that both *Veralu* and olive have significantly similar actions and properties. When applied with proper indications and aseptic precautions, it acts mostly the similar way that olive does. The morphological properties, phytochemicals, pharmacological and nutritional properties and uses of olive are very similar to *Veralu*.

Keywords: Olive, Ceylon olive, *Veralu*

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**Abstract ID: Track 4-1**

**REVIEW ON ANTI-INFLAMMATORY AND ANTIOXIDANT EFFECT OF HERBS USED  
IN SOOTIKA DASHAMOOLA**

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*Acharya kashyapa* mentioned that women who approach *sutika* on completion of the 35 weeks of pregnancy after delivering a baby should be followed by the expulsion of the placenta. During the labour excessive strain, excreting the *kleda*(moist) and *Raktha* (blood) aggregate *dosha* in the body and impact the *agni* and make a *sutika roga*. Body aches, fever, tremors, generalized oedema, diarrhoea, excessive thirst, pain in the abdomen, and heaviness of the body are the clinical features. The aim of this research is to scientifically review the anti-inflammatory and antioxidant effects of the herbal used in *sutika dashamoola* which consists of ten ingredients *Alysicarpus vaginalis* (AV), *Aerva lanata* (AL), *Solanum indicum* (SI), *Solanum xanthocarpum* (SX) *Tribulus terrestris* (TT), *Barleria prionitis* (BP), *Paederia foetida* (PF), *Zingiber officinale* (ZO), *Tinospora cordifolia* (TC) and *Cyperus rotundus* (CR). This research is a systematic literature review following PRISMA model. Only journal articles were included by web searching. Most herbals used carrageenan-induced rat paw oedema method to find out the anti-inflammatory effect with positive results. CR and ZO were found in vitro anti-inflammatory effects by using RAW 264.7 cell line and results shows inhibition of PGE<sub>2</sub>, NO, NFκB, in CR and TNF-α, COX -2, NO in ZO respectively. DPPH (2, 2-diphenyl-1-picryl hydrazyl) is the simplest method of finding out the antioxidant effect. AV inhibited DPPH radical up to 90.36% with the 144.92 µg/ml IC<sub>50</sub> value, aqueous extract of SI has an antioxidant effect 21.83 ± 0.84), and both leaves and stems of BP were reported the highest IC<sub>50</sub> values 63.41±0.32, 81.69±0.40 respectively. Free radical scavenging activity of CR is 51.50-61.73% under the DPPH method. ABST (2,2-azino-bis-3(ethylbenzthiazoline-6-sulphonic acid), FRAP (ferric reducing antioxidant power assay). Tests reported the significant antioxidant effects of other herbals TC, TT, ZO, PF, SX, and AL. According to the results, inhibition of PGE<sub>2</sub> and COX 2 reduced the pain and fever. By inhibition, the NFκB pathway gives long-lasting effects of preventing diseases. the antioxidant effect stops the production of ROS (reactive oxygen species) and reduces cell damage. Clinical features of *sootika roga* can be reduced by the anti-inflammatory and antioxidant effects of herbals in *sootika dashamoola*.

Keywords: *Sutika*, *Sutika dashamoola*, Anti-inflammatory, Antioxidant

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Abstract ID: Track 4-2

**ANALYSIS OF STRUCTURE ACTIVITY RELATIONSHIP OF BIOACTIVE COMPOUNDS IN *NIGELLA SATIVA* SEEDS AS CALCIUM CHANNEL BLOCKERS**

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*Nigella sativa* belongs to the Ranunculaceae family and is identified as the most important medicinal plant and commonly known as black seed or black cumin. *N. sativa* seeds have been used to promote health and combat diseases such as asthma, diarrhoea, bronchospasm, chest congestion, dyslipidaemia, and hypertension. The chemical component thymoquinone (TQ) has been identified as the main bioactive ingredient for the therapeutic properties of *N. sativa* seeds. TQ has been shown antihistamine properties. In addition, TQ inhibits the histamine release from the mast cells. Furthermore, *N. sativa* has demonstrated calcium channel blocking properties. The calcium channel blockers are beneficial to prevent bronchoconstriction. Therefore, TQ could be a possible drug candidate to treat asthma as a bronchodilator with symptoms of histamine intolerance. Our study focused on analysing the structure-activity relationship of TQ with calcium channels in bronchial smooth muscle (BSM) to prevent histamine release. The chemical constituents in *N. sativa* seeds were extracted using the Soxhlet extraction method. The extracted essential oil was separated and analysed using chromatographic techniques. Calmodulin, a calcium-binding messenger protein was selected for the molecular docking study to investigate the binding properties of TQ. The binding site affinity of selected ligands and protein-ligand interactions were determined using CB-Dock2 open software. The molecular docking study showed significant binding properties of thymoquinone, dithymoquinone and thymol with calmodulin protein. Out of these three ligands, thymoquinone and calmodulin protein exhibited the strongest binding affinity with the least binding energy (-7.1kcal/mol) and stabilized through hydrogen bonds. Thus, thymoquinone will be a possible drug candidate to prevent smooth muscle constriction and enhance broncho dilation through calcium channel blocking.

