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Cover Story

Induction of the President of the SLMA - 2022

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SRI LANKA MEDICAL ASSOCIATION

Deshabandu Dr. C. G. Uragoda Oration

on the

History of Medicine - 2022

"THE EVOLUTION OF ANAESTHESIOLOGY IN SRI LANKA"

DR. JAYANTHA P. JAYASURIYA

FRCA

PAST PRESIDENT, COLLEGE OF ANAESTHESIOLOGISTS & INTENSIVISTS OF SRI LANKA

SATURDAY | 26TH FEBRUARY 2022

6:30 PM | LIONEL MEMORIAL AUDITORIUM, 06, WIJERAMA MAWATHA, COLOMBO 7

Register: https://bit.ly/3u16Nz1

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SLMA President

Prof. Samath D. Dharmaratne
MBBS (Colombo)
MSc (Community Medicine)
MD (Community Medicine)
President
Sri Lanka Medical Association

President's Message

Dear SLMA Members,

I feel it a great honour and a privilege to be elected as the 128th President of the Sri Lanka Medical Association (SLMA), the oldest Medical Association in Asia.

I must put in record that it was not an easy task for me to become the President of this organization, I affirm that I will make it my duty to do my best to uplift the organization during my tenure and uphold the traditions and procedures of this great organization.

The themes of the SLMA for 2022 are 'Planetary Health and Global Health Security' and the 'Prevention and Control of Road Traffic Crashes, Injuries and Deaths'.

I and the Council of the Sri Lanka Medical Association (SLMA) will work to make its members and the people of Sri Lanka be able to live in a safe, secure, and disease-free country. We will prepare Sri Lanka to face future pandemics while helping policy makers manage the current COVID-19 pandemic. We

will also make the roads safe for the people of this country.

The Annual Academic Sessions are planned to be held from 28th September 2022 to October 1st 2022 at the Cinnamon Grand Hotel, Colombo.

The Foundation Sessions will be held on 4th November 2022 at the Auditorium of the Sri Lanka Medical Association and the SLMA Medical Dance in December 2022 at the Cinnamon Grand hotel, Colombo. The Doctors Concert is scheduled for 23rd July 2022 at Hotel Galadari. The Law-Medical cricket match will be played in the latter part of 2022.

I and the Council of the SLMA have planned regular 'paduru parties' and 'karaoke' sessions for the enjoyment of the members and invite you to join us to make 2022 a memorable year.

We also urge you to invite your friends and colleagues to join the SLMA and share their expertise and skills to uplift the medical profession in Sri Lanka.

I and the Council of the SLMA wish you and your families a new year filled with happiness, joy, and good health.

Professor Samath Dhamminda Dharmaratne
President - SLMA

A Message from the Co-Editors

We request all SLMA Members to contribute to the SLMA News for the year 2022. The magazine is shared with the 4500 + SLMA members, uploaded to the SLMA website & facebook pages and the 500 printed copies are distributed among Medical Faculties, Professional Associations/ Colleges, Ministry of Health, UN Organizations, etc.

The Guidelines for articles are given below;

- Title: Give a catchy title, not lengthy
- Word count: about 2000
- Number of references: maximum 8 (preferably less)
- Referencing style (preferably): Vancouver
- Images: It is the responsibility of the author to get permission from the original author (Please give the reference to the original owner)
- Sending images: Please send as attachments. Pasting images on MSWord reduces the quality of image and affect the print quality outcome.
- Author details: Prefix, Name, Designation, Current Working Station

For further clarifications/ details, please e mail to;

The Co-Editors – SLMA News+ - office@slma.lk

Thank you
Professor Kumara Mendis & Dr. Sumithra Tissera

The SLMA President - 2022

Professor Samath Dhamminda Dharmaratne, obtained his primary, secondary and tertiary education at Royal College, Colombo 7 and his MBBS in 1990, and completed his internship at the Colombo South Teaching Hospital.

He joined the Department of Community Medicine, Faculty of Medicine, University of Peradeniya, in 1994 as a Probationary Lecturer. He obtained an MSc and a MD in Community Medicine from the Postgraduate Institute of Medicine (PGIM), University of Colombo, in 1997 and 2002 respectively and was Board Certified as a Specialist in Community Medicine in 2002. He was promoted to Senior Lecturer in 2002, Associate Professor in 2009 and Chair Professor of Community Medicine in 2019.

He was appointed as the first Director of the Postgraduate Institute of Medical Sciences (PGIMS), University of Peradeniya on 1st September 2021. He is also the present Coordinator of the Diploma in Exercise and Sport Sciences program offered by the Faculty of Medicine, University of Peradeniya.

Prof. Dharmaratne has 110,480 Google scholar citations, an H-Index of 62 and an i10-index of 103 to date. He has supervised 51 postgraduate students (32 MScs, 14 MDs, 3 MPhils and 2 PhDs) and many undergraduates at the faculties of Medicine and Allied Health Sciences at the University of Peradeniya. He has coauthored 115 peer reviewed journal articles and 200 presentations (90 oral and 110 poster) at national and international conferences. He had delivered two orations (Bibile Memorial and the Kandy Health Research Prize Oration) at the Kandy Society of Medicine.

He has been a past President, Joint Secretary, Social Secretary and a Council member of the Kandy Society of Medicine. He also has been a Council member of the SLMA and has been in the council continuously for the past 12 years. He has been the Chairperson of the Expert Committee for Prevention of Road Traffic Crashes of the Sri Lanka Medical Association since 2013.

Presidential Address

Past presidents of the Sri Lanka Medical Association (SLMA), Board of Trusties, Council Members, Members of the SLMA, invitees, Members of the media, Ladies and Gentlemen.

Thank you, the Immediate Past President Dr (Mrs) Padma Gunaratne, for your kind words of introduction. Let me take this opportunity to thank you for taking the SLMA to great heights and for making it a household name. I have a Herculean task to maintain your high standards and the recognition of the SLMA this year.

Getting elected was not easy. Although I applied for the post in 2015, 2016, 2017, 2018, I was not elected. I did not apply in 2019 and was not elected for 2021 and was only elected to be the President of the Sri Lanka Medical Association in 2022.

Thank you, Past Presidents for having faith in me to lead this prestigious organization in 2022.

I feel it is a great honour and a privilege to be elected as the President of the SLMA. The oldest Medical Association in the Asia Pacific.

The theme for the SLMA in 2022 will be *'Planetary health and global health security'*, why I chose this topic will be explained later.

I took over the Presidency of the SLMA at the AGM held on December 22, 2021. Today, January 16, 2022, I was inducted as the 128th President of the SLMA. The Annual Academic Sessions are planned to be held from 28th September to 1st October 2022 at the Cinnamon Grand Hotel, Colombo.

The Foundation Sessions will be held on 4th November, 2022 at the SLMA and the SLMA Medical Dance in December 2022 at the Cinnamon Grand. The Doctors Concert is scheduled for 23rd July, 2022 at Galadari and the Law-Medical cricket match in the latter part of 2022. These are the regular events and a few more are planned to make the year an eventful one.

The SLMA will participate at a live musical event at Siyatha TV and two or three 'Paduru Parties'/ Karaoke sessions are planned to improve the singing abilities of the SLMA members. All are invited to start practicing for these events. The SLMA is not only an academic organization!!!

Regional meetings, international meetings and collaborations with Rotary International, Lions Club, BASL and the Ministry of Sports will make the year lively. Hope that we can have the SLMA walk in 2022 and other events.

Planetary health is a nascent concept focused on the interdependence of human health, animal health, and the health of the environment. Defined as "the health of human civilization and the state of the natural systems on which it depends," planetary health calls for urgent attention to the extensive degradation of our planet for human advancement. The concept focuses on reversing this trend by better balancing human needs with the preservation of the Earth to sustain the health and well-being of future generations.

To accomplish this will require a multidisciplinary, cross-sector, and trans-border approach to change mind sets and behaviours at every level, from global to local.

Global health security; Biological threats, natural, intentional, or accidental in any country can pose risks to global health, international security, and the world economy. Because infectious diseases know no borders, all countries must prioritize and exercise the capabilities required to prevent, detect, and rapidly respond to public health emergencies. In turn, global leaders and international organizations bear a collective responsibility for developing and maintaining robust global capability to counter infectious disease threats. These steps will save lives and achieve a safer and more secure world.

Threats to planetary health and global health security include exploitation of biological resources with the earth over shoot day falling on July 29 2021. Plastic waste which takes hundreds of years to degrade and air pollution are considered as major cardiovascular risk factors. Over 86% of carbon dioxide emissions are produced by richer countries with less than half of the world population with consequent global warming and climate change disproportionately affecting developing countries like us.

Then COVID-19 came!!

Situation of COVID-19 by 15th January, 2022 in Sri Lanka is given below;

594, 996 total infections, 11 754 patients taking treatment in hospitals and 15 190 deaths. 16 189 227 persons have taken the first dose, 13 869 020 the second dose and only 4 640 459 the third or booster dose.

Sri Lanka experienced three waves to date, the first from the start (March 2020) till 3rd October, 2020, second from 4th October, 2020 to 14th April, 2021 and the third from 15th April, 2021 to date (Figure 1 - 4). Will there be a fourth wave, we need to wait and see and hope that it does not happen.More pandemics are not that far away. The planet is sick and a sick planet will definitely bring more and more pandemics. Are we prepared???

The Theme – Planetary Health and Global Health Security was

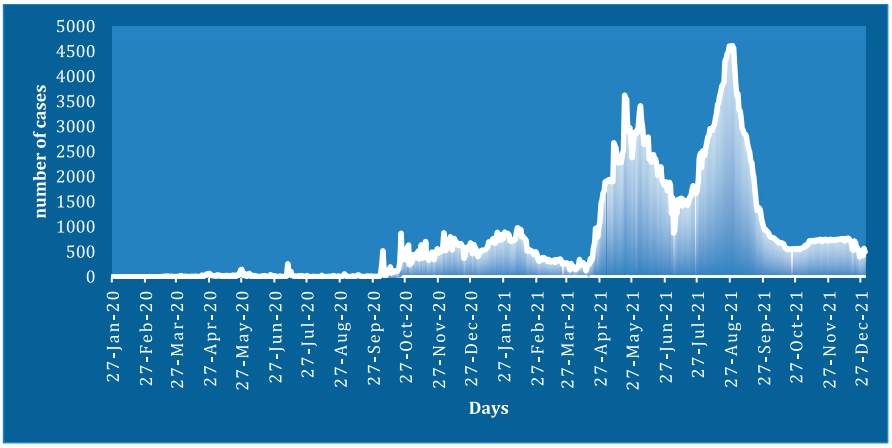


Figure 1 - COVD-19 daily new confirmed patients in Sri Lanka from January 27, 2020 to December 31, 2021
(Source: Epid Unit daily situation report)

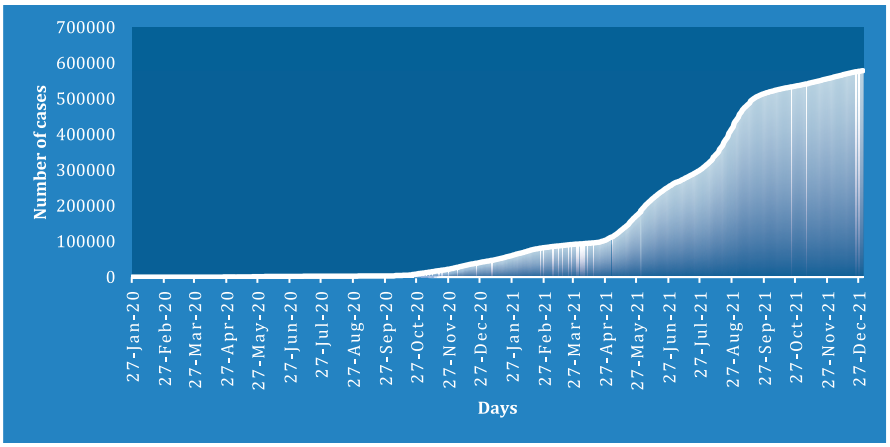


Figure 2 - COVD-19 daily total confirmed patients in Sri Lanka from January 27, 2020 to December 31, 2021
(Source: Epid Unit daily situation report)

