

SLMNA NEWSLETTER

SRI LANKA MEDICAL NUTRITION ASSOCIATION OFFICIAL NEWSLETTER



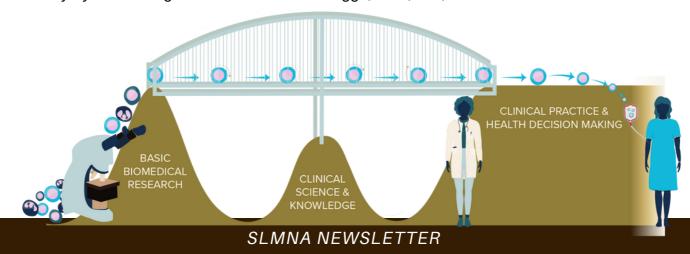
MESSAGE FROM EDITORS

>>> BRIDGING THE GAP: FROM NUTRITION RESEARCH TO PRACTICE

The link between nutrition and the development of non-communicable chronic diseases is undeniable, making the promotion of healthy dietary patterns a cornerstone of public health initiatives worldwide. National Food Based Dietary Guidelines (FBDG) have mainly focused on cultivating healthy dietary habits for health promotion and disease prevention. Nutrition research, employing a blend of observational studies, randomized controlled trials (RCTs), and animal studies, gather substantial evidence. Systematic reviews and meta-analyses at the top of the evidence hierarchy, guiding the creation of national FBDG. Despite challenges in conducting nutritional studies, robust prospective cohort studies and RCTs consistently validate the benefits of vegetables, fruits, and whole grains while highlighting the adverse effects of processed foods.

Formulating national dietary guidelines is complex as they must be feasible for the majority and safe for vulnerable groups like pregnant & lactating mothers, children, and those with specific underlying health conditions such as Chronic liver cell disease, Chronic kidney diseases, Gout, Depression, etc. From a public health perspective, it is important to identify the fundamental differences between general dietary recommendations and context-specific nutritional interventions in a clinical setting. In developing Sri Lankan FBDG, experts meticulously examine global guidelines (http://www.fao.org/nutrition/education/food-based-dietary-guidelines) while considering the available scientific evidence and the common demographic characteristics of the general public in Sri Lanka.

However, in recent times, there has been a concerning trend where healthcare workers' personal experiences, often amplified mass scale through social media platforms, overshadow evidence-based approaches to nutrition. This shift not only blurs the lines between science and anecdote but also exacerbates confusion among the general public regarding what truly constitutes a healthy diet. It's alarming to see confusion about globally accepted, scientifically supported healthy dietary practices, like consuming fruits, vegetables, dietary fibers, pulses and dairy. Additionally, there is a risk of promoting limited dietary diversity by advocating an unlimited intake of eggs, curd, fish, meat and coconut sambal.

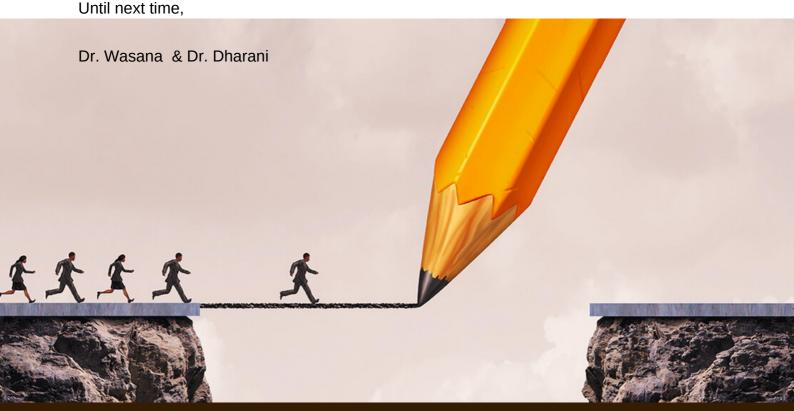


ISSUE 1

Unbelievably, some of these dietary controversies are introduced by government healthcare workers, and most of these recommendations are based on available individual isolated research and are not backed by RCTs, which are the gold standard in nutrition for establishing causality in humans. The danger behind these promotions is significant when Western medicine doctors promote it, and the public may be easily trusted and misled by their personal propaganda. The risk lies in universally promoting these restrictive diets as healthy despite their suitability varying between individuals. Moreover, the long-term implications and potential side effects of restrictive diets like keto are still under scrutiny by the scientific community.

