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Cover photo: Sri Lanka Medical Association and Intercollegiate Committee Meeting with His Excellency the President Gotabaya Rajapaksa on 10th May 2021

Monthly theme: Road Safety and Injury prevention

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"Wijerama House", No. 6, Wijerama Mawatha, Colombo 07, Telephone: +94 112 693 324, Email: office@slma.lk

SLMA President

Dr. Padma Gunaratne
MBBS, MD(SL), FRCP
(Edin, Glasg, Lond),
FCCP, Hon FRACP,
FAAN, FWSO
President, Sri Lanka Medical Association

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Innocuous 'MBBS syndrome' evolving into the malicious 'Consultant/Specialist Syndrome'

A syndrome is defined as a group of symptoms or clinical signs or a conglomerate of laboratory results which consistently occur together, or a condition characterized by a set of associated symptoms and or clinical signs. There are numerous known syndromes in medicine. There are certain interesting ones such as the medical students' syndrome (also known as second year syndrome or intern's syndrome) where medical students perceive themselves to be experiencing the symptoms of a disease that they are studying. We may not have suffered from this acute hypochondriasis as such, but I am sure almost all of us have thought about such things at some point in our medical student life. Some may even have 'suffered' from a mild degree of it and got themselves examined or tested.

There is another definition to a syndrome; "a characteristic combination of opinions, emotions, or behaviour". I am using this terminology of 'MBBS syndrome' and 'Consultant syndrome' to describe a behaviour pattern that we may have experienced as lay people prior to entering the profession and also while being in the profession as colleagues.

Every medical student when they get selected to medical school naturally feel over the moon and we observe it in their beaming faces on the first day at medical school. As academics, we also cherish their happiness. When they enter, they are naïve, courteous, and mostly behave in the best format suitable for their future profession. By the time they are in their later years in medical school, they become smarter, and develop important qualities such as empathy. Thus, the 'MBBS syndrome' that medical students suffer is quite innocent and it is nothing more than trying little show-off episodes like 'walking with the stethoscope around the neck on the road' in general.

Nowadays most doctors do their postgraduate studies to become specialists and it is in fact a good trend. We all know it is a rough and tough road to walk but amidst all those constraints, the majority accomplish their dream. The newly board-certified specialists soon after returning from overseas training feel depressed by not having the opportunities to use the knowledge gained or are flustered due to the attitudes and behaviour of fellow Sri Lankans who lack discipline, while being on the road or waiting in a queue for example. Some may even go back abroad but most recover from it after a few months. Unfortunately, some of these specialists develop this 'Consultant/Specialist Syndrome'. It has a range of characteristics. Some commonly observed ones are feeling superior, boasting about their achievements, talking about how good his or her overseas working place was and how disgusting the situation in Sri Lanka is; be it on healthcare or education or anything else, treating other categories of doctors, even their own batchmates, as their underlings, expecting everyone to treat them as 'special', including the way they should be addressed, pretend to be busy all the time, constantly using abusive or rude language to subordinates, looking down upon other specialities, criticizing their own specialty colleagues, losing conscience and often being a slave of filthy lucre.

It is quite difficult to analyse and find out the root causes for the occurrence of this 'Specialist Syndrome'. The commonest associated traits seem to be 'insecurity' or 'inferiority' feelings due to some drawbacks or failures or difficulties faced in the past such as in personal life, medical student days or the training period. What they do not seem to understand is that most successful doctors, financially or otherwise, are the ones with good communications skills, who are good team players and who treat everyone with dignity. Such individuals are remembered fondly and the respect they earn are lifelong.

One may be the 'Head' of the unit and may feel superior due to the esteem attached to the position but that 'respect' gained may well be fake. Others 'bad-mouth' such individuals in their absence and drag out ugly past or undesirable aspects of their lives. The respect that such individuals demand or even buy spending money for it, does not last. Thus, as doctors and consultants or specialists, we should have self-reflection on ourselves from time to time. If you can recall the doctor whom you like most or hate a lot or dislike the most, you can then compare and see which group you belong to. Number of degrees you have or the title of the position that you hold should not be the deciding factors that determine your opinion, attitude and behaviour. The tree that bear most fruit is the tree which bends to the ground most.

The Latin phrase, "cura te ipsum" (physician heal thyself), is attributed to Hippocrates, the "Father of Medicine." It remains as one of the basic tenets in naturopathic philosophy. This saying is inscribed on stone at the Oracle of Delphi and is also found in the New Testament and attributed to Jesus Christ. It is interpreted to mean "physician heal thine own lameness." Howsoever you interpret the poignant principle, it is rooted in the ancient wisdom that pronounces "Know Thyself".

So.., let's be humble and be professional in our conduct!

Editor-in-Chief
Professor Hasini Banneheke,
Faculty of Medical Sciences,
University of Sri Jayewardenepura

President's Message

Dear colleagues,

My message for this issue of the Newsletter was penned on 15th May 2021, during a period when Sri Lanka was in a critical state with regard to controlling of the dreaded COVID-19 infection. All curative services and laboratory services were being overwhelmed with rapidly rising numbers of admissions. A large number of patients were awaiting admission to Intermediate Centres for COVID care. Shortage of facilities in hospitals had made it ever so challenging for frontline doctors to provide their best possible services to symptomatic COVID 19 patients.

Despite the robust training the doctors had undergone for five years in medical schools, "doctor fatigue" was at the doorstep of our work settings. After living with COVID 19 for more than an year, it appeared that Sri Lanka was woefully struggling without much preparation to face the crisis. In addition, the suboptimal management of the outbreak thus far has made the care given to non-COVID conditions such as heart attacks, stroke, asthma etc, to be significantly compromised.

It was in such a scenario that a team of six members from the SLMA had a discussion with His Excellency the President of Sri Lanka, on interventions to mitigate the COVID-19 outbreak in Sri Lanka. We were successful in sensitizing the President and the Government on the need for strict implementation of travel restrictions. Hopefully, the benefits of travel restrictions implemented subsequently would be evident in another week or two.

During this month, it was a historic achievement on the part of the SLMA to be instrumental in bringing all medical professionals to a single platform for communicating our demands to control the pandemic. We are now convinced more than ever before, that it would be difficult for the Government to ignore the collective voice of ours when we are united in making a request. At our meeting with His Excellency the President, we presented our contentions with one unified voice of all medical professionals in the country.

As intermediate centres were getting inundated with asymptomatic patients, SLMA also made the request to authorize the provision of care for asymptomatic patients at home. In fact, we had repeatedly made this request before the meeting with His Excellency the President. However, this time we made a direct plea to the Head of State. He was gracious enough to accept our suggestion and it was scheduled to be implemented and be operative from Monday the 17th of May 2021. It would without doubt ease the congestion in intermediate care centres and will promote people to come forward for testing with PCR for COVID-19. However, the need to scrupulously monitor those home-isolated patients and to ensure facilities to transfer them to hospitals without delay if they became breathless was reiterated firmly at our meeting with His Excellency.

As of today, at the time of writing, there is restriction of movement between provinces, travel restrictions and closure of shops and night curfews island wide. Ministry of Health has also imposed further restrictions on permitted functions. It is pertinent that the Government and people maintain the momentum and continue to escalate the implementation of restrictions without relaxing them prematurely. This has to be complemented with maintenance of the chain of supply of food and other essentials to the people of our country.

In addition to the scientific contributions, SLMA has also been in the forefront with welfare activities during all national disasters since its inception. As many hospitals are in need of assistance, SLMA has decided to establish a fund, 'SLMA COVID Sahana' to receive donations from well-wishers who would like to contribute towards SLMA welfare activities.