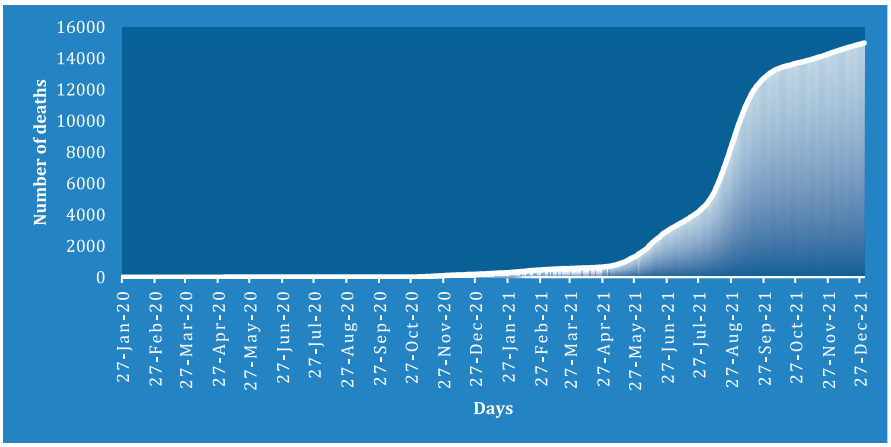


Figure 3 - COVD-19 daily total deaths in Sri Lanka from January 27, 2020 to December 31, 2021
(Source: Epid Unit daily situation report)

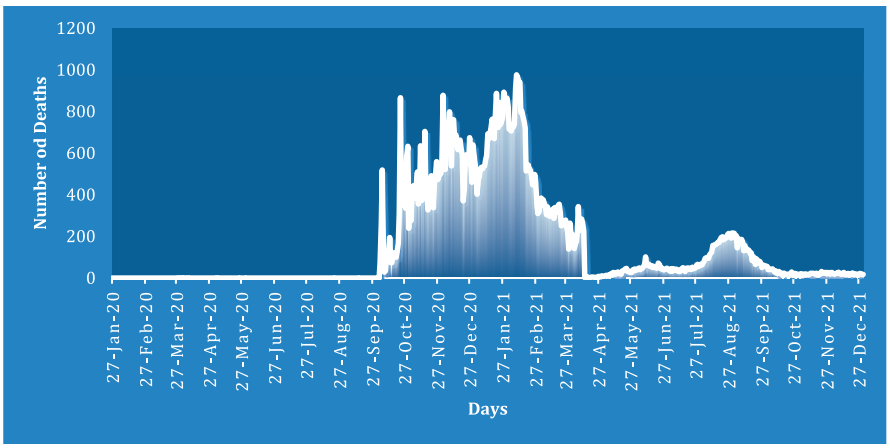


Figure 4 - COVD-19 daily new deaths in Sri Lanka from January 27, 2020 to December 31, 2021
(Source: Epid Unit daily situation report)

considered to make the SLMA and the country be prepared for the next pandemic and to prevent us being caught napping!!! Let's hope that we can do something to make us safer!

Road traffic crashes (RTCs), injuries and deaths is another man-made epidemic that is causing issues in health security. Mainly young males die and are injured from preventable RTCs.

Globally, 1.2 million are killed, 50 million are injured each year from RTCs. A 65% increase in RTCs is expected in the next two decades. US$ 518 million is lost representing 1-2% of the Gross National Product (GNP). US$ 65 billion is lost in low- and middle-income countries which exceeds total amount of development assistance

In Sri Lanka, 7-8 people are killed daily from road traffic crashes, 2-3 are injured every hour, a crash is reported every 10 minutes. Annually more than 3000 die from RTCs. More than 5 billion rupees is wasted due to RTCs.

Risk taking behaviours is a main reason for RTCs which makes the road users a vulnerable group.

No child should die from RTCs in Sri Lanka. Hope we can achieve this objective in 2022.

I would like to consider the Year 2022 to be a road traffic crash prevention year. SLMA will work with and through the Expert Committee on Prevention of Road Traffic Crashes to achieve this objective. It will be a multi-sector collaborative effort.

We will make all efforts to try to reduce at least 10% of deaths and injuries due to RTCs during this year.

The Council of the Sri Lanka Medical Association and I will work to guarantee its members and the people of Sri Lanka a safe country to live. We will prepare Sri Lanka to face future pandemics while helping policy makers manage COVID-19. We will also make the roads safe for the people of Sri Lanka. Simultaneously, we will make the members enjoy the 2022.

In conclusion, I will uphold and carry out all obligations to the best of my ability and will maintain the high standards of the SLMA.

Thank you

Brief description of activities (22nd December 2021 - 21st January 2022)

3rd January

A religious function was held at the newly renovated SLMA premises 'Wijerama House', to invoke blessings on Dr & Mrs EM WIjerama, President, Council and General Membership of SLMA, Staff of SLMA office and other colleges/ associations within the premises.

The events of the day began with chanting of 'Seth Pirith' by Buddhist priests, which was followed by blessings by a religious leader from the other three main religions - Catholic, Islam and Hindu.

Kavun and Kiribath was served for the invitees and all others who gathered for the function.

7th January (Morning)

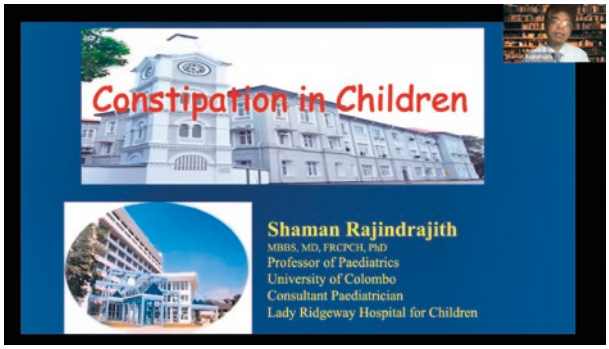
Professor Samath Dharmaratne, President SLMA and Dr. Surantha Perera, Vice President SLMA participated as resource persons at a media seminar organized to inform the public on the importance of prevention of COVID-19 by adhering to all health measures and also vaccination of children above 12 years.

7th January (Evening)

The lighting of lamp of learning and the traditional unveiling of the portrait of the immediate Past President Dr. Padma Gunartne was held at the SLMA Council room before the first council meeting for the year 2022 (and for the SLMA Council 2021/22) at the SLMA Auditorium.

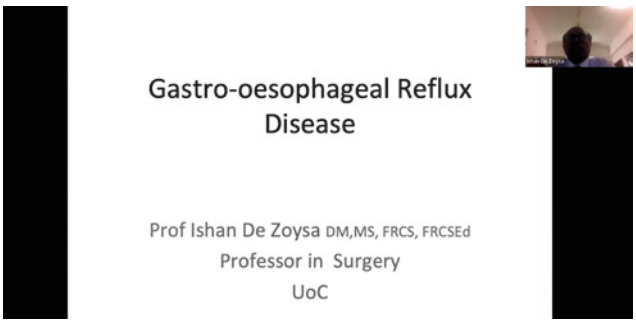
8th January

The first SLMA Saturday Talk for the year 2022 was done by Professor Sharmen Rajindrajith, Chair Professor of Paediatrics, Faculty of Medicine, University of Colombo on 'Constipation in Children'.



15th January

The SLMA Saturday Talk on 'Gastro-oesophageal Reflux Disease' was done by Professor Ishan de Zoysa, Professor in Surgery, Faculty of Medicine, University of Colombo.



Induction of the President of the SLMA - 2022

The induction of Professor Samath Dharmaratne as the 128th President of the Sri Lanka Medical Association (SLMA) and the Presidential Address was held at the Oak Room, Cinnamon Grand, Colombo on 16th January, 2022 with the participation of the Council, Past Presidents, Ministry officials, invitees from UN organizations and family members of the President.

He introduced the theme for the year ***'Planetary Health & Global Health Security'*** and his vision for year 2022 in detail in his presidential address.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6th Jan 2022


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Sri Lanka Medical Association


Sri Lanka Medical Association


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Omicron: Is it a game changer in the long war of Covid-19 pandemic?

Dr. Jude Jayamaha
M.B.B.S. PG Dip in Med. Micro., M.D. (Med. Virology)
Consultant Medical Virologist
Department of Virology
Medical Research Institute

The global pandemic of COVID-19 is caused by Severe Acute Respiratory Syndrome corona virus-2, SARS CoV-2. The world has battled with COVID-19 for almost two years, and is entering into the third year of existence. Still, SARS CoV-2, poses more questions and challenges than answers and solutions.

SARS CoV-2, is an RNA virus which undergoes mutations during replication transmission, which is an inherent property of the family of RNA viruses. All mutations are not conducive of virus propagation but some are beneficial and have an added advantage in transmission and cause more severe disease and mortality. These mutations are termed as variants and are classified as Variants of Interest (VoI) and Variants of Concern (VoC) by the World Health Organization (WHO). These variants are named by the Greek alphabet (Alpha, beta, gamma, delta etc.) for simplicity's sake and have many complex classifications by phylogenetic analysis, Pangelion etc.

Omicron variant

On the 26th of November, 2021, the WHO designated the variant B.1.1.529 a variant of concern. The variant was given the name Omicron. Omicron is a highly divergent variant with a high number of mutations, including 26-32 mutations in the spike protein, some of which may be associated with humoral immune escape potential and higher transmissibility (1). These mutations have attracted much attention amongst the scientific fraternity and media publicity.

This article is intended to shed some light on the omicron variant and it's characteristics at a crucial juncture of its' transmission in Sri Lanka and the world.

Medical officers can and should play a pivotal role in propagating accurate information of the disease, vaccines and mitigating false information in vaccination against COVID-19 in particular.

Current situation

As of 20th of January 2022, the Omicron variant had been identified in 171 countries across all six of the WHO Regions. Omicron has a substantial growth advantage over the Delta variant, and it is rapidly replacing the Delta variant globally. There is now significant evidence that immune evasion contributes to the rapid spread of Omicron, but further research is needed to better understand the relative contribution of intrinsic increased transmissibility and immune evasion in explaining transmission dynamics (2).

Sri Lanka reported its' first case on the 3rd of December, 2021 and since then has reported more than nearly 250 cases by gene sequencing as at 24.01.2022 (Deputy Director General laboratory service-communication). Recent two gene sequencing reports in the month of January by Medical Research Institute and Sri Jayewardenepura University reveals that 90% or more are Omicron while the rest are Delta. It is clear that Omicron has become the predominant variant in Sri Lanka (Epidemiology Unit, Ministry of Health).

Risk of Omicron

The overall threat posed by Omicron largely depends on four key questions: (i) how transmissible the variant is; (ii) how well vaccines and prior infection protect against infection, transmission, clinical disease and death; (iii) how virulent the variant is compared to other variants; and (iv) how populations understand these dynamics, perceive risk and follow control measures, including public health and social measures.

Transmission

Omicron has been found to have a significant growth advantage, higher secondary attack rates and a higher observed reproduction number compared to Delta (2). This

means that it spreads 'faster'.

- An analysis of global data shows a growth rate advantage of Omicron over the Delta variant in all countries (03).
- The transmission advantage of Omicron appears to be largely driven by immune evasion, but also potential increased intrinsic transmission fitness (04).
- There is evidence that the Omicron variant infects human bronchus tissue faster and more efficiently than Delta (05) and outcompetes Delta in competition experiments using cells derived from the human nose, but not in lung-derived cells (06).

Disease severity

In terms of symptoms, preliminary data from the United Kingdom show that Omicron infections appear to be associated with more frequent sore throat than for Delta, and reduction in frequency in loss of smell and taste. However, there are many asymptomatic cases of Omicron as with Delta (07).