While it is commendable that healthcare workers are passionate about health promotion, it is crucial to recognize the distinction between personal experiences and evidence-based research when disseminating dietary advice. Attraction to trendy diets like keto, low carb, or intermittent fasting is evident, with promoters often touting dramatic results and claiming health benefits. However, the scientific evidence supporting these dietary patterns is often mixed and context-dependent.

As editors of the newsletter, which is handled by professionals in the nutrition field in Sri Lanka, we feel it is crucial to emphasize the need for empowering regulatory bodies to guide healthcare professionals on social media. This aims to prevent controversies arising from conflicting messages, avoiding confusion about established healthy habits. Our goal is to bridge the gap between science and practice, guiding individuals towards a future where nutrition is not only a tool for disease prevention but a cornerstone of vitality and longevity.



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CAPTURE OF THE MONTH



"If bees only gathered nectar from perfect flowers, they wouldn't be able to make even a single drop of honey."

HEALTHY GUT; HEALTHY YOU – WELLNESS THROUGH THE HUMAN MICROBIOME

By Dr. Wasana Marasinghe Dr. Dharani Gunathilaka

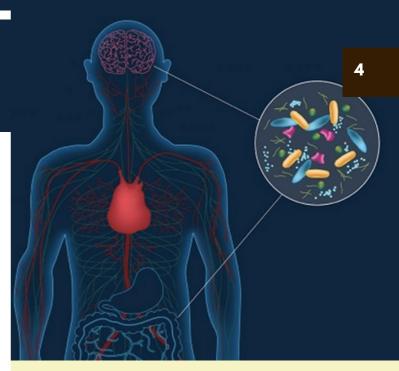
Introduction

The human home trillions qut is to microorganisms, collectively known as the gut microbiome, which plays a pivotal role in maintaining health and preventing disease. This intricate network serves as our hidden metabolic 'organ' due to its influence on human well-being, including host metabolism, physiology, mental health, immune function and nutrition. In this article, we delve into the multifaceted role of the gut microbiome and its implications for overall health and wellness.

Gut Microbiome and its Role in Health and Disease

The gut microbiome plays a crucial role in digestion and nutrient metabolism, with certain bacteria actively breaking dietary fibre and producing shortchain fatty acids (SCFAs) like acetate, propionate, and butyrate. These SCFAs act as an energy source for cells lining the intestines, regulate immune responses, and integrity of the gut the gut microbiome Additionally, involves preventing gut mucus depletion, bacterial penetration into the mucus layer and subsequently, downstream inflammation and infections.





Dysbiosis, or imbalance in the microbiome composition, has been linked to a myriad of health conditions, including inflammatory bowel disease, obesity, diabetes, and psychological complications like depression and anxiety.

Understanding Factors Influencing Gut Microbiome Composition

Global dietary guidelines universally advocate for including whole-plant foods like vegetables, fruits, whole grains, legumes, and nuts in a healthy diet due to their high dietary fibre content. These foods also contain phytochemicals, which are non-nutritive, bioactive compounds typically bound to dietary fibres, contributing to plants' colour, flavour, smell, and astringency. Remarkably, most phytochemicals do not absorb in the small intestine, engaging in bidirectional interactions with the gut microbiota, thus influencing overall health.

Fruits and Vegetables offer a substantial dietary fibre content, delivering up to 8 grams per serving. These fibres trigger a range of physiological effects, both microbiome-independent, such as delayed macronutrient absorption microbiomeand dependent, such as attenuation of SCFA-mediated insulin resistance. Additionally, fruits and vegetables are vital sources of phytochemicals, comprising polyphenols, glucosinolates, terpenoids, phytosterols, and alkaloids, contributing to overall health benefits.

Whole Grains and Legumes, abundant in fibres and phytochemicals, contribute to gut health and hostmicrobe interactions. Legumes also contain phytochemicals such as flavonols, a subgroup of flavonoids known as anti-inflammatory, and phenolic acids, which can be more bioavailable than those in grains. Nuts constitute another significant food group rich in unsaturated fatty acids, fibres phytochemicals, crucial in shaping the gut microbiome.

Research indicates a decrease in diversity of gut microbiota when comparing high high-fat diets to more traditional diets characterized by higher proportions of complex carbohydrates. Additionally, diets rich in Processed Foods have been found to disrupt the equilibrium of gut microbiota, potentially resulting in dysbiosis and increased susceptibility to various diseases.