Keywords: Asthma, Calcium channel blockers, Calmodulin, *Nigella sativa*, Thymoquinone

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**Abstract ID: Track 4-3**

**SURVEY STUDY ON *DESHEEYA BASNA* PREPARATIONS USED BY INDIGENOUS MEDICAL PRACTITIONERS IN SRI LANKA**

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There are numerous outstanding *Desheeya yogas* in Sri Lankan traditional medicinal system. *Desheeya basna* is one of such medications, which makes a special contribution to *Desheeya cikitsa* due its locality and diversity in its production methods. More herbal and mineral polyherbal compositions with a range of pharmacological and therapeutic properties are found in *Desheeya basna*. When considering about the *Desheeya basna* employed by the Sri Lankan Indigenous physicians, it is crucial to comprehend that the *Desheeya basnaya* is the most frequently prescribed. Despite the benefits of *Desheeya basna*, there is no adequate surveys or physio-chemical analytical investigations have been done about the usage of *Desheeya basna* among the physicians with scientific knowledge. In this survey, a semi-structured questionnaire has been used to find out the type of *Desheeya basnaya* most frequently recommended by Indigenous physicians. A sample of three Ayurvedic physicians and at least seven Traditional physicians were chosen from one district in Sri Lanka by a simple random sampling technique. Districts of Jaffna, Batticaloa, Kilinochchi, Mullaitivu, and Mannar were excluded due to non-availability of Ayurveda and Sinhala Traditional physicians registered under the Sri Lanka Ayurveda Medical Council. Data was analysed using descriptive statistical method, using SPSS Software. Out of the total selected physicians 29.5% were belonged to Ayurveda and 70.5% were belonged to Traditional. When the results were analysed, 10.4% of patients were prescribed *Desheeya basna*, and 90.6% of patients were given *basna* which were prepared by themselves. *Puhul basnaya* is (90.6%), frequently prescribed by the Traditional physicians but Ayurvedic physicians did not used. According to studies, *pāndu rōga* (anaemia) is typically treated with 62.1% of *Puhul basna*. The most popular source of the physician's recipe for the *Puhul basna* is found in Sri Lanka Ayurveda Pharmacopeia I (68.9%). The most frequent excuse for the not prescribing (70.5%) is preservation difficulties. Therefore, it is clear that the preparation of the standards for *Puhul basna* is essential to make the quality assessment of this product.

Keywords: Ayurvedic and Traditional physicians, *Desheeya cikitsa*, *Pāndu rōga*, *Puhul basna*

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Abstract ID: Track 4-8

## MEDICINAL AND NUTRITIONAL VALUES OF OPIUM POPPY

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Opium poppy (*Papaver somniferum*) is a plant of the Papaveraceae family. In Ayurveda, it is named as “*Ahipēna*” and described under *Upavisha* in *Rasaśāstra* and as a *Madakāri dravya*. Although the latex and seeds of opium have various uses, the plant is known for being a narcotic because of the presence of alkaloids such as morphine, rather than its medicinal and nutritional properties. In the light of this, the present research was carried out to identify the medicinal and nutritional values of opium poppy. Both Ayurveda and modern medicine were considered, and secondary data were collected through textbooks (n=10) available at the library of Gampaha Wickramarachchi University of Indigenous Medicine and indexed journal articles published between 2007-2022 (n=22). PubMed, Google Scholar, Medline, ResearchGate search engines were used. Opium, *Ahipēna*, *Madātya*, *Khasathila* were used as keywords. According to the findings, opium is listed as a drug in Ayurveda and 90% of the available texts described the actions of *Vēdanastāpana* (analgesic), *Grāhī* (absorbent), *Ākshepaniwāraka* (antispasmodic), *Swāsahara* (antiasthmatic), *Nādiuttējaka* (nerve stimulator) while 75% referred to the actions of *Kaphahara* (expectorant), *Nidrākāraka* (sedative), *Śoṭhanāśaka* (anti-inflammatory). Furthermore, 40% mentioned the actions of *Vīryavardaka* (potency enhancement), *Balakāraka* (power enhancement), and 30% mentioned the actions of *Raktasthambhaka* (antibleeding), *Śukrasthambhaka* (ejaculation controller), but only 10% mentioned *Kāmauttejaka* (sexual stimulant). Modern medicine considers opium latex as an analgesic or antitussive in a significant proportion (90%). Further, latex is also used as a sedative (70%), antiperistalsis (60%) and anticancer medicine (50%). Moreover, seeds are included in 80% of cough, asthma, and dysentery medications. Additionally, seeds are also included in headache medications (50%), but a smaller percentage (30%) in insomnia and rejuvenation medications. Both aspects emphasize the ability of seeds to be used in food and beverages since they contain vitamins and minerals. Therefore, it can be concluded that the medicinal and nutritional values of opium are greater than its narcotic effect.

Keywords: Opium, *Ahipēna*, Ayurveda, Narcotic, Medicine

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