Let us join hands together to save Mother Sri Lanka.
With the very best of personal regards.
Yours truly,

Dr. Padma Gunaratne
MBBS, MD(SL), FRCP
(Edin, Glasg, Lond), FCCP,
Hon FRACP, FAAN, FWSO
President,
Sri Lanka Medical Association

Activities in March and April 2021 at a Glance

By Dr. Sumithra Tissera, Hony. Secretary of the SLMA

6th April

The sixth media seminar on "Protect Child rights – Stop Physical Abuse" was conducted with the following resource persons – Emeritus Professor Harendra de Silva, Consultant Paediatrician, Professor Ashvini D Fernando, Associate Professor in Paediatrics, Faculty of Medicine, University of Kelaniya, Dr. Miyuru Chandradasa, Senior Lecturer & Consultant Child & Adolescent Psychiatrist, Faculty of Medicine, University of Kelaniya and Mrs. Badra Withanage, Director of Education, Ministry of Education. There were over 50 persons at the auditorium and joining on-line.

9th April

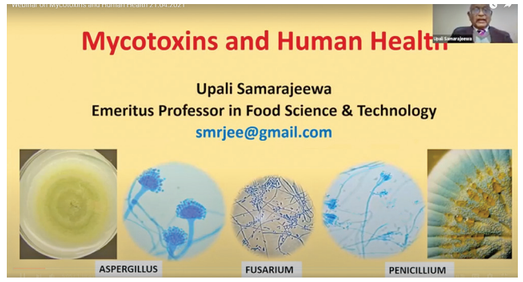
Dr. Padma Gunaratne – President SLMA was invited as the Chief Guest for the awards ceremony of the photographic competition organized by the Sri Lanka Association of Geriatric Medicine (SLAGM). The theme was on "Adding life to years".

20th April

The monthly clinical meeting for April was conducted with the collaboration of the College of Pulmonologists on "COVID Pneumonia & Pulmonary Sequelae". There was an initial case presentation by Dr. Lakmini Dissanayake – Senior Registrar in Respiratory Medicine, Central Chest Clinic, Borella/ NHSL, and a lecture by Dr. Amitha Fernando, Consultant

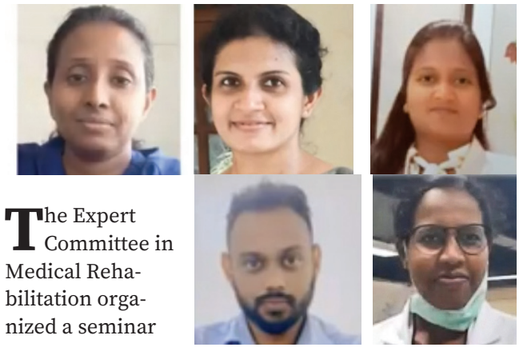
Respiratory Physician, Central Chest Clinic, Borella/ NHSL on "Post Pulmonary sequel of COVID-19". This was followed by a discussion which was conducted by Drs. Amitha Fernando and Afla Sadikeen, Consultant Chest Physician. Around 100 persons joined online.

21st April



SLMA Webinar Series 4 on "Mycotoxins & Human Health' was held with more than 80 participants online. Presentations were made on "Mycotoxins & Health" by Emeritus Professor Upali Samarajeewa, Faculty of Agriculture, University of Peradeniya and "Existing Regulatory Mechanisms in Sri Lanka" by Dr. Thilak Siriwardena, Director, Environmental & Occupational Health. A very interactive session followed.

22nd April

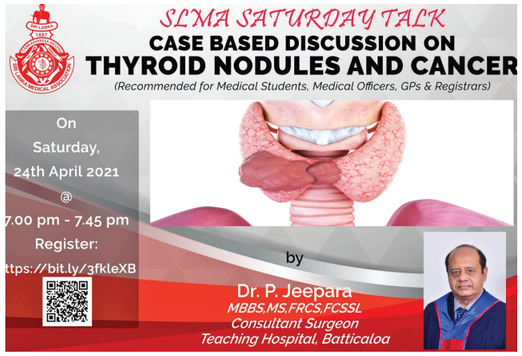


The Expert Committee in Medical Rehabilitation organized a seminar on "Rehabilitation of Amputees" for Consultants and trainees in Medical Rehabilitation, Rheumatology, Neurology, Physiotherapists and nurses. Dr. Nayomi Senaratne, Acting Consultant in Rehabilitation Medicine, RRH introduced the subject of Rehabilitation of Amputees, Ms. Nuwani Gamage & Mr. Damith Weerakkody, Physiotherapists, Rheumatology & Rehabilitation Hospital, Ragama (RRH) on Prosthetic Interventions & Follow-up, Ms. Navoda Wickramasinghe, Occupational Therapist, RRH on Home Integration and Ms. Sharmila Suntharalingam, Prosthetist & Orthodontist, RRH on Providing Prosthesis. There were around 75 persons joining online with many queries made by the participants.

23rd April

A media discussion on "How to prevent the possibility of a 3rd wave of COVID -19" was held with the active participation of many media personnel. The resource persons were Drs. Padma Gunaratne – President of the SLMA, Kanthi Nanayakkara – Consultant Virologist at MRI, Ananda Wijewickrama – Consultant Physician at National Institute of Infectious Diseases (NIID) and Ruwan Wijemuni – Chief Medical Offer at CMC. Dr. Pramitha Mahanama – a member of the SLMA Council moderated the session.

24th April



The fifth of the SLMA Saturday Talk series on Thyroid Nodules & Cancer was delivered by Dr. P Jeepara, Consultant Surgeon, Teaching Hospital Batticaloa. It was attended by more than 300 participants on line. It was also live streamed via Facebook.

28th April

The sixth media seminar on "New Variants of COVID-19 & its Implications on Health" was conducted with the following resource persons – Dr. Chandima Jeewandara – Senior Lecturer, Faculty of Medical Sciences, University of Sri Jayewardenepura & Dr. H. Sathischandra – Consultant Physician. There were over 50 persons at the auditorium and joining on-line.

4th May

The seventh media seminar on "Safe Roads: Save Souls" was conducted coinciding the WHO Road Safety Week which was falling from 17th – 24th May 2021. The resource persons for the seminar were Professor S. Chandrasekara – President, College of Surgeons Sri Lanka, Mr. Indika Hapugoda, SSP & Director Traffic & Mr. R.A. Sudath, Additional Director, Network Planning & Road Safety, RDA. A lively discussion followed the presentations.

5th May

A clinical meeting was held with the collaboration of College of Internal Medicine. It was held as a webinar on "COVID-19" Hospital Management Essentials". There were three presentations on "Evidence Based Therapeutics in COVID-19" by Dr. Harsha Sathischandra, Consultant Physician, NHSL, "Out Patient & Ward Management of COVID-19", by Dr. Ananda Wijewickrama, Consultant Physician, IDH & "Strategies for Oxygenation of Severe COVID-19" by Dr. Afla

Sadikeen, Consultant Chest Physician.

There were more than 600 participants joining the meeting online.

8th May

The sixth of the SLMA Saturday Talk series on Hypotension in an Adult was conducted by Professor Saroj Jayasingha, Consultant Physician. It was attended by more than 650 participants. It was also live streamed via Facebook.

COVID related activities during April – May

2nd April

A letter was sent to the Minister of Health citing our concerns regarding vaccination of Sri Lankans with Sinopharm vaccine and the removal of the Chairperson of the NMRA in an irregular manner.

12th April

A letter was sent to DGHS informing him of the importance of vaccinating all who were given the first dose of AstraZeneca with the second dose, to delay the second dose of vaccine till more information is received on the side effects of the vaccine and not to mix and match vaccines from different manufacturers

19st April

A letter written to WHO, Sri Lanka office requesting vaccination of all Sri Lankan nationals and expedite the process of vaccination of healthcare personnel other than doctors in the health centers

21st April

A meeting of the SLMA, SMIC and the advocacy committee to advice on COVID related issues was convened to discuss on current COVID situation

23rd April

A letter was sent to HE the President informing the government of an imminent third wave

3rd & 5th May

A meeting was convened with the participation of members of SLMA, SMIC, GMOA and the AMS to discuss the current COVID situation and what should be done to contain the rapid spread of infection and the over burdening of the health institutions. A joint letter signed by all were sent to HE the President and then shared with the media.