Certain studied shows that severity is less than delta. Nevertheless, despite lower severity, significant increases in hospitalization, severe disease and death are occurring and likely to continue in the coming weeks, with significant pressure on health services, given the high incidence levels of community transmission. Moreover, current evidence about severity and hospitalization comes largely from countries with high levels of population immunity (post-infection and vaccine-derived), and there remains uncertainty about the severity of Omicron in populations with lower vaccination coverage and prior exposure to other SARS-CoV-2 variants (07).

Despite a lower risk of severe disease and death following infection than previous SARS-CoV-2 variants, the very high levels of transmission nevertheless result in a significant increases in hospitalization, continue to pose overwhelming demands on health care systems in most countries, and may lead to significant morbidity, particularly in vulnerable populations (2).

Impact on diagnostics and testing

The diagnostic accuracy of routinely used PCR and the WHO emergency use listing (EUL) approved antigen detection rapid diagnostic tests (Ag-RDT) assays does not appear to be significantly impacted by Omicron.

Sri Lanka gather data on possible false negative on RAT and 'strange' gene results of PCR targets in omicron, which are analyzed for possible evasion of detection by these methods.

Impact on immunity (following infection or vaccination)

There is a growing body of evidence on vaccine effectiveness (VE) for Omicron, with data available from 15 observational studies from five countries (the United Kingdom, Denmark, Canada, South Africa, and the United States of America), evaluating four vaccines (mRNA vaccines, Ad26.COV2.S, and AstraZeneca-Vaxzevria). Available preliminary data should be interpreted with caution because the designs may be subject to selection bias and the results are based on relatively small numbers. Early data suggest that the effectiveness of studied vaccines is significantly lower against Omicron infection and symptomatic disease compared to Delta, with homologous and heterologous booster doses increasing vaccine effectiveness. Despite this, follow-up time after booster doses for most studies is short, and there is evidence of waning of VE in months following booster doses. VE estimates against severe outcomes, usually defined as hospitalization, are lower for Omicron than Delta, but mostly remain greater than 50% after the primary series and improve with a booster dose to above 80% (08).

Booster doses following primary series with multiple vaccines increase the geometric mean titers of neutralizing antibodies, but still show a 2-to-16 fold reduction compared to the ancestral strain. In contrast to findings about the humoral immune response, CD8+ and CD4+ T cell responses seem to be >80% preserved in the majority of studies (09)

Booster dose of the vaccine is the main strategy of prevention of severe infection and to certain extent to prevent infection along with synergistic actions of other preventing methods of social measures.

Vulnerable or high risks groups are highly encouraged to take the full course of vaccine and the booster dose to prevent morbidity and mortality.

Medical officers plays a pivotal role in breaking the cycle of transmission by disseminating correct information and counteracting misinformation on vaccine among patients and general public.

Conclusion

Based on the currently available evidence, the overall risk related to Omicron remains very high. Omicron has a significant growth advantage over Delta, leading to rapid spread in the community with higher levels of incidence than previously seen in this pandemic. Prevention methods are same for Omicron as with previous variants.

Booster dose of the COVID-19 vaccine is one of the main

strategies of to reduce morbidity and mortality and every eligible citizen should take it at earliest opportunity.

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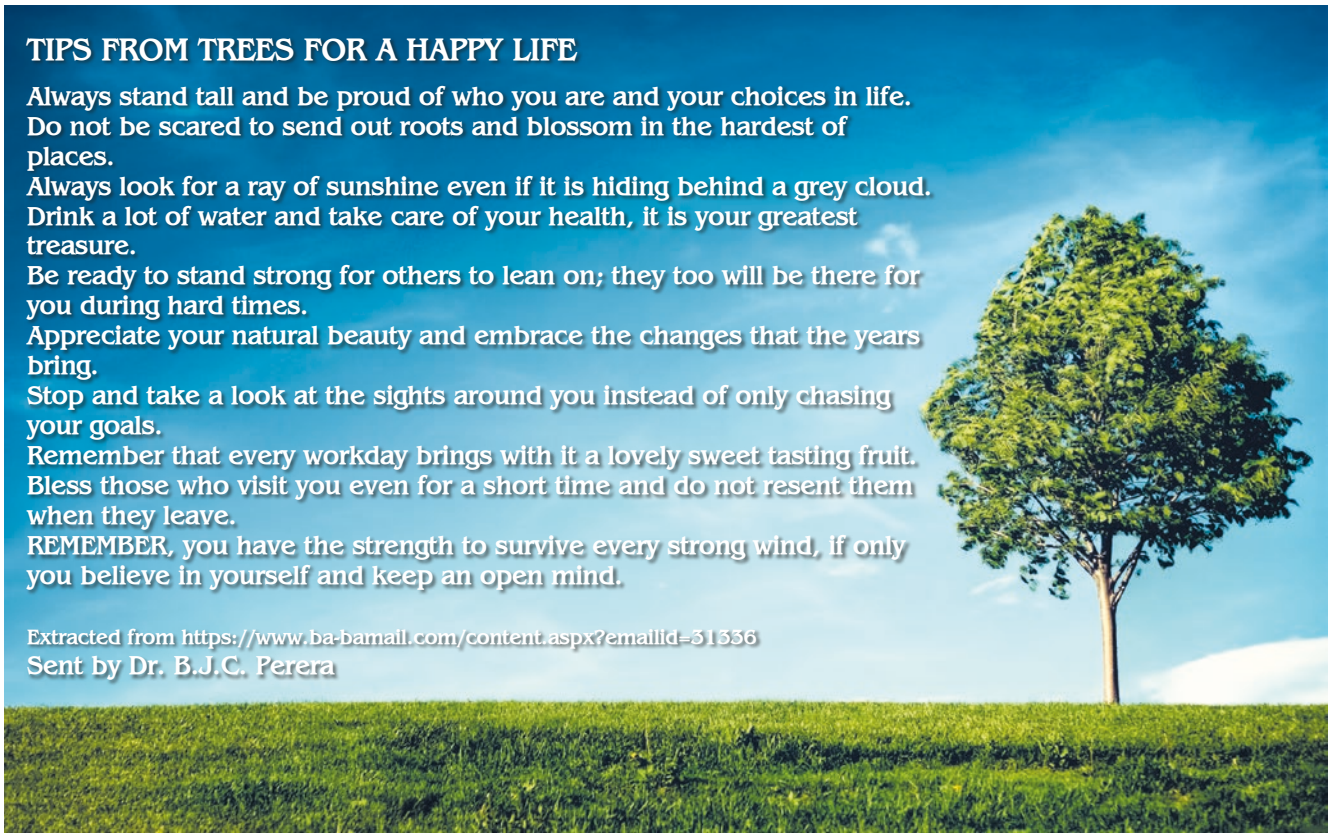

Hypertension in the primary healthcare setting in Sri Lanka

Dr. Chamara Dalugama
MBBS(Cey), MD(Col), MRCP(UK), MRCPE, MRCP(Lon), MRCPS(Glasg), MRCP(Geriatrics), MRCP(Acute Medicine), MRCP(Diabetes and Endocrinology)

Honorary Consultant Physician (Acting) Teaching Hospital Peradeniya and Lecturer, Department of Medicine, University of Peradeniya

Introduction

Hypertension, also known as systemic arterial hypertension, is one of the major modifiable risk factors for cardiovascular disease and a leading cause of morbidity and mortality worldwide. Diagnosis of hypertension in the clinic is based on readings of systolic blood pressure above 140 mmHg and diastolic blood pressure above 90 mmHg in more than one occasion. It is always better to record the blood pressure after an appropriate period of resting in the supine position. Hypertension is considered as a 'killer in disguise' as it is largely asymptomatic in the early stages. Most of the cases of hypertension are first diagnosed and managed in primary health care.

The Government Healthcare System in Sri Lanka is unique and stands with pride among other Asian countries, in providing high-quality universal free healthcare to the nation. Primary health care in Sri Lanka is indispensable in that context as the first point of contact. Primary health care in the state sector has two parallel services consisting of a community health service (including MOH areas) and a curative service (including divisional hospitals and primary medical care units). These units function with non-specialist medical doctors and other healthcare staff[1]. In addition, General Practitioners (GP) and private sector providers play a pivotal role in first point-of-contact in the delivery of healthcare.

Current burden on Primary Healthcare

Primary healthcare system (both government and private) is under tremendous pressure from the ever-increasing burden of non-communicable diseases. In a cross-sectional national survey in Sri Lanka, one third of Sri Lankan adult population was found to be hypertensive[2]. Most of these patients with hypertension present to the primary health care centres and most of the first ever diagnosis of hypertension is made by the primary health care providers. Sequelae of undiagnosed and uncontrolled hypertension result in premature disability from cardiovascular disease, stroke, peripheral vascular disease and kidney disease, greatly increasing the burden in the primary health care system.

Presentations of hypertension to Primary Healthcare

Hypertension is vastly asymptomatic in the early stages. On the other hand, it is one disease with many faces. Primary health care provider should be aware of typical and atypical presentations of hypertension. Primary or Essential Hypertension usually has no symptoms and presentation to primary care could be following a complication due to asymptomatic long standing undiagnosed and uncontrolled hypertension, such as a stroke, myocardial infarction, peripheral vascular disease or kidney impairment. In most of these cases essential hypertension is diagnosed by the primary health care provider during a routine blood pressure check-up in a medical consultation. Patient may have vague symptoms such as headache, nausea and vomiting, epistaxis or pronounced anxiety related to underlying high blood pressure. Day-time somnolence and snoring suggestive of obstructive sleep apnoea in a patient warrants screening for hypertension.

In Secondary Hypertension, the patient can have different clinical presentations related to underlying causes such as

- Pheochromocytoma - Episodic sweating, headache and palpitations
- Cushing syndrome - proximal myopathy, poor glycaemic control, easy bruising
- Conn disease - muscle weakness due to hypokalaemia
- Coarctation of aorta - intermittent claudication

Hypertensive Emergencies can present to a primary health care setting with confusion, headache, fits, acute heart failure or angina. Patient may have atypical presentations such as acute visual loss or floaters, sudden onset lower limb weakness with a sensory level or haematuria with acute flank pain in case of aortic dissection secondary to hypertension

White Coat Hypertension and Masked Hypertension

Individuals with white coat hypertension (WCH) presents with elevated office blood pressure readings but with normal readings when measured by ambulatory or

home blood pressure monitoring. This could account for 25% of the outpatient blood pressure clinic attendees.

Masked hypertension is defined as a normal blood pressure during the clinic visit, but an elevated BP out of the clinic (ambulatory or home measurements). One tenth of general population could have masked hypertension. This is associated with end-organ damage due to hypertension but the diagnosis is frequently missed in routine clinic visits.

Clinical assessment in the Primary Healthcare setting

Finding of a blood pressure more than 140/90 mm Hg should not be ignored or attributed to white coat hypertension and should be actively evaluated. In a patient with a mild elevation of blood pressure, the diagnosis of hypertension should not be made during a single clinic visit. Ambulatory blood pressure monitoring (ABPM) would be the gold standard to confirm the diagnosis of hypertension. However, ABPM has very limited availability in primary health care setting and is costly. Instead, community blood pressure measurements (home, pharmacy or 2-3 visits in the MOH office) should be encouraged, and diagnosis of hypertension should be made based on persistently elevated blood pressure readings.

Important aspects in the clinical assessment in the primary health care setting:

- Blood pressure measurement- using appropriate cuff size, correct technique in a patient who is comfortably seated and relaxed.
- Blood pressure in both arms
- General examination - BMI/Waist circumference, xanthelasma, neuro-cutaneous manifestations (e.g. Neurofibroma), goitre, acanthosis, striae, features of acromegaly, Cushingoid facies
- Cardiovascular- Pulse rate/Pulse volume, Peripheral pulses, radio-radial and radio-femoral delay, Cardiac apex, murmurs, Bruits (carotid, renal etc.)