While often necessary for treating bacterial infections, antibiotic usage can deplete harmful and beneficial gut bacteria indiscriminately. Prolonged or frequent antibiotic exposure has been associated with long-term alterations in the gut microbiome composition, predisposing individuals to antibiotic resistance and various health complications. Furthermore, Chronic Stress contributes to gut microbiome alterations, affects the gut-brain axis, alters gut motility, and exacerbates conditions like irritable bowel syndrome.





Microbiome Restoration Strategies

promote microbiome restoration, several strategies can be adopted. Firstly, advocating for a diet rich in fiber, with a minimum intake of 35 grams daily, can stimulate the production of short-chain fatty acids (SCFAs), thereby fostering gut health. Embracing the concept of "Eating the Rainbow" facilitates the support of a diverse gut microbiome by encouraging the consumption of various phytochemicals through a visually appealing and straightforward dietary approach. Alternatively, integrating Fermented Foods into one's diet provides another effective means of microbiome restoration. These foods, produced controlled microbial growth and enzymatic conversions of dietary components, often boast enhanced nutritional properties. Examples of such foods include kefir, yogurt, kombucha, tempeh, sauerkraut, and kimchi. Additionally, a targeted intervention involves microbiome modulation through "Faecal Microbiota Transplantation," where faecal matter from a healthy donor is transferred to a recipient. This procedure shows promise in restoring gut microbial balance and treating specific gastrointestinal disorders, such as Clostridium difficile infection.

The human gut microbiome profoundly impacts overall health, influencing digestion, immunity, and mental well-being. Understanding its dynamic interaction with diet, antibiotics, and stress is crucial for preventing and managing various health conditions. Habitual diet shapes the gut's microbial environment and microbial composition. Diversity is the primary factor in a healthy gut microbiome, and diet is the key driver of diversity. Prioritizing dietary diversity with a rainbow diet offer promising avenues for restoring microbial balance. Embracing microbiome-conscious practices is key to optimizing health and vitality, epitomizing the motto, "Healthy Gut, Healthy You."



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THE ANCIENT SACRED MEDICINE – BEE HONEY - AS A FUNCTIONAL FOOD

By Dr. Tharaka Amarathunga

Since the dawn of civilization, bee honey has become one of the most prized and admired natural items. It is used as a nutritional product as well as a medicine, especially in Ayurveda. Honey is the only naturally occurring substance created from insects, and it has benefits for cosmetics, medicine, and nutrition.

Composition of bee honey

Honey contains a wide range of nutrients. The majority (95–97%) of the dry weight of honey is made up of carbohydrates. The main and most important type is monosaccharides (fructose and glucose), which may contribute to most of honey's nutritional and physical effects. The most abundant sugar is fructose. Other than that smaller amounts of disaccharides, trisaccharides, and oligosaccharides are present. Those sugars are sweeter and give more energy than artificial sweeteners. The acidic property of honey is maintained by,

- Gluconic acid is a product of glucose oxidation, the main organic acid in honey.
- Acetic acid, Formic acid, and Citric acid which are found in small quantities.





Bee honey contains all essential amino and non-essential amino acids except asparagine and glutamine. The main protein ingredient of honey is enzyme. It contains a small amount of vitamins and minerals. Vitamin C is the most abundant vitamin. As B vitamins, it contains, B2, B4, B5, B6, and B11. Around 31 variable minerals have been found in honey. Minerals like calcium, zinc, iron, K, P, Mg, Se, Mn, and Cr can be found. Bee honey contains flavonoids and polyphenols as two main bioactive molecules, which act as antioxidants. Other than that, quercetin, luteolin, galangin, kaempferol, and isorhamnetin are other bioactive compounds.

Antioxidants in bee honey

Antioxidants inhibit oxidation that can produce free radicals and reactive oxygen species (ROS), which are the main causes of cellular dysfunction, increasing the risk of metabolic and cardiovascular diseases (CVDs) and ageing. Antioxidants can give protection against these pathological changes and consequently prevent the pathogenesis of these ailments.

The quantity and quality of antioxidants in honey depend on the floral source and the variety of the particular honey. The colour of the honey also influences its antioxidant content. Darker honey is known to have a higher amount of antioxidants than lighter kinds of honey, as it contains high levels of phenolic compounds. The dark colour of the honey is due to high levels of flavonoids, carotenoids, and phenolic compounds

Medicinal properties and health benefits

1.Antimicrobial activity

It has the properties of a very potent broad-spectrum antibiotic, suggesting hydrogen peroxide formation. As dark colour honey contains a high level of phenolic compounds, it has higher antibacterial activity as well as antioxidant levels. Besides containing hydrogen peroxide, high viscosity and mild acidity also contribute to its antibacterial activity. High viscosity is mainly due to high sugar concentration and low water content. High sugar content creates an osmotic pressure on bacterial cells causing water to come out from the cell resulting in the dehydration of bacterial cells and destruction. Furthermore, the high carbon-to-nitrogen ratio and low protein content are also causative factors for its antimicrobial activity.