10th May

A meeting was held with the council of the SLMA and an urgent letter was sent to HE the President sharing eight points to control the escalating number of cases

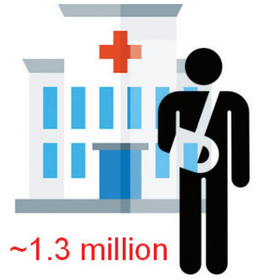
Injuries: the hidden epidemic in Sri Lanka

Dr Samitha Siritunga
MBBS, MSc, MD
(Community Medicine)
Consultant Community Physician
National Programme Manager
(Injury Prevention)
Directorate of Non
Communicable Diseases
Ministry of Health

The weight of the problem

Injuries are the number one cause of hospitalisation in Sri Lanka over the last few decades. Based on data available at the Medical Statistics Unit, more than one million people are hospitalised each year due to injuries. This accounts for approximately 17 – 18 % of total admissions to government hospitals annually. It has been projected that the number of injury admissions to all government hospitals may increase by almost 0.25 million by the year 2025 if the current trend of occurrence persists. As a result, there may be more than 0.9 million additional hospitalisations due to injuries over the next 6 years (figure 1).

An estimated number of 2 – 3 million victims due to injuries are treated as out patients from gove rnment hospitals, private and ayurvedic sectors. Therefore, every year at least 1 out of 5 Sri Lankans may seek treatment for injuries. Approximately 11000 individuals may receive health care

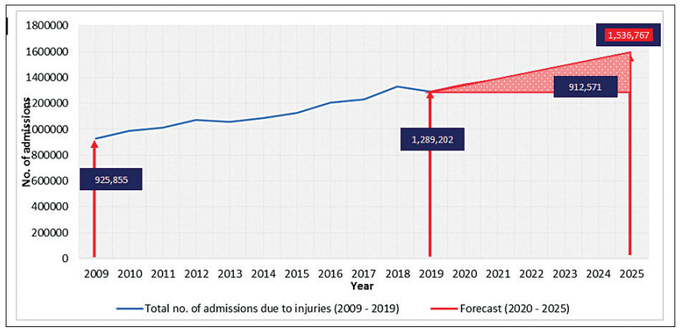


for injuries daily and at least 8 Sri Lankans receive medical care every minute.

The number of victims due to injuries may be even higher than the estimated number as some victims who need medical attention seek home remedies without attending any health facility. Furthermore, the number of victims due to injuries could be several millions.

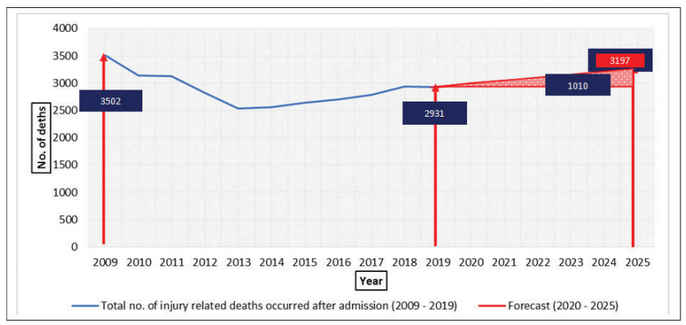
According to latest WHO estimates, injuries claim about 12,000 lives of Sri Lankans annually. Sri Lanka therefore loses about 32 individuals daily due to injuries (about 4 individuals every 3 hours). Injuries are the 7th commonest cause of total deaths in Sri Lanka. It is also the 10th commonest cause of hospital deaths. Based on hospital inward statistics, about 3,000 die due to injuries after hospitalisation.

Figure 1: Projected number of admissions to government hospitals due to injuries 2020 - 2025

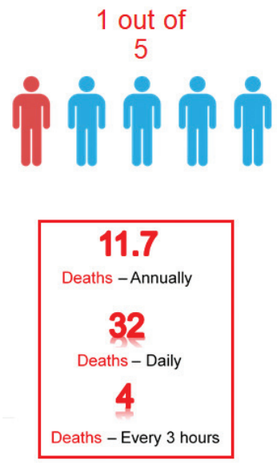


Source of original data from 2009 - 2019: Medical Statistics Unit, Ministry

Figure 2: Projected number of injury related deaths occurred after admission to government hospitals 2020 – 2025



Source of original data from 2009 - 2019: Medical Statistics Unit, Ministry

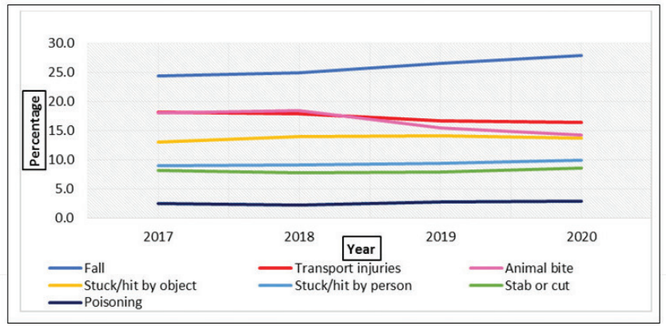


It has been projected that the number of injury deaths occurring after admissions to all government hospitals may increase up to 3,200 by the year 2025. As a result, an additional 1,000 deaths could occur in hospitals due to injuries over next 6 years (figure 2). Majority of victims are in the economically productive age group (15 to 44 years) and it is the number one killer of that age group too.

The National Injury Surveillance System (NISS) was commenced in 2016. All reported admissions during 2017 – 2020 showed that leading injury mechanism was falls, followed by transport injuries and animal bites (figure 3). The leading place of occurrence of injuries was home followed by street/road/highway, residential institution and in occupational setting (figure 4);

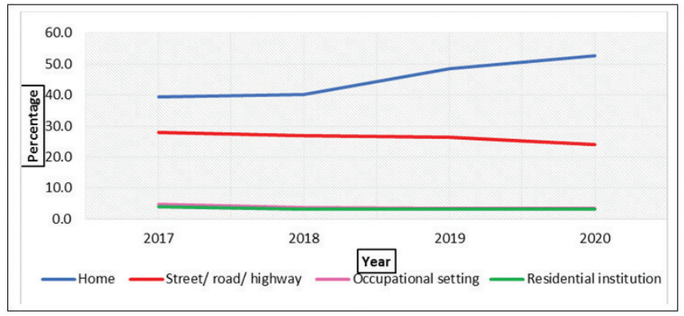
Over the period 2018 – 2020, the leading mechanism of injury related death was transport injuries followed by threats to breathing, falls, poisoning and drowning (figure 5). About 2/3rd of the reported deaths was due to unintentional causes. Of all leading mechanisms of deaths, in 2020, transport injuries (27%), falls (12%) and drowning (9%) were mostly due to unintentional causes.