Classification of blood pressure based on clinic blood pressure[3]

Category	SBP (mmHg)		DBP (mmHg)
Grade 1 hypertension	140-159	and/or	90-99
Grade 2 hypertension	160-179	and/or	100-119
Grade 3 hypertension	=>180	and/or	=>120

Isolated systolic hypertension (ISH) is defined as systolic blood pressure (BP) 140 mm Hg and diastolic BP <90 mm Hg. It is commonly seen among elderly people.

Laboratory Work-up

In the primary care setting in a patient diagnosed with hypertension, basic blood work should include

- Serum electrolytes
- Serum creatinine and eGFR
- Lipid profile and Fasting blood sugar
- Urine Dip test
- 12 lead ECG

Management of hypertension in Primary health care setting

1. Lifestyle modifications

Lifestyle modification should always be the first line antihypertensive treatment. Advice on dietary modification, reducing ethanol intake, increasing exercise and losing weight should be provided during the clinical consultation. Display of posters, having patient information sheets, audio-visual material in the patient waiting area, could be good interventions in dissemination of knowledge.

Intervention	Decrease in Systolic Blood Pressure
Antihypertensive Medications	10 mmHg
DASH diet	11 mmHg
Reduced alcohol	4 mmHg
Increase Exercise	4-8 mmHg
Losing Weight	1mmHg/kg

Adopted from American College of Cardiology 2017. Guidance for prevention, detection, evaluation and management of high blood pressure in adults[4]

2. Medications

Choice of medication is affected by many factors including severity of hypertension, presence of established cardiovascular disease, diabetes mellitus and other co morbidities, patient preference, cost and availability.

a. When to start treatment

1. Grade 2 hypertension (SBP>160 and/or DBP>100) – immediately start pharmacological treatment
2. Grade 1 hypertension (SBP 140-159 and/or DBP 90-99) with established end organ damage or diabetes mellitus or established or increased risk of cardiovascular disease- Immediately start pharmacological treatment
3. Grade 1 hypertension without any of the conditions in the category 2 - start lifestyle modifications and regular monitoring of blood pressure

b. What medications to start treatment with?

Initial therapy can be started with any of the following anti-hypertensive medications.

- Angiotensin Converting Enzyme Inhibitors (ACEI) or Angiotensin Receptor Blockers (ARB)
- Calcium Channel Blockers (CCB)
- Thiazide Diuretics

In patients with markedly high blood pressure with high-risks for cardiovascular disease, combinations of the above medications can be used. However, combinations of ACEI and ARB are not recommended. Betablockers should not be used as initial therapy for hypertension unless there are compelling indications such as angina[5].

In managing isolated systolic hypertension Calcium Channel Blockers and thiazide-like diuretics are preferred first-line agents. ACEI/ARB can be used when compelling indications are present, but beta blockers are best avoided

3. Follow up

Targets set for blood pressure control and follow-up should be arranged. If targets are not met, a second drug can be added rather than stepping up the monotherapy. If blood pressure is not controlled with two drugs, adding a third drug or introducing a different two drug combination can be considered. Lifestyle modifications need to be reinforced in each encounter with the healthcare provider.

When to admit patients to the Emergency Treatment Unit/ Hospital immediately

Although most patients with hypertension can be managed effectively in the primary health care setting, the following patient presentations should prompt primary health care provider to admit the patient immediately to an emergency treatment unit/ hospital.

1. Hypertensive emergency
2. New diagnosis of markedly elevated high blood pressure without acute end organ damage (BP >180/120)
3. New hypertension detected during pregnancy
4. Markedly elevated blood pressure with multiple drug intolerances/allergies

When to refer a patient to a specialist

Most of the patients with hypertension can be effectively managed at a primary health care setting. But following instances the primary health care provider should consider prompt referral to a tertiary care hospital/specialist for further assessment and management.

1. If a secondary cause is suspected- based on the history, examination or abnormal lab investigations.
2. Evidence of target organ damage due to hypertension E.g., Proteinuria, impaired renal function, heart failure, Peripheral vascular disease
3. Young onset hypertension Age <35 years
4. Resistant hypertension - if blood pressure is not controlled despite optimal doses of three antihypertensives including a diuretic
5. If white coat hypertension or masked hypertension are suspected
6. Patients with multiple drug intolerances

Barriers in managing hypertension in Primary Healthcare settings

Despite many interventions in the health care sector, hypertension remains largely under-diagnosed and poorly controlled. Many aspects can be identified at the primary care level accounting for this. These could be related to the patient, primary healthcare provider or the healthcare service.

Patients do not routinely attend the screening services offered by the primary preventive care services (MOHs) such as well women clinics which could diagnose asymptomatic hypertension in early stages. After diagnosis of hypertension despite being on treatment, hypertension remains largely uncontrolled due to poor drug compliance. Poor consideration is given for lifestyle modifications including diet and exercise. Many patients have a poor insight on hypertension and its related complications. Patient involvement in managing hypertension such as self-monitoring of blood pressure etc, remains at a sub-optimal level.

Many primary health care provider related factors can be identified as barriers in hypertension control. Clinical inertia or lack of aggressiveness in initiating or optimizing medications is a major issue that has been identified. Delay in initial diagnosis can be due to attributing mildly raised blood pressure for factors such as white coat hypertension, stress, pain, intercurrent illness or rushing into the clinic. Similar factors are considered during intensifying the hypertension management and adopting a 'wait until next visit approach'. Lack of updated knowledge on hypertension management is another major drawback. Use of supratherapeutic doses of monotherapy (e.g., Increasing HCT dose to 50-100mg) or use of medications such as betablockers (e.g., Atenolol) to control blood pressure as first line medication is observed among some primary health care providers. Although many health care providers have up-to-date guideline-based knowledge, implementing the knowledge in clinical practice is variable and higher threshold for the blood pressure is often seen among primary health care providers in initiation of antihypertensives and intensifying them. Lack of essential medications for blood pressure control in primary health care settings and patients needing to purchase some from the private sector are the main causes of poor drug compliance. Emphasis on the non-pharmacological strategies including diet, exercise and weight loss during primary health care settings seem inadequate and getting the public involvement in such activities remains low.

Covid-19 and Hypertension control in Primary Healthcare

Patients with hypertension are at increased risk of developing complications due to Covid-19 and at the same time Covid 19 related restrictions and disruptions in the primary health care had led to poor control of blood pressure and hypertension related complications[6]. Marked limitation of in-patient clinic visits leading to poor management of blood pressure and most of the time same medications being repeated and dispensed without measuring blood pressure or assessing other hypertension related complications. Many strategies have been suggested including audio or video telehealth visits, reaching out to selected high risk populations with strict adherence to health guidelines, uninterrupted delivery of medications through local pharmacies for longer periods (90 days instead of 28 days) and promoting self-monitoring of blood pressure.

Conclusion

In managing hypertension in Sri Lanka, primary healthcare providers play a pivotal role and gaps are identified both in patients and healthcare providers in achieving optimal blood pressure control. Using each and every clinical encounter in primary healthcare, irrespective of age and presentation, to screen for high blood pressure, would pick up most of the cases of largely asymptomatic hypertension. A multi-faceted and a multi-disciplinary approach including patients, families, doctors and other healthcare staff in identifying and managing high blood pressure is the way forward. Continuous medical education for primary health care providers is one of the most important interventions to improve the lapses on knowledge and practices.

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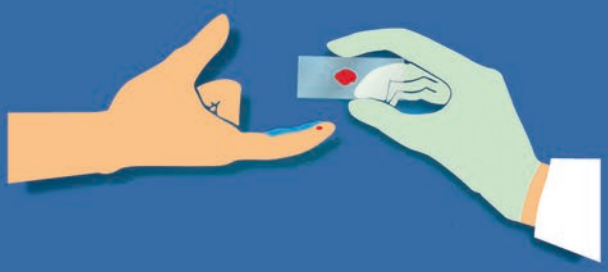

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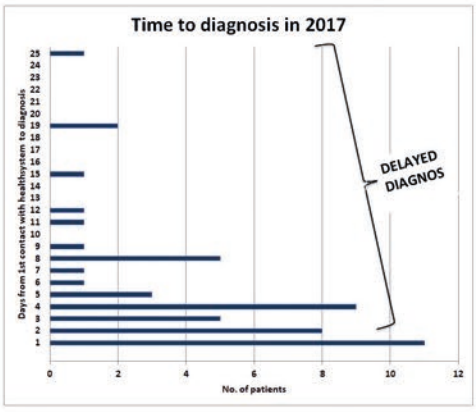

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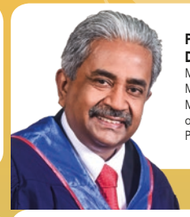

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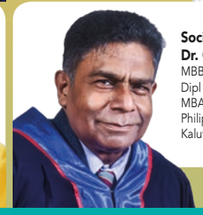

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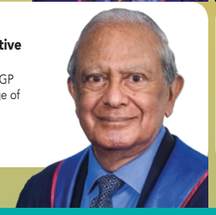

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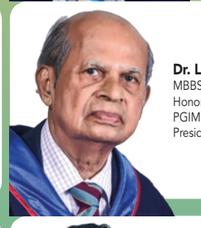

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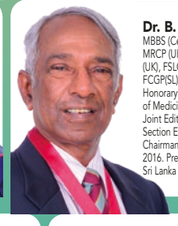

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Current trends in breast cancer surgery in Sri Lanka

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Introduction

Breast cancer is the commonest cancer to affect women locally, regionally and globally. In the West, 1 out of 9 women develop breast cancer. In Sri Lanka, although the incidence is not high it has risen from 17.3 per 100,000 in 2001 to 24.7 per 100,000 in 2010 (1). The peak incidence is seen in women in the 45-65 years of age range. However, the pattern could be changing as we see patients less than 40 years being diagnosed with the disease without an identifiable genetic predisposition.

Breast cancer management is also a growing field of interest with continuous inputs from well-structured trials, consensus meetings and forums all around the world.

Halsted's radical mastectomy produced some promising results though, the patients had a poor quality of life due to the mutilating surgery. Subsequently, with the improvements in chemotherapy, radiotherapy and endocrine therapy; breast cancer surgery became less radical over the past few decades. At the same time overall survival and disease-free survival increased. This was further enhanced by the accessibility and availability of the advanced imaging techniques which gives the opportunity to stage the disease for an individualized treatment plan.

This article presents the current trends in breast cancer management in Sri Lanka including patient assessment, multi-disciplinary team approach and advances in breast cancer surgery.

Patient assessment

"Triple assessment" is the gold standard of symptomatic breast patient assessment (2). Triple assessment consists of;

1. A detailed clinical history, including family history, followed by a clinical examination by a clinician.
2. Radiological imaging namely **USS and/or bilateral mammogram depending** on the availability of facilities and patients' age.
3. FNAC or core biopsy of a clinically or radiologically detected lesion.

This form of triple assessment has not changed! Principally all the imaging investigations have to be completed prior to cytological or histological assessment. This is to avoid bleeding and inflammation in and around the lesion leading to difficult interpretation. Mammogram is an important imaging modality which should be done as the initial investigation. However, unlike USS, mammogram facilities are not readily available in the government or private sector. Therefore, some clinicians have to do a USS and biopsy before a mammogram and in some centres, a mammogram has not been done at all before surgical intervention.

This practice is now changing vastly. All patients who are more than 40 years of age are assessed with a bilateral mammogram as the initial investigation of choice. If mammogram facilities are not available locally patients are referred to a hospital with such facilities.

The FNAC or core biopsy was done as decided by the surgeon after reviewing the imaging studies. The core biopsies were done by the surgical team (clinical core) of a palpable lesion. USS guided FNAC or core was done by the radiology team for the radiologically detected lesions (guided FNAC or guided core).

The current recommendation is to do image guided core biopsies of any solid lesion and is becoming the trend in Sri Lanka as well. Benefits of core biopsy over FNAC are;

1. avoiding repeat needle test if FNAC is C4 or less
2. ability to know the type and grade of breast cancer
3. ability to proceed with immunohistochemistry for receptor status to guide the neo-adjuvant or adjuvant systemic therapy

Hence, FNAC is discouraged and is not recommended for solid lesions in the breast anymore (PMID: 14648793). Yet, the place of FNAC for suspected axillary nodes still holds its place as long as it is under image guidance.