2. Apoptotic activity and Anticancer activity

Inadequate apoptosis and uncontrolled cell proliferation are the basis of cancer. Honey induces apoptosis which is affected in cancer and has an antimutagenic and antiproliferative activity. Honey acts as a natural anticancer agent by modulating pro-apoptotic and anti-apoptotic proteins. Studies have found that it is effective in several cancers like renal cell carcinoma, adenocarcinoma, melanoma, endometrial carcinoma. prostate carcinoma, colorectal cancers, etc.





3. Immunomodulatory and anti-inflammatory activity

Bee honey contains prebiotics which can act as immune enhancers. Anti-inflammatory activity depends on the phenolic content of the honey. The pro-inflammatory action of cyclooxygenase 2 (COX 2) is suppressed by the flavonoid and phenolic compounds the honey. in Honey synthesizing white blood cells, antibodies, and natural killer cells which are essential in primary and secondary immune responses. Slow absorption of bee honey allows fermentation and formation of short-chain fatty acids. which has an immunomodulatory action.

4. Wound Healing properties

Antiseptic properties in honey are useful in the treatment of infected wounds. The anti-inflammatory, antiviral, antibacterial, and antioxidant properties of honey will cause an increased wound-healing process. Also, honey stimulates leukocytes to liberate cytokines and start the tissue repair cascades. Furthermore, it induces T and B lymphocyte proliferation, phagocytic activity, and antibody production.

Applying a wound dressing with honey increases the healing process by clearing the infection rapidly. This works for nearly all types of wounds, such as abscesses, abrasions, amputations, burns, bed sores, cracked nipples, varicose and diabetic ulcers, septic wounds, fistulas etc. Not only it speeds up the healing, but also honey sterilizes the wound and reduces the pain.

5. Bee honey in oral health

Bee honey improves oral health with its high level of antibacterial activity. It can potentially reduce dental caries, plaque, gingivitis, and periodontics. The antibacterial property of honey causes to reduce dental caries.



6. As a treatment for gastrointestinal diseases

Bee honey has been shown to be a gastro-protective agent by inhibiting the activity of Helicobacter pylori, which causes gastritis and peptic ulcers. Some studies have found that bee honey stimulates the sensory nerves in the stomach, which will involve the reduction of ulcer index, vascular permeability, and muscular activity of the stomach. Also, it reduces the duration of bacterial diarrhoea in infants and children. There is a protective effect against NSAIDs.

7. Bee honey in eye diseases

Ancient people used bee honey as a treatment for eye diseases. Some of the communities are still using them. Bee honey has been used to prevent the scarring of the cornea, which occurs as a complication of measles infection. This can be used for corneal diseases, conjunctivitis, and eye chemical and thermal burns.

8. Cardiovascular diseases

Antioxidants in bee honey act to reduce the risk of heart diseases in three ways.

- · Vasodilatation of coronary arteries
- Antithrombogenic effect
- Inhibition of Low-Density Lipoprotein oxidation

Some studies on rats found higher antioxidant content in blood in those fed with bee honey than those fed with fructose, showing a reduced risk of cardiovascular diseases.

9. As a treatment for asthma

In fork medicine, bee honey is commonly used as a drug for bronchial asthma and chronic bronchitis. Some studies have also proved the anti asthmatic effect of bee honey.

10. Metabolic effect

It is safe to use in diabetic patients instead of refined sugar. Some studies have shown that bee honey is protective against metabolic syndrome.

A clinical trial has shown that taking fresh bee honey 0.5ml/kg once daily for 12 weeks showed improvement in lipid profile (Reduced TG, TC, LDL), hyperglycemia, and increase in postprandial C peptide.). Bee honey is three times sweeter than table sugar; hence ingestion of a smaller quantity is enough to give the same taste, and honey contains little calories than sugar.). The Glycemic index of bee honey is lower compared to table sugar.