Figure 3: Trends of leading mechanisms of reported injury admissions 2017 - 2020



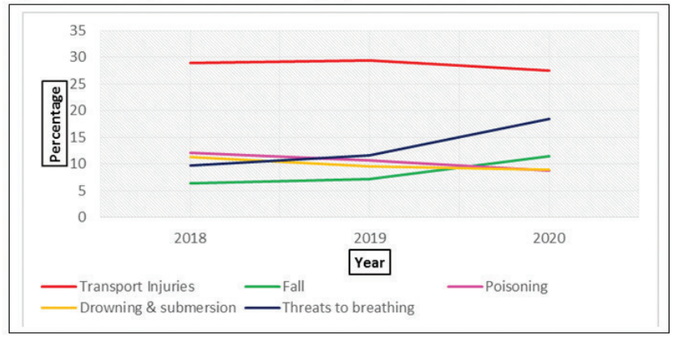
Source: National Injury Surveillance System, Ministry of Health

Figure 4: Trends of leading places of occurrence of reported injuries 2017 - 2020



Source: National Injury Surveillance System, Ministry of Health

Figure 5: Leading mechanisms of injury related deaths 2018 - 2020



Source: National Injury Surveillance System, Ministry of Health

Translation of data into decision making in injury prevention

The burden of injuries is projected to increase in next decade as a result of rapid changes in life styles of people due to urbanisation, industrialisation, mechanisation and infrastructure development unless appropriate preventive strategies are not implemented. Injuries impart destructive long-term consequences not only to the victim but also to the family and to the society as well.

A huge amount of the nation's annual budget is spent on patient care due to injuries. Hidden cost due to injuries in Sri Lanka is also very high and not yet calculated properly.

Moreover, as injuries are the number one cause of morbidity and mortality in the economically productive age group (i.e. adolescents, youth and young adults), the impact of injuries on the country's economy is also enormous.

In parallel to the increase of injuries, all the resources including human and logistics to be utilised on treatment and management of injuries should also be increased.

In the face of this growing health problem, the health system will face a catastrophic situation in the future, unless adequate steps are taken to improve the re-

sources relevant to the health system at least from now onwards. In addition to injuries, concomitant health problems need to be addressed, which could impart extra burden on the health system in the future than that of present.

Most injuries, especially those that are unintentional are predictable and preventable when proper safety precautions are taken.

However it is very difficult to achieve it due to numerous reasons such as lack of knowledge, not taking safety precautions, lack of adherence to the law, carelessness, lack of first aid skills, lack of adequate pre hospital care, improper transportation of the victims to a health facility, poor environmental conditions, poor conditions and improper maintenance of equipment such as vehicles and machinery etc.

The involvement of many sectors in the prevention and management of injuries is crucial. Hence, policy makers and other relevant stakeholders must work in the present to take all possible measures to combat future situations.

In parallel with taking all possible measures to prevent injury, it is essential to recruit necessary steps to improve the health system. It is essential that the National Injury Surveillance System is strengthened: this is essential for planning specific programs for injury prevention. A comprehensive, targeted approach and the contribution of multiple sectors is essential for the implementation of a better injury prevention and management program.

Towards a culture of better road safety in Sri Lanka

Mr. R. A. Sudath
Additional Director
Network, Planning and Road Safety
Road Development Authority

The development of a country is measured using indices like literacy rate, average life expectancy, child mortality rate, gross domestic product and per capita income. The quality of life of a country is measured by the attitudes and behaviours of its citizens. From ancient times, Sri Lanka was renowned worldwide for the kindness and hospitality of its countrymen. Even in the modern era, the foreign tourists arriving at Sri Lanka cherish, admire and appreciate the helpfulness and kindness they receive from the Sri Lankans. Unfortunately, the above positive image is distorted by the behaviours of Sri Lankan drivers as they display increased aggressiveness and recklessness on the roads. Therefore, some foreign tourists are instructed by their respective authorities to be extra cautious whenever they use Sri Lankan roads as a driver, passenger or pedestrian.

Ways to increase road safety at the design stage of roads

For motorists

- Improving hazardous locations on roads
- Improving the visibility by removing roadside barriers
- Installing driver informative warning signs (blind corners etc.)
- Improving night-time visibility by using retroreflective material for signboards marking and providing street lighting for roads with higher vehicular traffic during the night

For non-motorists

- Providing raised walkways
- Providing underpasses and overpasses
- Providing illumination for pedestrian crossings
- Providing differently abled facilities throughout walkway facilities
- Providing natural shades and trees

Unwanted competitiveness, road rage and selfishness among drivers on the road has become an 'expected driver behaviour' during the last decade due to the overwhelming socio-economic struggles of the Sri Lankan citizens. Sri Lankan road users have shifted to more private than public transport due to the absence of a national transport policy and deterioration in public transportation leading to traffic congestion and competition on the road, leading to poor road discipline and accidents.

30% of road traffic accidents involve pedestrians and non-motorized vehicle users. The most vulnerable groups who succumb to fatal and grievous road accidents are minors, women and older adults. Accidents can be due to the negligence of pedestrians who use the carriageway for jaywalking despite the availability of shoulders or walkways. The careless use of the zebra crossings costs the lives of the pedestrians, mostly in urban and suburban Sri Lanka.

Pedestrians and non-motorized road users are severely injured and may lose lives due to the competitions among the drivers of large buses and heavy goods vehicles. Drivers of large vehicles compete to overtake each other on comparatively narrow roads and sometimes use the opposite lanes, risking the lives of the passengers in the approaching vehicles. Some drivers may violate traffic regulations and use the road shoulders or pedestrian walkways for overtaking, putting the lives of pedestrians in danger. In urban and suburban areas, Sri Lankan vehicle users disturb the walkability of pedestrians by parking vehicles obstructing walkways. Such errors lead to fatal accidents as the pedestrians are forced to use the carriageway for walking.

It is the prime responsibility of the users of the vehicles to be mindful and empathetic towards fellow drivers and mostly towards pedestrian and pedal cyclists by taking the highest precautions possible on the road to prevent losses of lives.

70% of the fatal road accidents are vehicle-to-vehicle collisions. With the varying geographical characteristics from plains to hilly terrains, it has been challenging to maintain uniform international standards in the national road network in a consistent manner, contributing to the increased number of vehicle-to-vehicle collisions. However, the engineers of infrastructure providing agencies have constantly persevered to maintain optimum standards despite the geographical constraints.

Image credit: Nipuna Gunasekara, Undergraduate in Medicine, Faculty of Medical Sciences, University of Sri Jayewardenepura

The speed limit for motor cars in rural flat terrains is 70 kmph and 50 kmph in urban areas. The speed limits are derived based on the stopping sight and breaking distance calculations of vehicles considering road geometry, terrain and road characteristics such as friction and superelevation. The purpose of speed limits is to proactively inform drivers of the speed they should maintain on a particular road segment to avoid collision with other vehicles. Therefore, it is the responsibility of the road users to oblige with the speed limits to minimize the risks of getting killed or severely injured during a motor accident. The drivers should be mindful that roads in hilly terrains with hazardous bends may only allow operational speeds up to 25 kmph to 40 kmph. When speed limits are not posted on a particular road segment, it is safe for drivers to keep vehicle speeds below 70 kmph in highways (A Class) and collector roads (B Class) roads. Vehicle speeds should be kept below 60 kmph on local roads and provincial roads. Adhering to the above norm would reduce the probability of fatal and grievous accidents, especially for pedestrians or pedal cyclists. Even when speed limits are not posted on a particular road segment, it is safe for drivers to keep vehicle speeds below 70 kmph in highways (A Class) and collector roads (B Class) roads. The vehicle speeds should be further reduced on local roads and provincial roads and kept below 60 kmph. Adhering to the above norm would lessen the probability of fatal and grievous accidents, especially when it comes to accidents with pedestrians or pedal cyclists.

It is vital to consider road safety from the very design of highways and expressways.

Some strategies that can be implemented to improve road safety and, therefore, the quality of life in urban and suburban neighbourhoods are stated in box 1.

Mucormycosis (Black fungus) and COVID-19: is it a deadly combination?