To accomplish all the components of triple assessment a patient has to have several clinics and hospital visits. This affects patient anxiety and frustration of the family members and also will have a negative impact on patient compliance on subsequent management.

"***One-stop breast clinics***" provide a simple solution to end this patient harassment (PMID: 27569041).

The patient will be assessed by the clinician, will undergo the mammogram and USS and if the imaging detects a lesion, a guided core biopsy will be done at the same sitting. These one-stop breast clinics have become a common practice in developed countries due to improved patient assessment in a reduced time scale. Also, the advantage is the ability to initiate recommended treatment within a short period.

Although the concept of one-stop breast clinics is not still widely established in Sri Lanka, the trend has begun at least in very few specialised centres.

The Multi-disciplinary team (MDT) approach

In the past, once a diagnosis of breast cancer is confirmed on FNAC or core biopsy, the surgeon will decide on the surgery. In Sri Lanka, a majority underwent a mastectomy and axillary clearance as the preferred surgery. Once the final histology report is available the patient was referred to the oncologist for further treatment.

However, treatment decisions cannot often be made simply or alone! The current recommendation is to discuss all patients undergoing investigation for a breast/axillary lesion in a dedicated breast MDT (PMID: 21821551). MDT helps to break communication barriers and the patients' full clinical picture may be understood by all involved in the management. Hence, it improves clinical decision making, treatment quality and practice of evidence-based medicine (PMID: 21821551).

Although the concept of MDT approach is not new, routine MDT meetings were not practical or feasible in our country due to multiple reasons. As the importance, support and need for the MDT approach are increasingly felt by all the stakeholders involved in patient management, we see more surgical units holding regular breast MDT's in Sri Lanka. This is commendable and is surely the way forward.

Surgery for breast cancer

Despite the recent advances in chemotherapy, radiotherapy and endocrine therapy, surgery remains as a vital component in breast cancer management. Systemic therapy (chemo and endocrine therapy) can either precede (neo-adjuvant) or follow (adjuvant) surgery. Breast surgery has two aspects to think of; surgery to the breast and surgery to the axilla.

In Sri Lanka, until a decade back, a majority of breast cancer patients underwent a mastectomy and axillary clearance irrespective of the disease stage at presentation. This could be the situation in most parts of the country even today. Although this is an oncologically safe surgical option, this type of "one size fits all" approach has mostly ended now.

It is widely accepted that axillary surgery should not be viewed as curative but provides information to guide the subsequent oncological management and prognostication.

Currently, sentinel lymph node biopsy (SNB) is the widely accepted initial axillary staging for clinically node negative early breast cancer (3). Although a majority of breast cancer patients in Sri Lanka still undergo full axillary node clearance, most of the teaching/training units and some peripheral units offer SNB for early breast cancer. This is backed by the evidence that if axillary clearance is done for clinically node negative axilla, 70%-80% will still be negative (4). Patients benefit from this trend as SNB has fewer complications like lymphoedema of the ipsilateral upper limb and shoulder stiffness (PMID: 12678476, PMID: 18838245) in comparison to to axillary clearance.

Mastectomy has many implications for the patient including psychosocial issues due to body disfiguration. In fact, a fair proportion of patients either do not consider seeking medical advice or default surgery due to the fear of losing their breast and having to be flat-chested. Surgery for breast cancer has evolved since Halsted's radical mastectomy. Breast conservative surgery (BCS) with wide local excision (WLE) is a well-recognized and accepted form of boundaries are expanding (5, 6),

At present, BCS is widely practiced in Sri Lanka even in centres away from main training/teaching units and these are mainly basic oncoplastic techniques. Advanced oncoplastic techniques are still mainly concentrated in major training/teaching units. In the recent past, we have seen an increasing demand for BCS from patients. Furthermore, post-graduate surgical trainees and young surgeons also have shown enthusiasm towards BCS. This is very promising and the current trend in Sri Lanka is to offer BCS for early breast cancer.

Initially, the goal of BCS was to treat cancer while preserving the breast. The current trend globally and locally is to achieve symmetrical breasts in terms of volume and shape after BCS. Patients with relatively small to medium size breasts (cup size A-C/D) undergoing WLE for large tumours, sometimes, might need partial breast reconstruction. At present this method of volume replacement oncoplastic techniques are feasible due to chest wall perforator flaps (CWPF) which are relatively a novel form of surgery even in the West. These are fascia-cutaneous flaps and a wide range comes under the umbrella term of CWPF's;

1. medial inter-costal artery perforator flap (MiCAP)
2. anterior inter-costal artery perforator flap (AiCAP)
3. lateral inter-costal artery perforator flap (LiCAP)
4. lateral thoracic artery perforator flap (LTAP)
5. thoraco-dorsal artery perforator flap (TDAP)

In Sri Lanka, the current trend is to perform these CWPF's, following WLE, to achieve optimal cosmetic results. Although not popular island-wide in major training/ teaching centres these surgeries are undertaken on a routine basis now. CWPF's are an important armamentarium to the surgeon as wider resections can be confidently done to achieve oncologically safe resection margins due to the ability to fill the defect with these flaps. This method of treatment not only preserves the breast but achieves the best aesthetic outcomes and does not compromise the local disease control or survival benefit (7).

Mastectomy is a valid and safe option, especially in advanced breast cancer. Yet it does not necessarily mean that the patients have to be flat-chested with a simple mastectomy. Skin sparing mastectomy (SSM) and nipple-sparing mastectomy (NSM) is favoured and oncologically proven to be safe (8). These SSM and NSM are mostly done as immediate breast reconstruction (IBR) using autologous tissue flaps and/or in combination with silicone implants. An added advantage is that these SSM and NSM can be done either alone or in combination with breast reduction (for patients with large breasts - macromastia) or breast augmentation (for patients with smaller breasts). When done in combination the cosmetic outcome is optimum without any hindrance to the oncological safety.

BCS and breast reconstruction improves patients' perception and confidence towards treatment to improve their quality of life.

As the trend has already set in, we should be able to see more of BCS and breast reconstructions in future. Yet, we have to think rationally when treating our patients considering the availability of local facilities and cost-effectivity, especially in the government sector. Patients' expectations should also be understood as in reality, these could be different and less demanding than in the West.

The current trend in breast cancer surgery in Sri Lanka is promising and is keeping on par with the developed world to achieve better outcomes both oncologically and cosmetically by careful patient selection. The future challenge for breast surgery is to popularize and educate patients on BCS and to develop a solid and stringent surveillance programme for long-term follow-up, preferably by the care givers in the community.

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Battle against the killer diseases: Let food be thy medicine

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Introduction

Non-communicable diseases (NCDs) are the leading cause of death globally. 71% of the deaths and 82% of premature deaths are due to NCDs. NCDs are responsible for 120,000 premature deaths annually in Sri Lanka. Asian populations tend to develop diabetes mellitus at a younger age and at a lower degree of obesity than Caucasians. Worldwide, in the year 2000, 200 million had diabetes. This number has risen to 463 million in 2019 is expected to rise further to 580 million by 2030. Despite the plethora of treatment options, we are unable to stop the growing epidemic of NCDs.

Poor diet, stressful lifestyles and lack of physical activities, are the key factors for the development of NCDs. The expression of the genes can be switched on or off by the epigenetic factors such as diet, physical exercise and environment. There is now overwhelming evidence on the potential for reversing or curing the NCDs such as diabetes mellitus by comprehensive lifestyle changes. Treating NCDs only with medicines without life style changes will not be successful. Furthermore, changing the life styles may prevent or reduce the need for medicines. This article will focus mainly on diet and a few other lifestyle modifications such as sleep to make a case for reducing NCDs and their impact.

Number needed to treat (NNT)

The NNT offers a measurement of the impact of a medicine or a therapy by estimating the number of patients that need to be treated in order to have an impact on one person. The following statistics show the importance of diet in reducing death in patients with Ischaemic Heart Disease when compared to drugs or stenting: Aspirin should be given to 100 people to prevent a death in 5 years; NNT. The NNT for statin is 83, and for stenting is 40, whereas for the Mediterranean diet it is only 30 *(https://www.thennt.com)*

Insulin resistance

Insulin resistance (IR) is the underlying problem not only for diabetes mellitus but also for many other NCDs including obesity, non-alcoholic fatty liver disease (NAFLD), dementia, hypertension, ageing and polycystic ovary syndrome (PCOS). Some studies show that persistent high levels of insulin itself causes IR. A high level of insulin and IR presents a decade before diabetes. High consumption of carbohydrates is the most important root cause of high insulin level and IR. The Prospective Urban Rural Epidemiology (PURE) study showed that high consumptions of carbohydrate increase all-cause mortality[1]. The UK prospective diabetes study shows no benefit on macrovascular endpoints in patients with type 2 diabetes treated with sulphonylureas or insulin over 10 years. The insulin or sulphonylureas can reduce the glucose levels and theoretically may increase IR by increasing the insulin level. The success may not be achieved only by reducing glucose without reducing the insulin level and IR. The best way to achieve this is by changing the lifestyle, particularly by reducing carbohydrates and by physical activity.

Is carbohydrate the culprit?

Compared to new/improved/ hybrid rice varieties the traditional rice varieties have been found to have more iron, protein and rich in phytonutrient (anti-oxidants). This means that the traditional rice itself contained the ingredients which have the ability to fight against the NCDs. Further, the vitamins, minerals and more importantly the phytonutrients are removed in processed food. It is important to note that more than 85% of the diet of the centenarians living in Okinawa are carbohydrate, which are more natural than processed.

Oxidative stress and anti-oxidants

The oxidative stress, inflammation, and mitochondrial damage, are closely linked and play major roles in the onset and development of NCDs. Nutritional or pharmacological alteration of oxidation and inflammation can significantly reduce the mortality and morbidity associated with these diseases. The antioxidants, the antidote for oxidative stress is found abundantly in the plants. The following evidence shows the power of these antioxidants in reversing or preventing NCDs.

Plant-based diet for atherosclerosis / Ischaemic Heart Disease

A prospective, randomized, controlled trial in patients with coronary atherosclerosis showed significant regression

of atherosclerosis in 82% of experimental patients following a low-fat vegetarian diet, stopping smoking, stress management training and moderate exercise, after 1 year. This study proved that lifestyle changes bring about regression of even severe coronary atherosclerosis without lipid-lowering medication[2]. The following image (fig 1) shows another similar study showing the regression of atherosclerosis following 32 months of a plant-based diet without cholesterol-lowering medication[3].

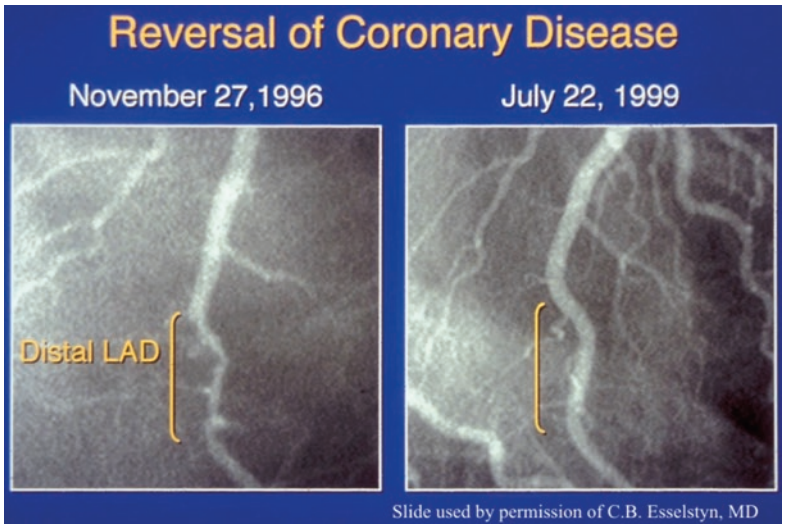

Fig 1

Turmeric for DM

Turmeric, particularly its most active compound curcumin, has many scientifically proven health benefits. The use of turmeric dates back nearly 4000 years to the Vedic culture in India. It is well known for its anti-inflammatory, antioxidant, antimutagenic, antimicrobial, and anticancer properties.