According to the World Health Organization (WHO), overweight is defined as a Body Mass Index (BMI) of more than or equal to 25kg/m2, and Obesity is defined as a BMI of more than or equal to 30kg/m2. mellitus. Hypertension. Dyslipidemia. diabetes coronary vascular diseases. and metabolic syndrome are identified as obesity-related disorders. Obesity could result from oxidative stress due to the increased deposition of white adipose tissues and alteration of food intake. Obesity was found to be a cause of increased oxidative stress through various biochemical mechanisms and a cause of systemic low-grade inflammation. Products like bee honey with high antioxidant content show significant antiobesity activity.

A study done using obese mice found the treatment with bee honey significantly reduced body weight, fat mass, relative organ weight (weight of liver, heart, and lungs), triglycerides(TG) levels, low-density lipoprotein(LDL) levels, and liver enzyme levels while increasing production of high-density lipoprotein(HDL) levels.

Another study on diabetic rats found the reducing effect of bee honey on fasting blood sugar, total cholesterol, TG and LDL levels, and increased HDL levels.

Levels of some inflammatory markers like tumour necrotic factor alpha(TNF-α) and Interleukin 1β, which increased in obese animals, were found to be decreased with the treatment of bee honey while increasing with some anti-oxidative enzymes like catalase.Increased levels of adiponectin reduced level of resistin and leptin were also observed. Flavonoids and phenolic acids with antioxidative anti-inflammatory activities most likely cause this antiobesity effect of bee honey. Another study done using 44 adults with diabetes mellitus found significant body weight reduction in the honeysupplemented group compared to the control group at the end of the study (after 56days).

Some researchers describe the mechanism of weight reduction of bee honey in several ways

- Bee honey contains mostly fructose which reduces food consumption by delaying gastric emptying
- In vivo, honey has shown a laxative effect causing reduced water absorption from foods.
 This will reduce the body's water content, causing weight reduction without burning body fat.



 Bee honey contains glucose oxidase enzyme, which catalyzes glucose to generate hydrogen peroxide, which has an insulin-like action causing an increase in the metabolic rate. This will cause weight reduction when honey is consumed.

Treatment for Obesity in Ayurveda

Bee honey has a scraping effect (Lekhana) which helps wipe out extra fat in the body. They advise taking old honey (Purana Madhu) which is one year old or more than one year old, to gain a good effect. This old honey is helpful in reducing cholesterol and improving xanthelasma other than its antiobesity effect. In contrast, new honey can contribute to increase blood sugar levels. Hence it is not suitable for patients with Obesity or PCOS. The suggestion is to use a teaspoon of old honey with lukewarm water in the morning on an empty stomach to lose weight, but consuming excess honey with the target of weight loss may be harmful. Hence Ayurvedha recommends four to five teaspoons of honey per day as the maximum amount a healthy adult can take.

It is advisable to take bee honey to control other obesity-related illnesses such as polycystic ovarian syndrome (PCOS) and diabetes mellitus.





Bee honey is a natural product with many proven and unproven health benefits. With industrialization, global food patterns also have changed, resulting significant increase in Obesity and obesity-related diseases. Using natural remedies to control these Non-Communicable Diseases and complications is becoming increasingly popular. But bee honey production in our country is still inadequate to fill the requirements. There is high biodiversity among the blooming plants in Sri Lanka. Hence beekeeping can be developed to get economic benefits in the country.

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Annual General Meeting of SLMNA

The Annual General Meeting of SLMNA was held on 06th January 2024 at Neurotrauma auditorium of National Hospital Of Sri Lanka, Colombo. The new council was appointed.

Congratulations!!!

Dear members of 9th council of Sri Lanka Medical Nutrition Association who were elected at the Annual General Meeting held on 06th of January 2024 at Neurotrauma auditorium-NHSL



PRESIDENT Dr. Nalinda Herath MBBS,MSc,MD Consultant Nutrition Physician



PRESIDENT ELECT Dr. Jayani Tennakoon Jayaweera MBBS,MSc,MD Consultant Nutrition Physician



VICE PRESIDENT Dr. Sajitha Mallawaarachchi MBBS,MSc,MD Consultant Nutrition Physician



Secretary
Dr. Thakshila Gowri
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MBBS,MSc,MD
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Assistant Secretaries Dr.Malithi Kulasinghe MBBS,MSc



Assistant Secretaries Dr.Kaviesha Selvaratnam MBBS.MSc



Social Secretary Dr.Heshan Randika MBBS,MSc



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Assistant Treasurer Dr. Amila Perera MBBS,MSc



Co-Editor
Dr. Wasana Marasinghe
MBBS,MSc,MD
Consultant Nutrition
Physician



Co-Editor Dr. Dharani Gunathilaka MBBS,MSc

Annual General Meeting of SLMNA

Congratulations!!!