By Dr. Primali Jayasekera
Consultant Medical Mycologist,
Head / Department of Mycology,
Medical Research Institute,
Colombo 8

A rare but life-threatening fungal infection, known as mucormycosis and colloquially as "black fungus", is being detected with increasing frequency among Covid-19 patients in some states of India. It affects mainly the immunocompromised patients. Most of these patients were having other immunocompromised illnesses such as uncontrolled diabetes. and once they were infected with Covid 19, were treated with steroids and this probably has led to this devastating outcome

Mucormycosis has been diagnosed not uncommonly in Sri Lankan immunocompromised patients over the years. In 2019 and 2020 we have diagnosed and successfully treated 42 and 24 patients respectively. Most of these patients had rhinocerebral mucormycosis and few had pulmonary mucormycosis.

So far in Sri Lanka there have not been any reports of COVID 19 patients with mucormycosis,

Mucormycosis is caused by moulds belonging to order Mucorales. These fungi can cause many clinical forms of mucormycosis in predisposed vulnerable individuals. It is known as the second most frequent mould infection in immunocompromised individuals. This group of organisms have a predilection for vascular invasion causing thrombosis, infarction & necrosis of surrounding tissues which has given the name "Black fungus". It has a worldwide distribution and is ubiquitous in soil & decomposing organic matter. It can be found in indoors & outdoors, in food items & dust.

Commonest causative agents are *Rhizopus oryzae, Rhizorpus microsporus, Apophysomyces elegans, Cokeromyces recurvatus, Cunninghamella bertholletiae, Lichtheimia (Absidia) corymbifera, Rhizomucor pusillus, Saksenaea vasiformis & Syncephalastrum recemosum*.

Most infections follow inhalation of spores in air. As a result, nasal sinuses & lungs are the commonest initial sites of infection. Also cutaneous, percutaneous infections have been reported following inoculation, such as traumatic disruption of skin barriers, catheter insertion sites & following injections. Cases have been reported following ingestion of contaminated food also.

Risk factors are prolonged or profound neutropaenia, diabetes mellitus (types I & II), metabolic acidosis, malnutrition and steroid usage. Those treated with iron-chelating agents like deferoxamine, HSCT recipients, solid organ transplant recipients, patients with haematological malignancies, patients with burn injuries, injection drug users are also at increased risk. Widespread use of voriconazole is also associated and some patients with no apparent immunological defects.

Certain predisposing factors are more commonly associated with certain clinical forms, such as diabetic ketoacidosis with rhinocerebral mucormycosis, haematological malignancies & transplant recipients with pulmonary mucormycosis etc.

Case fatality rate (CFR) is around 35% with no underlying predisposing cause), 44% in patients with diabetes mellitus, 66% in patients with malignancies. CFR can vary according to the site of infection as well, 62% in rhinocerebral mucormycosis, 76% in pulmonary mucormycosis, 85% gastro-intestinal mucormycosis and 96% in disseminated mucormycosis. Higher survival rate among diabetes mellitus patients is due to ease of reverting underlying ketoacidosis than among malignancies. Higher CFR is observed in pulmonary mucormycosis patients due to the difficulty in diagnosing the disease.

Clinical manifestations include 5 major clinical forms,

- rhinocerebral mucormycosis – commonest form
- pulmonary mucormycosis – second most common form
- cutaneous mucormycosis
- gastrointestinal mucormycosis
- disseminated mucormycosis

Clinical hallmark is rapid onset of necrosis & fever. Most cases progress very rapidly, death is unavoidable unless diagnosed early and treated rapidly.

- Rhinocerebral mucormycosis – patients can present with fever, unilateral facial swelling, unilateral headache, nasal or sinus congestion or pain & a blood-tinged nasal discharge.
- Characteristic diagnostic signs include necrotic black ulceration on the hard palate or nasal turbinates, ptosis, proptosis, ophthalmoplegia, loss of vision and drainage of black pus from eye/s.
- Complications include, spreading to the orbit, periorbital or perinasal swelling with progressive destruction of facial tissues. Infection can spread to brain with frontal lobe necrosis & abscess formation.
- If left untreated, this could be fatal within a week of onset of the disease.
- Pulmonary mucormycosis – clinical presentation includes non-specific, unremitting fever, non-productive cough, (haemoptysis & pleuritic chest pain uncommon). With a predilection for the upper lobes any partWith a predilection for upper lobes of the lungs, any part of the lungs can be affected, but bilateral disease is uncommon. If left untreated could be fatal within two to three weeks.
- Cutaneous mucormycosis – present initially with cutaneous erythema & subcutaneous swelling of the affected area. Painful lesions, febrile, raised & indurated, central necrotic ulcer with black eschar formation.

Gastrointestinal mucormycosis – present as necrotizing enterocolitis, affecting all segments, more common in stomach, colon and ileum. Symptoms depend on the affected site. Fever, abdominal pain, distension, vomiting & haematemesis are typical. Complications include gastric or intestinal perforation, perirenal abscesses & renal infarction.

Disseminated mucormycosis – commonest site of spread is brain, metastatic necrotic lesions can form in spleen, heart and any other organ.

Radiological investigations in rhinocerebral mucormycosis include;

CT scan - involvement of several sinuses (ethmoid & sphenoid), clear unilateral predilection, no air-fluid levels, thickening of sinus linings & destruction of surrounding bone

MRI – better than CT. Detects extension of infection to adjacent soft tissues of the orbit and brain .

For diagnosis of pulmonary mucormycosis;

CXR - chest infiltrates & nodules more frequent than consolidation or cavitation

High resolution CT scan is the best showing halo & air crescent sign.

Laboratory investigations - Early diagnosis & adequate treatment are the mainstay of successful outcome. Specimens to be taken include,

- clinical material from necrotic lesions (in a sterile screw capped container with sterile saline) for fungal studies,
- sputum & BAL (in sterile screw capped containers) for fungal studies

All samples should be transported at room temperature to Department of Mycology, Medical Research Institute, Colombo 8

Management includes antifungal treatment (amphotericin B) to be initiated with suspected diagnosis. Underlying metabolic or immunological disorder must be corrected, infected necrotic tissues & surrounding tissues should be surgically removed repeatedly. Duration of treatment depends on clinical, radiological & mycological cure

Complications include disfigurement, amputation of limbs, blindness, brain infection or death

Prevention of the disease include,

- In non-immunocompromised individuals, adequate control of diabetes mellitus, avoiding use of desferrioxamine, limited use of aluminium containing buffers in dialysis.
- In patients who has a family history of diabetes mellitus, monitor FBS while the patient is on steroids and after steroid therapy as they are more prone to get the infection with increased blood glucose levels
- In immunocompromised individuals, reduce sources of environmental exposure (gardening, avoiding old & contaminated food, avoid contaminated surgical dressings & syringes etc.), avoid inhalation of spores during critical periods (keep in rooms with HEPA filters)
- Avoid contacting COVID 19 infection as it can further reduce the functional capacity of the immune system, which can further facilitate contacting mucormycosis infection.
- Avoid using surgical and KN95 masks for more than 4 hours. Further, they should not be reused after washing. Wearing cloth masks is not advisable even for the prevention of COVID 19. Avoid reusing masks after keeping it on a surface for some time to contact micro organisms.
- No antifungal prophylaxis is available

Feature Article

COVID19-associated mucormycosis (CAM)

Fungal Infection Study Forum (FISF) recommendation

http://www.fisftrust.org

Since the onset of the COVID 19 pandemic there have been multiple reports across country of very high incidence of mucormycosis among patients with COVID 19 especially in those who are diabetic and those who have received steroids.

Covid-associated mucormycosis (CAM) has been associated with high morbidity and mortality, exorbitant treatment costs and has led to shortage of antifungal drugs.