There is evidence that curcumin may decrease the chances of a pre-diabetic becoming a diabetic. This evidence is from a 9-month follow-up of a randomized, double-blinded, placebo-controlled trial in 240 patients. This study demonstrated that curcumin not only significantly reduces the fasting blood sugar and HbA1c but reduces insulin resistance and improves the beta-cell function with none or minimal adverse effect (fig 2)[4].

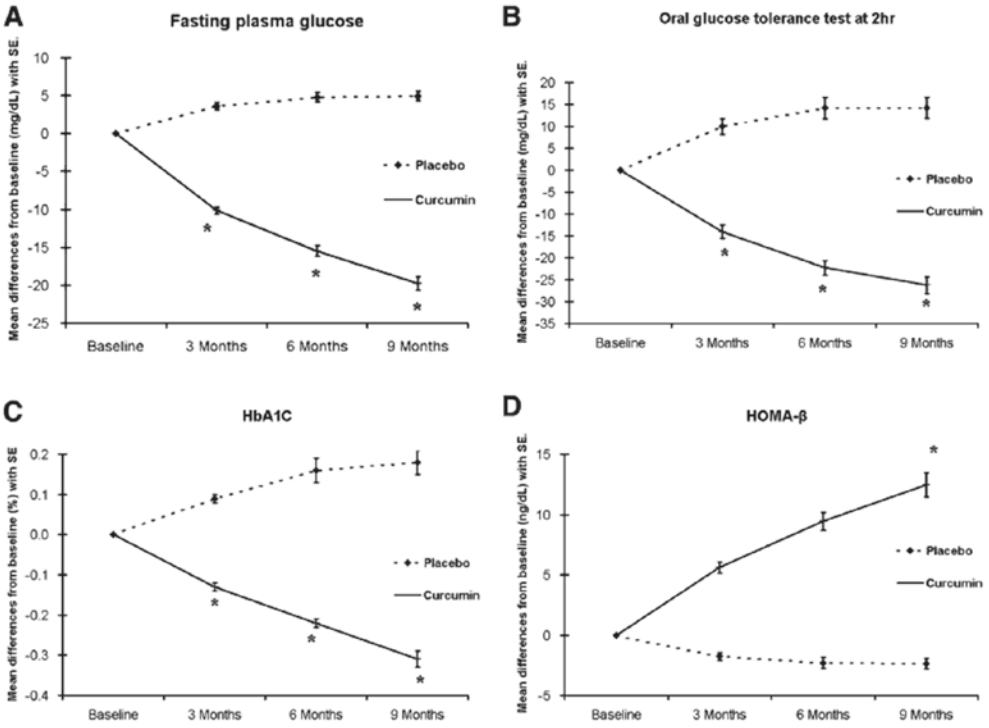

Fig 2

Strawberry and oesophageal carcinoma

The importance and benefit of antioxidants or phytonutrients is also revealed in several epidemiological studies in preventing various types of cancer; another important NCD. Berries particularly have been shown to reduce the mortality due to cancer. A randomized phase II trial showed that 60 g /day of strawberries given for 6 months to patients with dysplastic oesophageal lesion significantly reduced the histological grade (fig 3) of this pre-cancerous lesion of the oesophagus[5].

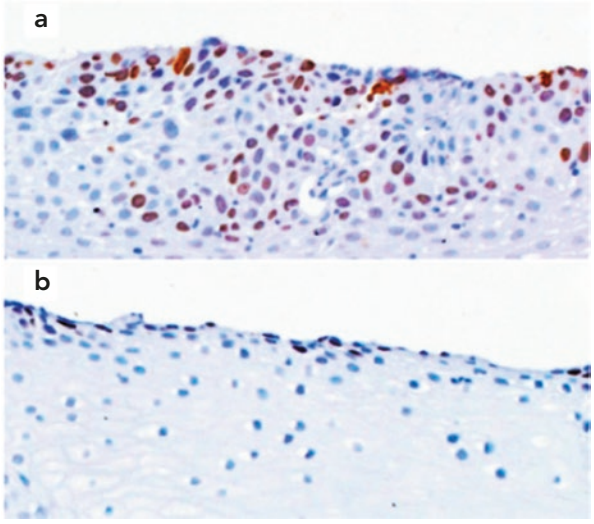

Fig 3: *Effect of freeze-dried strawberries on cell proliferation after 6-month treatment (b) when compared with before treatment (a)*

Reversal of diabetes mellitus (DM)

Type 2 DM is considered to be an inevitably progressive disease with irreversible beta cell failure in advanced disease. A small ground-breaking study demonstrated that by restricting the calorie intake even for a week can reverse not only blood glucose but also the beta-cell function and improve insulin resistance even in advanced diabetes mellitus. This study demonstrates, for the first time, the time course of a return of normal beta cell function[6].

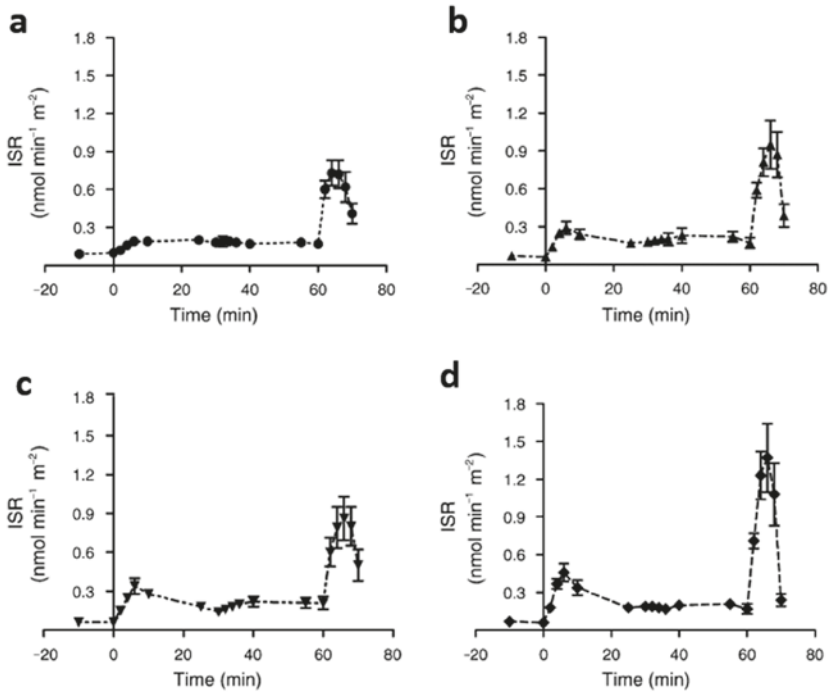

Fig. 4: *Insulin secretion test data in controls and in diabetic participants at each time point. Insulin section rate (ISR) obtained in (a) the diabetic group at baseline, (b) the diabetic group at 1 week of the diet, (c) the diabetic group at 4 weeks and (d) the diabetic group at 8 weeks. Data are shown as mean ± SE*

Fat Myth

Fat in the human body is essential for human survival. Each human cell needs fat. Nearly 60% of the brain is fat. Present evidence suggests that fat may not be as harmful as we think and may even be beneficial.

135,335 individuals from 18 countries were followed up for a median of 7.4 years in one of the larger epidemiological cohort studies, The Prospective Urban Rural Epidemiology (PURE) study focusing on the consumption of carbohydrate and fat, led to new and unexpected findings. Contrary to traditional beliefs, this study showed that higher consumption of fat, including saturated and unsaturated fat, reduces mortality and saturated fat had an inverse relationship with stroke. On the contrary, high consumption of carbohydrates increases overall mortality[1].

Challenging the 'cholesterol hypothesis'

The cholesterol-heart hypothesis is being challenged in several studies. The first-ever systematic review of LDL cholesterol as a risk factor for cardiovascular mortality for those more than 60-years-old was studied in this review. 16 out of 19 studies showed no association between all-cause mortality and high LDL cholesterol. An inverse association is noted with high LDL with all-cause mortality among those more than 60 years[7].

Gut flora and NCD

Humans have nearly one trillion cells and more than 10 trillion bacteria and viruses. Most of these microorganisms are in the gut (gut flora). These are essential for human survival. These protect us from deadly diseases such as cancer, diabetes mellitus, obesity, heart diseases, autoimmune diseases and even mental illnesses. There are beneficial as well as harmful bacteria which are inhabitants and are decided by the food we eat.

Ischaemic Heart Disease and gut flora

The link between egg, red meat, and Ischaemic Heart Disease is revealed in a study published in the New England Journal of Medicine (NEJM). The gut flora plays a crucial role in this process.

L-carnitine, lecithin, and choline in food such as egg and meat are converted to trimethylamine (TMA) in the gut by the gut flora. The TMA is then converted to trimethylamine-N-oxide (TMAO) by the liver which is highly atherogenic. Increased level of TMAO is associated with high incidence of a cardiovascular event. Non-vegetarians produce more TMAO than those who eat a plant-based diet due to the differences in the gut flora. The gut flora in meat-eaters and omnivores favours producion of TMAO. Intestinal microbiota may thus contribute to the well-established link between high levels of red meat consumption and a CVD risk[8].

Brain and gut flora

It is becoming clearer that the gut flora not only influences physical health but also the brain and mental health. The communication between the gut or gut flora and brain is bidirectional; microbiota-gut-brain (MGB) axis. It has been demonstrated that changing the composition of gut flora influences the myelination of the prefrontal cortex. Microbiome is needed in the dynamic regulation of myelination-related genes[9]. This has a potential benefit in treating psychiatric disorders involving myelination in the prefrontal cortex. Similarly, the mental state also influences the state of the gut microbiome. For example, it has been shown that the number of microbiomes in the gut reduces significantly during examination stress.

Obesity and gut flora:

Gut flora play an important role in the digestion and energy conversion of nutrients. The composition of the gut microbiome also influences body weight. A vancomycin analogue avoparcin, is used to increase the weight of farm animals. A significant weight gain is observed in those patients who were treated with vancomycin for 6 weeks for infective endocarditis. Lactobacillus species, a group of microorganisms that is resistant to vancomycin used to promote growth in animals, is found in a high amount in the faeces of obese patients[10].

Fasting as medicine

Fasting as medicine is becoming popular. Caloric restriction is proven to improve inflammation and has an immunomodulatory effect. Neuroprotective and anti-inflammatory effects are proven in animal models of stroke and systemic infection as well as in inflammatory systemic conditions. Intermittent fasting emerged as an effective treatment for diabetes mellitus by improving insulin sensitivity, obesity, blood pressure, and dyslipidaemia. These beneficial effects were independent of weight loss due to fasting. Intermittent fasting improves multiple sclerosis in an animal model by changing the composition of the gut flora (PMID: 29874567) .

Sleep

"Sleep is the single-most effective thing we can do to reset our brain and body health each day - Mother Nature's" Matthew *Walker Ph.D., Professor of Neuroscience & Founder and Director of the Centre*. Quality of sleep at night affects physical and mental health. Studies demonstrated that sleep deprivation leads to inflammation, oxidative stress, and a higher incidence of cardiovascular diseases (PMID: 3057744). Insomnia increases the chances of cardiovascular diseases by 29% (PMID: 28065222). It also increases the incidence of cancer. The International Agency for Research on Cancer (IARC) concluded that night shift work is "probably carcinogenic to humans". Sleep disturbances are associated with an increased chance of the development of breast cancer (https://blogs.cdc.gov/niosh-science-blog/2021/04/27/nightshift-cancer).