Dear members of 9th council of Sri Lanka Medical Nutrition Association who were elected at the Annual General Meeting held on 06th of January 2024 at Neurotrauma auditorium-NHSL, Colombo.

Council Members



Prof. Pujitha Wickramasinghe



Dr. Upul Dissanayaka



Prof. Upul Senarath



Dr. Sanjeewa Godakandage



Dr. Tharanga Samarasekara



Dr. Shalika Kurukularachchi



Dr. Thimathi Wickramasekara



Dr. Manoji Gamage



Dr. Perl Mallawaarachchi



Dr. Evone Jayaweera



Dr. Sajitha Jayasekara



Dr. Rajitha Gunawardhane



Dr. Jeewanthi Dissanayake



Dr. Thilini Francis



Dr. Erandi Ubayanarayana



Dr. Kumudu Roopasinghe



Dr. Menaka Kottage

Annual General Meeting of SLMNA











Annual General Meeting of SLMNA

Thank you!!!

Dear members of 8th council of Sri Lanka Medical Nutrition Association for your dedication and hard work

SLMNA monthly council meetings

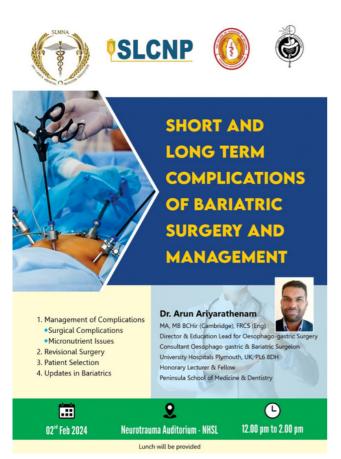


SLMNA monthly council meetings for January were held respectively on the 16th of January 2024 and 30th of January 2024 at the Medical Nutrition Unit of the National Hospital of Sri Lanka, Colombo as a physical meeting.

Monthly council meeting for February was held on the 29th of February 2024 at the Medical Nutrition Unit of the National Hospital of Sri Lanka, Colombo as a physical meeting.

SLMNA monthly clinical meetings

A lecture on "SHORT AND LONG TERM COMPLICATIONS OF BARIATRIC SURGERY AND MANAGEMENT" organized by SLMNA and SLCNP in collaboration with The Colleague Of Surgeons Of Sri Lanka and SLSG was held on 02nd of February 2024 at neurotrauma auditorium- NHSL.











LLL Course 2024 (Life Long Learning)

ESPEN, LLL Course 2024 was successfully held on 13th, 14th and 15th of February 2024 at Aldo Castellani Auditorium, Medical Research Institute, Colombo which was organized by SLMNA and SLCNP.











ESPEN - LLL Course 2024









A lecture on "Medical nutrition therapy in critically ill patients" was done by Dr Upeka Samarasinghe acting Consultant Nutrition Physician, DGH Gampaha at nutrition society sessions.



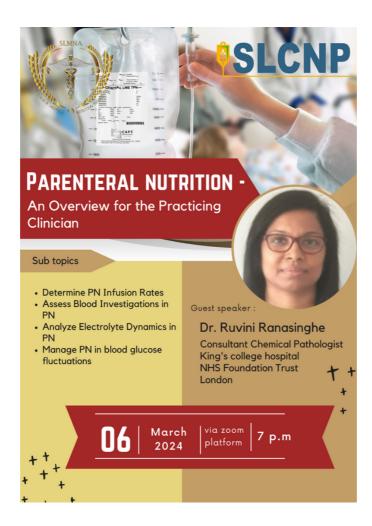
A lecture on "Basics in Parenteral Nutrition - A Clinical guide" was done by Dr. Sugath Peiris, Consultant Nutrition Physician, Teaching Hospital Kurunegala at Onco-surgical auditorium.



UPCOMING EVENTS

SLMNA monthly clinical meetings

A lecture on "Parenteral Nutrition - An Overview for the Practicing Clinician" will be held on 06th of March 7 pm through zoom flatform which was organized by SLMNA in collaboration with SLCNP.



Market fair 2024

SLMNA is hosting the "Market Fair" for 9th consecutive year on 31st of May 2024 at Clover Banquets & Resorts, Biyagama, Gonawala from 5 p.m to 10 p.m.



STAY CONNECTED WITH

SLMNA

Sri Lanka Medical Nutrition Association, Email - slmna2015@gmail. com