When and how to suspect CAM

- **Patients with Covid-19 illness (active/recovering/post-discharge) – common presentation: rhino-orbito-cerebral mucormycosis (ROCM)**
  - Initially – nasal blockade or congestion, nasal discharge (bloody or brown/ black), local pain
  - Facial pain or numbness or swelling
  - Headache, orbital pain
  - Toothache, loosening of maxillary teeth, jaw involvement
  - Blurred or double vision with pain; paresthesia, fever, skin lesion, thrombosis & necrosis (eschar)
- **Pulmonary mucormycosis:**
  - Fever, cough, chest pain, pleural effusion, hemoptysis, worsening of respiratory symptoms
  - Lung CT – confused with COVID-related shadows; suspect mucormycosis in patients with thick-walled lung cavity (need to differentiate from covid-associated pulmonary aspergillosis), reverse halo sign, multiple nodules, pleural effusion
  - Repeated negative galactomannan & beta-glucan tests

How to diagnose mucormycosis:

Mucormycosis is a medical emergency even when clinically suspected.

Suspected patients should undergo appropriate **radio-imaging study**: MRI - PNS with brain contrast study for ROCM, plain CT thorax for pulmonary mucormycosis.

Rhino-orbito-cerebral

- Consult ENT surgeon for endoscopic collection of debrided tissue/biopsy – one portion in sterile saline for microscopy & culture, other portion in formol saline for histopathology

Pulmonary

- Broncho-alveolar lavage (BAL), Mini BAL, non-bronchoscopic lavage, transbronchial biopsy, CT guided biopsy from lung – process for microscopy & culture
- Chest X-ray and/ or HRCT – reverse halo sign, thick-walled cavity (need to differentiate from Covid associated pulmonary aspergillosis), multiple nodules, pleural effusion
- Repeated negative galactomannan & beta-D-glucan tests

Treatment of CAM

Team approach is required with infectious disease specialist, microbiologist, histopathologist, intensivist, neurologist, ENT specialist, ophthalmologist, dentist, surgeons, radiologists etc.

1. Control of diabetes & diabetic ketoacidosis
2. Reduce steroids (if patient is still on) with aim to discontinue rapidly
3. Discontinue other immunomodulating drugs if patient is taking like: Baricitinib, Tofacitinib
4. Surgical debridement: Extensive, to remove all necrotic material; if eye involved, exenteration of eye; in pulmonary, if the lesion is localized or in one lobe.
5. Medical treatment
   a. Insert peripherally inserted central catheter (PICC line) or central venous catheter
   b. Maintain adequate systemic hydration, infuse normal saline IV before amphotericin B infusion
   c. Antifungal therapy
      i. Liposomal amphotericin B (L-AmB) (preferred treatment) 5mg/kg/day, dilute in 200 cc 5% dextrose over 2-3 hours infusion (avoid slow escalation; higher dose 10mg/Kg/day may be given in brain involvement)
      ii. Amphotericin B deoxycholate (D-AmB): only if cost and availability of L-AmB is an issue; 1mg/kg/day in 5% dextrose, slow infusion for 6-8 hours. Pre-medication may be required to avoid infusion reaction
      iii. Monitor renal function & potassium level while treating with amphotericin B
      iv. Patients who are intolerant to amphotericin B, alternative agents are posaconazole or isavuconazole (injection/tablets)
      v. Tab posaconazole: 300mg twice a day on first day, followed by 300mg once a day. Check posaconazole trough level after 7 days of therapy & avoid interacting drugs.
      vi. Tab isavuconazole: 200mg three time a day for two days, followed by 200 mg once a day.
6. Monitor patients clinically, with radio-imaging for response / disease progression & microbiologically
7. After 3-6 weeks of amphotericin B therapy, consolidation therapy (posaconazole/isavuconazole) for 3-6 months
8. Read global guideline on treatment of mucormycosis for further detailed information (Lancet Infect Dis. 2019; 19: e405-e421)

How to prevent this infection

- As poorly controlled diabetes is the major issue, **good glycemic control** during management of COVID 19 patients is required
- **Systemic steroids should only be used in patients with hypoxemia**
- **Oral steroids are contra indicated in patients with normal oxygen saturation on room air**
- **If systemic steroid is used, blood sugar should be monitored**
- **The dose and duration of steroid therapy should be limited to dexamethasone (0.1mg/kg/day) for 5-10 days**
- Universal masking reduce exposure to Mucorales; avoidance of construction sites
- During discharge of the patients, advice about the early symptoms or signs of mucormycosis (facial pain, nasal blockage and excessive discharge, loosening of teeth etc., chest pain, respiratory insufficiency)

Misinformation & misleading

1. **Mucorales are not black fungi**. Black fungi are different category of fungi having melanin in the cell wall.
2. **Mucormycosis is not contagious**. It does not spread from one person to another.
3. Mucormycosis is not spread by oxygenation, humidifier, and water. The fungi remain in the indoor & outdoor environment. The spores enter the respiratory tract via air.
4. **No antifungal prophylaxis is recommended** as the incidence is not more than 10% in any COVID-19 cohort.

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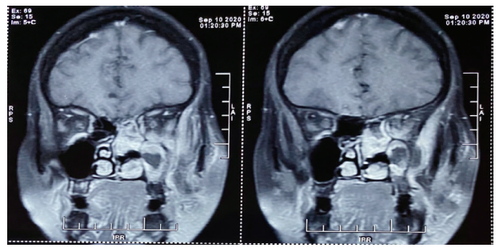
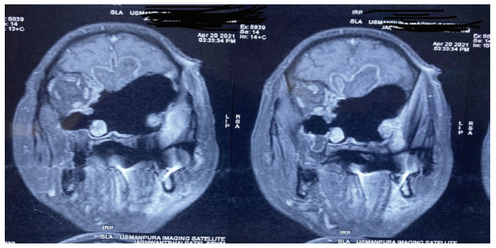
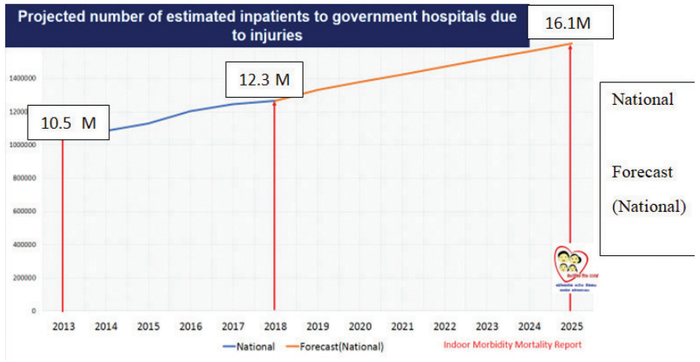




Safety of children: an unmet need

Dr. Ruwanthi Perera
Senior Lecturer / Hony. Consultant Paediatrician
Faculty of Medical Sciences/ University of Sri Jayewardanepura
Colombo South Teaching Hospital



Injury, as the name implies in plain English, or even in strict medical jargon, is the physical damage which results when a human body is suddenly subjected to any form of energy in amounts that exceed the threshold of physical tolerance or lack of one or more vital elements such as oxygen. The energy mentioned can be in the form of mechanical, thermal, chemical or irradiation and the end result can be road traffic accidents, drowning, falls, burns, poisoning, choking and electrocution. (WHO – Child injury prevention document). This classification takes me back to my childhood where majority of injuries that I had sustained were a result of physical energy in comparison to the present day youngsters who are getting exposed to more and more chemical and radiation insults. Even though the mode of injury can be variable, distress and effect produced by all injuries remain the same. The underlying mode of all injuries are of three types and accidental injuries the majority (90%) followed by non-accidental (9%) and deliberate self-harm (1%) in all. (WHO –Child injury prevention document). Accidental injuries predominate fur-paediatric population as well.

The environment where children and young people grow up and develop, should safeguard them against risks and promote the development of positive knowledge, skills and attitudes. The United Nations Convention on the Rights of the Child proclaims that the child must have the opportunity of growing up and developing in an environment that is as healthy and as safe as possible and that the child's parents should be with information on injury prevention (1).