It is clear that root cause of most or all NCD is oxidative stress and insulin resistance, which in turn is due to poor quality diet, sedentary and stressful life style. Medicine is successful partly by controlling the manifestations of these underlying problems without addressing the root cause of the problem. In contrast, proper diet and changes in other life styles have proven benefits in preventing or treating the NCD by eliminating the underlying cause of the problem.

"*Let food be thy medicine*" as stated by the father of modern medicine Hippocrates of Kos, remains true even after 2500 years!

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Medi KAL Nutrience

HEPATOSOL

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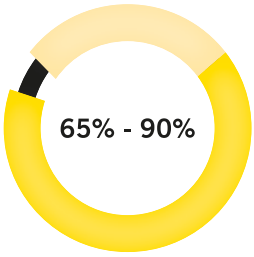
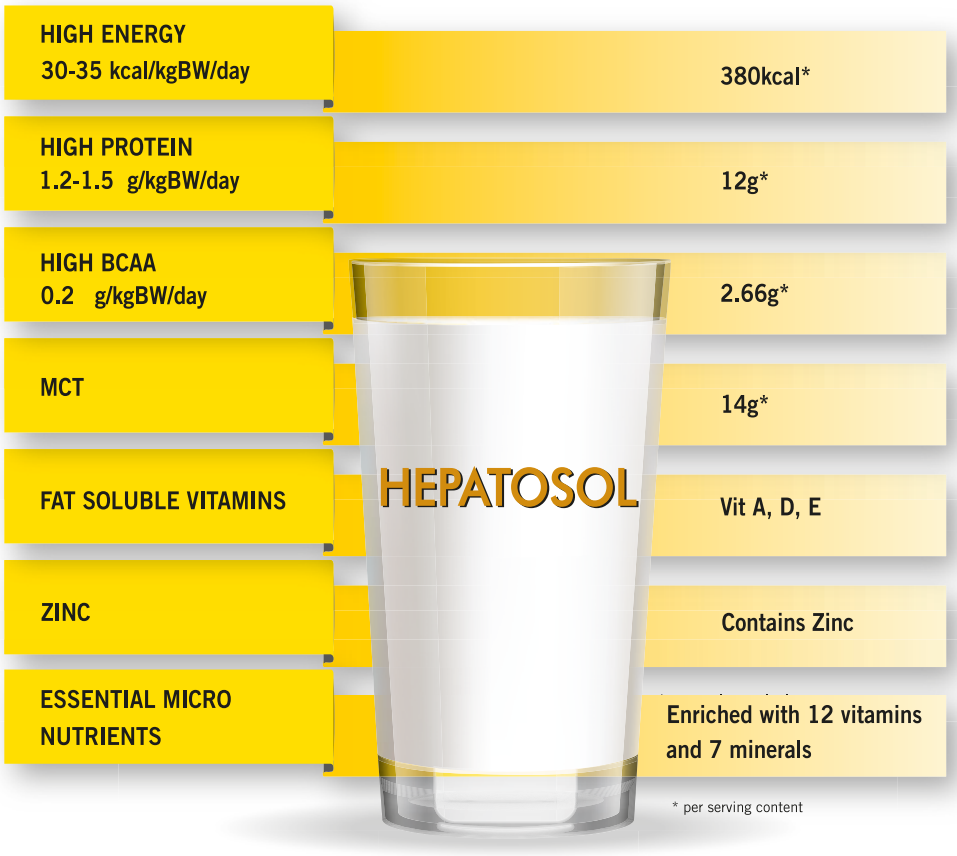
SCIENCE BASED NUTRITION

PREVALENCE OF MALNUTRITION IN CHRONIC LIVER DISEASE[1,2]



65% - 90% patients with advanced cirrhosis have malnutrition.

UNIQUE* FORMULATION TO HELP IMPROVE LIVER HEALTH[3]



* as per ESPEN recommendation

ESPEN : The European Society for Clinical Nutrition and Metabolism BW: Body Weight, BCAA: Branched-Chain Amino Acids, MCT Medium-Chain Triglycerides

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KALBE

National Recognition for Dr. Padma Gunaratne, Consultant Neurologist & Immediate Past President SLMA - 2021

Initiated in 2010 by Women in Management (WIM), the 'Top50 Professional and Career Women Awards' is supported by Women in Work –a partnership between the International Finance Corporation (IFC) and the government of Australia.

WIM awards are initiated to honor women who inspire those around them – either through the media, through their astounding achievements in their careers, business in the national and regional economy and everyday life. It also celebrates their achievements, experience and creativity in leading the institutions, professions and businesses in an efficient and effective manner and has seized opportunities and overcome challenges.

The 2021 judging panel was chaired by Nadija Tambiah, Head of Legal, Secretarial and Corporate Social Responsibility at John Keells Holdings, and includes Jayanthi Dharmasena, Managing Director of Hayleys Agriculture Holdings Ltd; Dr. Kishu Gomes, Group MD/CEO of Dreamron Group of Companies; Nisthar Cassim, Founding Editor and CEO of Daily FT; Dr. Rohantha Athukorala, Country Head of Clootrack Labs - Sri Lanka, Maldives & Pakistan; Sandra De Zoysa, Group Chief Customer Officer at Dialog Axiata PLC; Sandya Salgado, Strategic Marketing Professional; Santosh Menon, CEO of KL.LK; Amanda Jewell, Acting Australian High Commissioner for Sri Lanka; and Sarah Twigg, Program Manager for Women in Work at IFC.

Dr. Padma Gunaratne was chosen for the award for 'Health & Medical Sector -2021' at its Eleventh Edition" for Sri Lanka & Maldives.

The award and medal was presented to her on 18th January, 2022 at a ceremony held at Hotel Shangri La by HE David Holly, the Australian High Commissioner to Sri Lanka.

A summary of SLMA achievements during her Presidency in 2021 which were recognized for this prestigious award are given below;

Formation of SLMA Expert Committee on COVID-19

The Expert Committee consisted of all leading Medical Professionals from specialties related to managing the outbreak.

Management of COVID-19 dead bodies

The SLMA Expert Committee for COVID 19 prioritized and studied the issue scientifically and released the SLMA's position on the issue indicating that the COVID-19 dead bodies could be buried in Sri Lanka.

Education Programs in COVID – 19

SLMA conducted 15 Webinars on COVID-19 related topics to medical professionals in 2021 and 16 media releases and more than 20 media seminars for public education.

Services to Elders

Recommending Prioritizing older adults for the vaccination, developing guidelines to avert COVID-19 in Elders' Homes, Pressurizing the government to vaccinate inmates of elders' homes and lobbying for vaccination for retired medical professionals were some of the important activities conducted in this year

The SLMA presented an "Exit strategy" for the

first lockdown of the third wave and submitted "Recommendations for third / booster dose with Pfizer vaccine".

COVID Sahana

The SLMA established the COVID SAHANA, the welfare fund, with the objective of assisting the COVID Care Centres and the hospitals in the Ministry of Health, supporting healthcare professionals affected by COVID-19, and the children of COVID affected families. Within a very short period and distributed equipment and consumables among 56 hospitals in the country.

SLMA DoC Call 247

The SLMA Doc Call 247 is a help line for the public to discuss their concerns on COVID related issues with a volunteer doctor, during this COVID-19 outbreak. By this time, Doc Call 247 has answered more than 60,000 calls and relieved the suffering of many patients and their close associates. Availability of the services of Suwa Seriya Ambulance Service affiliated to DoC call 247 programme facilitated the transfer of patients selected for hospital admission.

Expert Committee on Medical Rehabilitation

Monthly lectures were organized in the virtual platform delivered by local and foreign speakers targeting the professionals, trainees and medical, nursing and allied health students from March 2021 onwards. There were 8 webinars, a Medical Rehabilitation conference and a WHO funded programme on "Stroke Rehabilitation for Clinicians".

Revision of the National Guidelines on Rehabilitation along with the YEDD of the Ministry of Health and development of audio visual training modules funded by the MoH on rehabilitation of stroke patients was also carried out.

Support for Medical Education

A series of talks focusing medical students of all faculties was organized every Saturday. There were 44 presentations focusing medical students done uninterruptedly.

Information Technology

YouTube, facebook and twitter were used to their full potential as social media and the facility to obtain the membership of the SLMA online also was established in 2021. Establishing video-conferencing system at the SLMA Council Room, replacing old computers with five new computers with up to date technology, a state-of-the-art new video camera and switch to the auditorium are other new additions made.

Upgrading and Refurbishment

A comprehensive refurbishment programme was initiated and concluded in just two months at the SLMA premises.

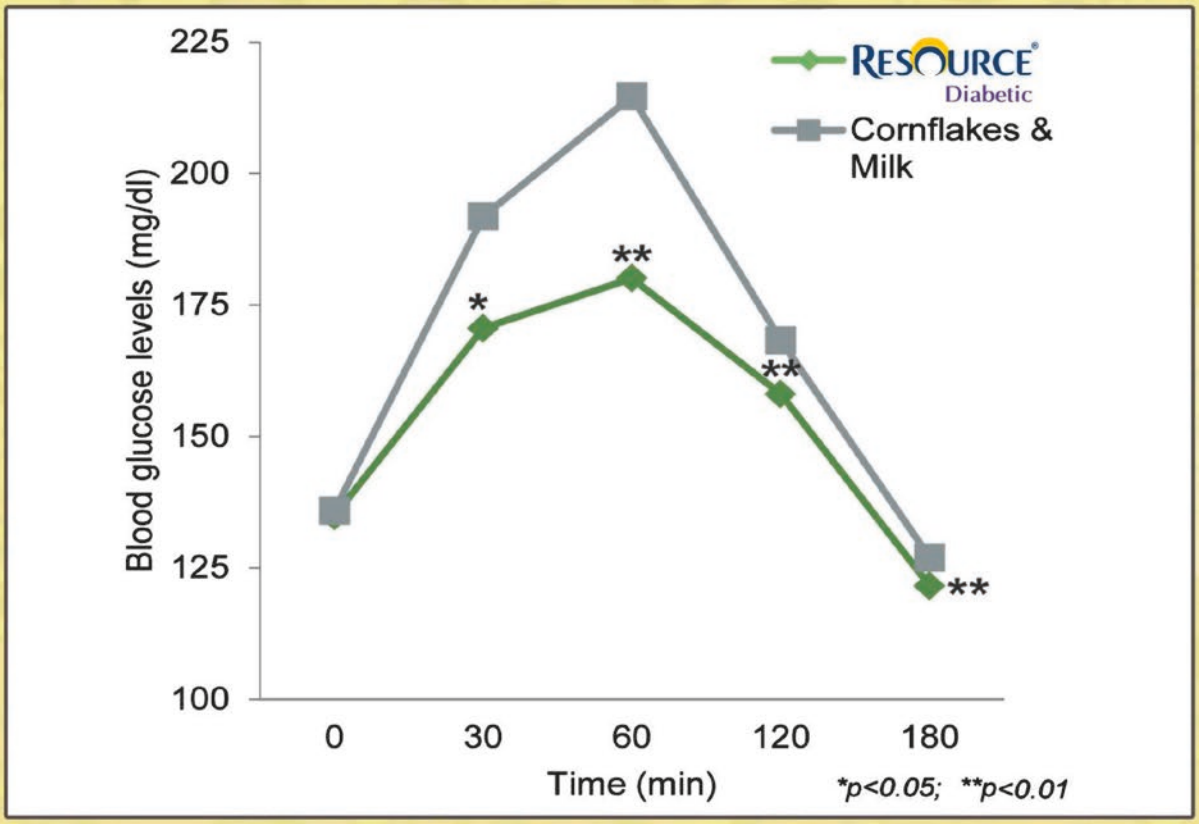
I conclude with a quote shared by Madam at the 2021 SLMA AGM, by Dr. Nelson Mandela "*Do not judge me by success. Judge me by how many times I fell down and got back up again*".

We wish Dr. Padma Gunaratne all the very best in her future endeavors.

Dr. Sumithra Tissera
Honorary Secretary, SLMA (2021)

"My wife says I don't have a romantic bone in my body. I'd like a second opinion."