The relationship children and young people have with the environment changes markedly with the age. The type of injuries they face is dependent on the type of environment they hang about, the activities they engage in, as well as the degree of adult supervision.

We, being overprotective mothers and fathers on most occasions, believe that we do look after our children well and that we do take all the necessary precautions to keep the home environment hazard free for our children. However, our typical caring parent image is breached by the data from National Injury Surveillance (NIS) – 2018, of the Ministry of Health. It has shown that 50% of accidental injuries have occurred at home, 19% on roads and 7% at educational institutions.

We are proud about our standards in health statistics in the SAARC region. Over the years our health indices have improved dramatically. The neonatal mortality rate and infant mortality rate have improved from 13 to 6.5 and 18 to 9.1 per 1000 live births respectively from 1990 to 2018(2). Therefore, as primary caretakers of our children, it is high time that we explore other sources of morbidity and mortality in children and take preventive measures. Each year 12,000 lives are taken away by accidents which include 4500 on-the-spot accidental deaths, 4500 on-admission deaths and 2800 in-patient deaths (NIS). These figures mark only the tip of the iceberg. Many more would have gone unrecorded due to opting for alternative treatments as well as self-treatment efforts. Impact of injuries are not only restricted to deaths. It affects physical, social as well as a physical burden to the individual, family as well as the society. Every admission of an in-ward patient takes an average of 1.6 in-patient days in a hospital. Each in-patient day in a government hospital setting costs LKR 5000 and teaching hospital setting LKR 9000 per day. This has not taken into account, the indirect expenses like the finances utilized for travel, food of care taker etc. The in-patient management of injured patients and later rehabilitation has utilized Rs 192 535 million from the annual health budget in 2016. For every injured child who died, many more live on with varying degrees and durations of trauma and disability, often denying the right to be productive citizens and to live a life of dignity. Accidents and injury lead to missing school days for themselves as well as missing of working days for parents and care takers. It can impart negative social and emotional effects on siblings as well.

Global data is even further disturbing. Injuries cause more than 5 million deaths each year, of which unintentional injuries account for approximately 80%. Unintentional injuries kill approximately 830,000 children every year. More than 95% of child injury deaths (both intentional and unintentional) occur in low and middle income countries. The burden of childhood unintentional injuries is highest in South-East Asia and Africa, being cause-specific mortality of 64 and 55 children per 100 000 population, respectively)

(https://www.globalhealthnow.org/2016-04/child-injury-data-and-advocacy-needed

Accidents are definitely on a rising trend. However, what are our projections?

According to the projections from the Indoor Mortality and Morbidity Report of the Ministry of Health, the projected numbers are as follows (figure 1).

Therefore, it is high time that we implemented some targeted cost-effective preventive measures. How are we going to achieve this?

Before we try to do that, we need to identify the existing risks!

Do we know it? The answer is an unfortunate and a resounding "NO".

If we manage to gather data on risk factors and implement preventive strategies, we will be achieving our target.

The above graph shows us our potential.

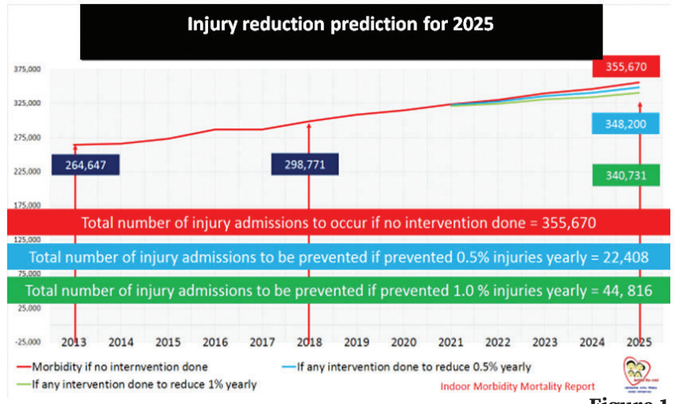


Figure 1

An extensive literature survey yielded minimal local data on risk factors for accidental injuries in local children. The data that could be extracted was mainly from National Injury Surveillance (NIS) of the Ministry of Health, which has been in operation since 2016. The data of National Injury Surveillance is being formulated using the data from the Indoor Morbidity & Mortality Report (IMMR). According to the data from NIS, falls related injuries account for the major proportion of injuries in childhood and home remains as the main location.

All forms of accidents have become a significant killer of our children and our productive youth.

Childhood and adolescent populations comprise 25.2 % of the total Sri Lankan population (3) and this value remains similar to the global figure of 26 % (4). Numerous milestones on child welfare have been evolved globally over decades to ensure the wellbeing and safety of this major quadrant of the population. Declaration of the rights of the child (1959) (5), Convention on the rights of the child- "How children are viewed as human beings!!!" (1989) (6), Millennium declaration, "Universal primary education and reduce mortality" (2000) (7) & sustainable development goals "Right of every child to live free from fear, neglect, abuse and exploitation. (2015) (8), are just a few of them. Agenda 2030 for children laid at "End violence summit-2018, Stockholm, Sweden" of the International Network for Simulation based Paediatric Innovation, Research and Education (INSPIRE), focuses mainly on prevention.

Actions at every level make a significant difference. Safety at different settings, health education, implementing new laws pertaining to childhood safety, reinforcing the existing legal frame work and surveillance of the safety network should be the main areas of a scrupulously designed injury prevention plan. Safety of possible environments where children habitat such as homes, schools, especially primary schools, pre-schools, day care centres, orphanages and play parks should be reinforced with environmental safety standards. Clothing, toys, playground equipment are other essential items which need safety standards.

Therefore, through the lessons we learnt in performing our local study series on childhood safety ("Safety of children: the unmet need", Ruwanthi Perera et al, Virtual Congress & Master Course, April 2021, European academy of Paediatrics), ("Safety of children's clothing: an unmet need in a developing country", Ruwanthi Perera et al, Royal College of Paediatrics & Child Health Conference 2021), ("Safety of toys: an unmet

need in a developing country", Ruwanthi Perera et al, Royal College of Paediatrics & Child Health Conference 2021), the following recommendations are suggested:

Establishing safety at home should be the main priority. The use of home safety check list developed by the Ministry of Health should be utilized for this purpose.

A mandatory home visit at 6-months, first year and second year birthday of the child should be done by the public health midwife or the public health inspector.

A summarized version of home safety check list to be incorporated into the child health development record which is being issued at birth to every child. This is a valuable document to every parent and they should read it at least during the initial months of the child.

- Mandatory safety check to be done with yearly school medical inspections and preschool medical inspections using standard checklists.
- This highlights the importance of establishing yearly preschool inspections by the primary care team members.
- There are numerous private preschools scattered around country. Yearly preschool medical inspection and safety check certificate should be made a mandate.

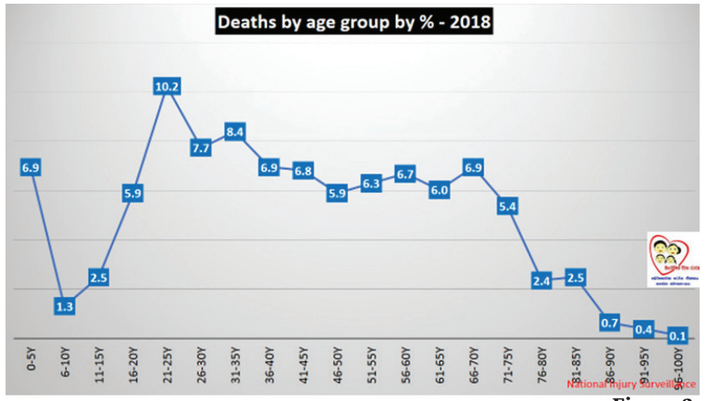


Figure 2

- Regular, at least quarterly reviews of play parks should be done by public health inspectors using standard check lists.
- At all levels, we as medical stake holders should put all our efforts towards getting support for injury prevention interventions. Health education should be done at several levels. Teams headed by local paediatricians should take the lead. Well trained school and preschool teachers can be used as ambassadors for dissemination of knowledge to parents as well as children.
- A module on child safety to be in cooperated into the preschool teachers' curriculum.
- Encouragement of toy production locally will enable us to lay the frame work for regulations on toy safety. In the process of importation of toys, strict regulations must be enforced at customs level before they are been released to the market.
- Regular education programmes on toy safety to be released.
- Formulation of minimal local clothing standards applicable to all categories of paediatric clothing, irrespective of the price.
- Education programmes on clothing safety to be released on to different media to reach the majority

Surveillance of any preventive programme has to be made mandatory for sustainability.