Average blood glucose levels after consumption of **RESOURCE DIABETIC** vs isocaloric breakfast



Blood glucose and serum insulin levels were **significantly reduced for up to 3 hours post-meal** in T2DM patients who consumed **RESOURCE DIABETIC** compared to cornflakes & milk*

RESOURCE DIABETIC

is clinically proven to help manage PPH and blood glucose levels in individuals with type 2 diabetes

Reference - * Gulati S et al. Diabetes Metab Syndr 2015

Nestlé HealthScience

Nestlé Health Science Division
C/o A. Baur & Co. (Pvt.) Ltd.
No. 62, Jetawana Road, Colombo 14.

www.nestlehealthscience.lk
optifast@baurs.com
0114 619399 | 0772 992131

Sri Lanka Medical Association
Call for Abstracts

The Sri Lanka Medical Association invites you to submit abstracts for the 135th Anniversary International Medical Congress - 2022 *(28th September - 1st October 2022 at Cinnamon Grand, Colombo).*

The deadline to submit abstracts is 15th May, 2022 23:59 Sri Lankan Time.

- All abstract submissions should be made electronically through our online abstract submission system (http://conference.slma.lk/).
- Hard copy submissions to the SLMA office will not be accepted.
- One author will be permitted to submit a **MAXIMUM of three (03) abstracts ONLY**.
- All authors of abstracts should be members of the SLMA, if they are eligible for membership ONLY (doctors & medical students).
- All research studies should have obtained ethics approval. All clinical trials should be registered with a Clinical Trials Registry. Authors should provide the letter of approval from an accepted Ethics Review Committee (ERC) for research studies and registration number for clinical trials, upon request.
- All the authors should declare any conflict of interests during their presentation at the congress.
- The SLMA considers plagiarism as serious professional misconduct. All abstracts are screened for plagiarism and when identified, the abstract and any other abstracts submitted by the same author will be rejected.
- The SLMA reserves the right to make alterations and to edit the contents of the abstract to improve the quality of presentation.

INSTRUCTIONS FOR ONLINE ABSTRACT SUBMISSION

1. Creating an author profile

Before submitting an abstract, authors must register in the abstract submission system by creating an author profile online.

2. Submitting an abstract

i) Log in to your author account.

ii) Enter the information requested in the system (Title, names and affiliations, presenting author, abstract text).

Guidelines

- The title of the paper should be concise and the SLMA reserves right to modify the title if necessary.
- The author(s) name(s) should be in the format of last name followed by initial(s). Please DO NOT use prefixes such as Mr/Dr/Prof. (E.g. Perera AB)
- Please DO NOT include the title, names of the authors, institutions, sub-headings or any tables/ graphs/figures or references within THE body of the abstract. Only the text of the abstract should be included.
- The abstract must be structured as follows:
  - Introduction and objectives
  - Methods
  - Results
  - Conclusions
- The body of the abstract MUST NOT exceed 250 words

iii) Please select the relevant submission category (Eg: Dermatology, Family Medicine…etc) from the drop-down list in the abstract submission form.

iv) When uploading the abstract as a MS Word document, please format as below.

- **Title:** BOLD CAPITAL LETTERS
- **Authors:** Last name followed by initials, with the presenting author underlined. A superscript number should be placed after each name to refer to the respective affiliations. (eg.:- Perera AB[1], Silva CD[2])
- **Affiliations:** must be listed below the authors without their designations BUT only their place of work/ attachment
- **Body of the abstract:** Structured with subheadings: Introduction and Objectives, Method, Results and Conclusions.
- **Font:** Times New Roman
- **Font size:** 12, single line spacing

3. Important notices:

- Modifications to the abstract can be made until submission. Please note that NO amendments to the submitted abstracts (including the authors list) would be entertained after closing of submission.
- Abstracts not conforming to the above instructions will be rejected.
- Accepted abstracts will be published in the Ceylon Medical Journal Supplement containing the abstracts.
- A panel of reviewers will review abstracts anonymously and the decision of the Scientific Committee will be final. Successful applicants will be notified via email by 31st May 2020.
- The presenting author is required to register for the sessions upon acceptance of the abstract.
- Please provide a name of a second presenting author (in case of a situation where the original presenting author is unable to attend).
- Failure to make a presentation (oral or poster) once participation is confirmed will be considered an episode of academic/scientific misconduct and the authors will be liable for punitive action.

The deadline to submit abstracts is 15th May, 2022 23:59 Sri Lankan Time.

Please make note that the deadline for submitting abstracts will not be extended.

AWARDS FOR FREE PAPERS AND POSTERS

The following prizes will be awarded for free papers and posters accepted for presentation at the 135th Anniversary International Medical Congress 2020.

1. E. M. Wijerama
2. S. E. Seneviratna
3. H. K. T. Fernando
4. Sir Nicholas Attygalle
5. Wilson Peiris
6. Daphne Attygalle (Cancer)
7. Sir Frank Gunasekera (Community Medicine and Tuberculosis)
8. Kumaradasa Rajasuriya (Research Tropical Medicine)
9. Special prize in cardiology
10. The SLMA prize for the best poster
11. S. Ramachandran (Nephrology)

Please note that all submissions should be made electronically through the online abstract submission system. More details will be uploaded on the SLMA conference website in due course (http://conference.slma.lk/).

IMPORTANT DATES

Abstract submission deadline: 15th May 2022 23.59 Sri Lankan Time
Abstract acceptance notification: 31st July 2022
Registration for presenting authors: 15th August 2022

Thank you!
Professor Ishan de Zoysa
Honorary Secretary
Sri Lanka Medical Association

For further details please contact:

The Sri Lanka Medical Association, 'Wijerama House', No.6, Wijerama Mawatha, Colombo-07 Tel: 011-2693324, Email: office@slma.lk

Sri Lanka Medical Association
Call for Orations

Applications are called for the following orations to be delivered in 2022

SLMA Oration – September 2022, Cinnamon Grand, Colombo

The SLMA Oration is the most prestigious oration of the Association. Instituted in 1979 it recognises outstanding achievement in research. It is delivered at the Inaugural Ceremony of the Annual Scientific Congress of the SLMA.

Dr S C Paul Oration - September 2022, Cinnamon Grand, Colombo

The S.C. Paul Oration is the oldest Oration of the Association. Instituted in 1966 it is delivered in the memory of Dr. S. C Paul, an outstanding surgeon. It is delivered on the second day of the Annual Scientific Congress of the SLMA.

Dr S Ramachandran Oration - September 2022, Cinnamon Grand, Colombo

It is delivered during the Annual Scientific Congress of the SLMA.

Prof N W D Lionel Oration - September 2022, Cinnamon Grand, Colombo

It is delivered during the Annual Scientific Congress of the SLMA.

Murugesar Sinnetamby Oration

Instituted in 1968, this Oration is delivered in the memory of Murugesar Sinnetamby, an outstanding obstetrician and gynaecologist.

Sir Nicholas Attygalle Oration

Instituted in 1975 this Oration is delivered in the memory of Sir Nicholas Attygalle, an outstanding Obstetrician and Gynaecologist, the first Ceylonese Vice Chancellor of the University of Ceylon, and President of the Senate. It is delivered on the Second day of the Foundation Sessions of the Association.

Sir Marcus Fernando Oration

Institute in 1969, this oration is delivered in the memory of Sri Marcus Fernando, outstanding Physician and the first Sinhalese member of the Legislative Council.

Applicants should submit the full script of the oration. The covering letter, addressed to the Honorary Secretary, SLMA should explain why the applicant believes that the work is of sufficient merit to deserve an oration, and list the original papers and conference presentations (both oral and poster) of the applicant cited in the oration.

Applications should reach the Honorary Secretary, SLMA, 6 Wijerama Mawatha, Colombo 7. **on or before 15th May 2022.**

All Orations:

- Substantial part of the oration should be based on original research.
- Orations based on work published in peer reviewed journals will be given priority.
- In case of multi-author research and publications, the applicant should inform the other authors of his/her presentation and provide details of the contribution to design, data collection, analysis and writing of the manuscript by the applicant.
- A separate sheet stating the publications on which the oration is based should be attached to the submission (see below for details).
- The Murugesar Sinnetamby Oration should be preferably on a topic pertaining to *Obstetrics & Gynaecology.*

Guidelines for Submission

- A covering letter should indicate the oration/ orations for which the manuscript should be considered.
- The oration should be written in full. The IMRAD format is suggested unless the content requires otherwise.
- For all research involving human or animal subjects, state 'Ethics Clearance' in the methods section. Randomized Control Trials should have been registered in a WHO recognized Clinical Trial Registry.
- The oration should be typed using Times New Roman, size 12, double line spacing. Harvard or Vancouver system of referencing can be used.
- ***Seven (07) copies of the scripts should be submitted to the SLMA office (Honorary Secretary, 'Wijerama House', No.6, Wijerama Mawatha, Colombo-07). Of these, one (01) copy should be with the name of the author and six (6) copies should be without the name of the author.***

- Each copy should be accompanied with a brief resume of the salient points in ***one sheet of paper (A4 size)*** indicating the contribution made to advances in knowledge on the subject. Further particulars may be obtained from the SLMA office.

The manuscript should be accompanied by a separate document which indicates the following;

1. The impact of the research in terms of advancing scientific knowledge, quality of clinical care and improvement of service delivery.
2. In case of multi-author research/publications, the contribution of the applicant to design, data collection, analysis and writing of publications/ manuscript.
3. A declaration by the applicant that the other authors of the presented research have no objections to the submission of the oration.
4. The applicant should declare if all or part of the work included in the manuscript has already been presented as an oration.
5. Declaration of financial and other conflicts of interests.

All authors of orations should be LIFE MEMBERS OF THE SLMA, if they are eligible for membership (If you are not a member at present, please become a member before forwarding your application).

Closing date for All Orations**: 15th May 2022**

Thank you!
Professor Ishan de Zoysa
Honorary Secretary
Sri Lanka Medical Association

For further details please contact:

The Sri Lanka Medical Association,
'Wijerama House', No.6,
Wijerama Mawatha, Colombo-07
Tel: 011-2693324, Email: office@slma.lk

Call for Research Awards SLMA 2022

It is hereby called for applications for the following Awards and Grants for the year 2022

CNAPT Award: Applications are invited from doctors *(who are SLMA Members)* for the best research publication (article, book chapter or book) in medicine or in an allied field, published in the year 2021, for the Richard and Sheila Peiris Memorial Award (CNAPT).

Closing date: 15th May 2022

GR Handy Award: Applications are invited from SLMA Members, for the best publications in ***cardiovascular diseases*** published in the year 2021 for the G R Handy Memorial award.

Closing date: 15th May 2022

Glaxo Wellcome Research Award: Applications are invited from members of SLMA for research proposals on topics related to medicine.

Closing date: 15th May 2022

Professor Wilfred SE Perera Fund: Applications are called from Life Members of the SLMA, requiring financial support to attend an Academic Conference, provided an Abstract has been selected for presentation at the event.

Closing date: 15th May 2022

SLMA Research Grant: This grant is offered for research proposals on topics related to any branch of medicine. The maximum financial value of the grant is LKR 100,000.00. The grant is targeted at young researchers (should be SLMA members) in their early career, for proposals on applied research that could be initiated (e.g. pilot study) or completed (e.g. audit) with the grant. The project should have a supervisor.

Closing date: 15th May 2022

Dr. Thistle Jayawardena SLMA Research Grant for Intensive and Critical Care: This grant is offered for a research project with relevance to the advancement of ***Intensive and Critical Care*** in Sri Lanka. The maximum financial value of the grant is LKR 100,000.00.

Closing date: 15th May 2022

Five hard copies of the research proposal should be submitted with the application.

For further details please contact:

Professor Ishan de Zoysa
The Honorary Secretary, SLMA
"Wijerama House", 6,
Wijerama Mawatha, Colombo 7
Tel: 011-2693324, Email: office@slma.lk

17M
upwards

INVESTMENT OF THE YEAR

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