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Road Traffic Trauma in sri lanka – A pandemic going unnoticed

Dr. Bingumal Jayasundara
Consultant General Surgeon,
District General Hospital,
Nuwaraeliya

Annually over 970 million people suffer trauma related injury requiring medical attention worldwide and four million of those succumb to their injuries. World Health Organization (WHO) data confirms that road traffic injuries account for more than 40% of unintentional trauma related deaths in the world. Such injuries resulted in 1.4 million estimated deaths worldwide in 2016. Global distribution of automobile trauma related deaths is heterogeneous and the average rate of such fatalities is 8.3 per 100,000 population in high income countries. The value rises more than three times to reach 27.5 per 100,000 population in low-income countries like Sri Lanka. According to the 2017 World Bank classification, 85% of the global population live in low or middle income countries in South-East Asia, Africa and South America, using 60% of all vehicles accounting for 93% of road traffic related deaths. Regional road traffic trauma fatalities are said to be on a stable rise in Africa and South-East Asia further masked by the Covid-19 pandemic. The WHO estimated Sri Lanka to have had 3600 automobile trauma deaths in 2016 which was 2.5% of all-cause deaths in the country. In the absence of a trauma registry, Sri Lanka does not have clinical outcome or patient reported outcome data following trauma related injuries. According to the latest Annual Health Bulletin, traumatic injury including automobile related injuries as a 'disease' has been the commonest reason for hospital admissions in the Sri Lankan state sector. Traumatic injury has resulted in more than one million cases receiving in-hospital care in 2016 accounting for one fifth of total hospital admissions. Such injuries have led to 1,675 in-hospital deaths, making 'traumatic injury' the tenth in the list of the leading cause-specific in-hospital mortalities in Sri Lanka. These values show a stable unchanged plateauing over the last two decades, near-equally distributed among all districts of the country. This 'non-infectious epidemic' has been a clear burden to the state driven, free healthcare system of this third word developing nation.

There is a clear difference in the stratification of the type of road traffic trauma victims in high-income countries and the rest of the world. The WHO identifies pedestrians, cyclists, motor cyclists and three-wheeler occupants, who utilize the road without the shield protection of a stable, covered vehicle as vulnerable road users (VRUs). High-income countries have a lesser percentage of VRUs in general and among their road traffic trauma victims. Low and middle-income countries in comparison have higher percentage of VRUs in total and such at-risk group account for more than 80% of all road traffic trauma deaths in South East Asia. While developed high income nations are finding answers to control the burden of automobile trauma by raising motor vehicle safety, middle- and poor-income countries appear to be struggling to find a solution. Sri Lankan government in 2018 implemented new legislation to prohibit importation of motor vehicles without seat-belts, airbags and anti-lock brake systems as a measure designed to improve vehicle safety. Despite this development being a forward move towards reaching the global best practice measures of vehicle safety, such regulations have minimal impact on the safety of pedestrians, pedal/motor-cyclists and three-wheeler passengers which comprise a large proportion of the Sri Lankan road traffic trauma casualty mass. A couple of recent road traffic trauma injury outcome audits and forensic case series analysis from Sri Lanka have shown that the VRUs travelling without the protection of a shielded vehicle form a significant majority of total road traffic trauma victims, mortalities, critical injury sufferers and those ending up with disabilities. Drunk-driving, driving without eligibility and riding without protective helmets have been the main contributory factors for road traffic injuries. On extrapolation of these results, it is unlikely that the recently uplifted motor vehicle safety regulations to have a protective effect on majority of Sri Lankan road crash victims formed by VRUs. Further, a higher proportion of automobile trauma related deaths in Sri Lanka have happened prior to arrival at a hospital or within early hours of in-hospital resuscitation. This fact raises the need to develop a standard pre-hospital trauma care system.

Currently, trauma education and injury prevention are considered as equally important aspects of wholistic trauma care in addition to provision of patient-focused post-incident care. Potentially achievable economic advantages through costs saved by injury prevention are maximum in low-income countries. However, trauma prevention by legislation and public education does not appear to be a well-coordinated process in Sri Lanka. These deficiencies are costing many lives a year, and surely much more than we have lost due to the Covd-19 pandemic. Due to the 'time-critical' nature of traumatic injury as a 'disease', each second and minute counts a great deal following an incident of major trauma. Thus, the trauma injury treatment process requires specialized and escalated sequence of care to achieve optimal outcome. It is the foremost reason to establish trauma systems in the developed world by evolving central and regional trauma centers; depending on the population size, transportation efficiency and many other complex factors. Unfortunately, Sri Lanka doesn't have a structured trauma system.

A recent cross-sectional survey conducted among the state sector general surgeons in Sri Lanka has pointed out shortcomings in emergency trauma care within the structural hierarchy of hospitals affiliated to the Ministry of Health, mainly due to inadequate infrastructure and human resources. Emergency trauma care has been the least satisfied domain of the qualitative service provision for general surgeons, when compared to elective surgery and emergency non-trauma surgical services. In the absence of a trauma registry and lack of clinical or patient reported outcome data following automobile injuries and major trauma in general, we are unaware of failures and successes in trauma care end results in the island. Economic burden created by road traffic trauma has never been studied before in Sri Lanka, for us to have estimations or predictions. In simple terms, we are unaware of the quality of trauma care provided in Sri Lanka, including road traffic trauma.

In the Sri Lankan setting, the enhanced motor vehicle safety standards would only be strengthening the safety of already 'somewhat' protected minority of road users travelling in motor cars while majority of VRUs on foot or 2-3 wheelers are being left unprotected. Several previous studies from Sri Lanka have suggested the need to lessen the load of VRUs by reducing the number of 2-3 wheelers on the road. Multifactorial complex socio-economic concerns appear to have superseded suggested injury prevention strategies. Thus, it is the duty of the relevant stakeholders to implement much-needed action to reduce the number of VRUs and to improve the safety standards of the VRUs on the road to make a better impact on overall injury/death prevention related to road traffic trauma in Sri Lanka. Essential strict implementation of legislation against alcohol and drug related driving offences, emphasis on lane discipline with separate cycle tracks and bus lanes, provision of safety kerbs and protected road crossings for pedestrians and stern implementation of helmet laws for motorcyclists etc. appear to be important domains needing urgent attention. Educating the public on these concerns, with special emphasis on youth would also be an important aspect during a sustainable automobile injury prevention process. Road traffic injury prevention in Sri Lanka requires short and long term strategies implemented in a multidimensional approach with consensus of the government, legislative authorities, relevant professional organizations and public. There is an overdue need to establish a national trauma registry to guide scientific policy planning pertaining to trauma care in Sri Lanka. Professional bodies in the caliber of Sri Lanka Medical Association and academic Colleges of Surgeons, Epidemiologists, Administrators, Anaesthesiologists and other relevant specialties need to actively take part in related policy planning, in order to achieve optimal and sustainable outcomes in injury prevention and post incident care related to road traffic trauma in Sri Lanka.

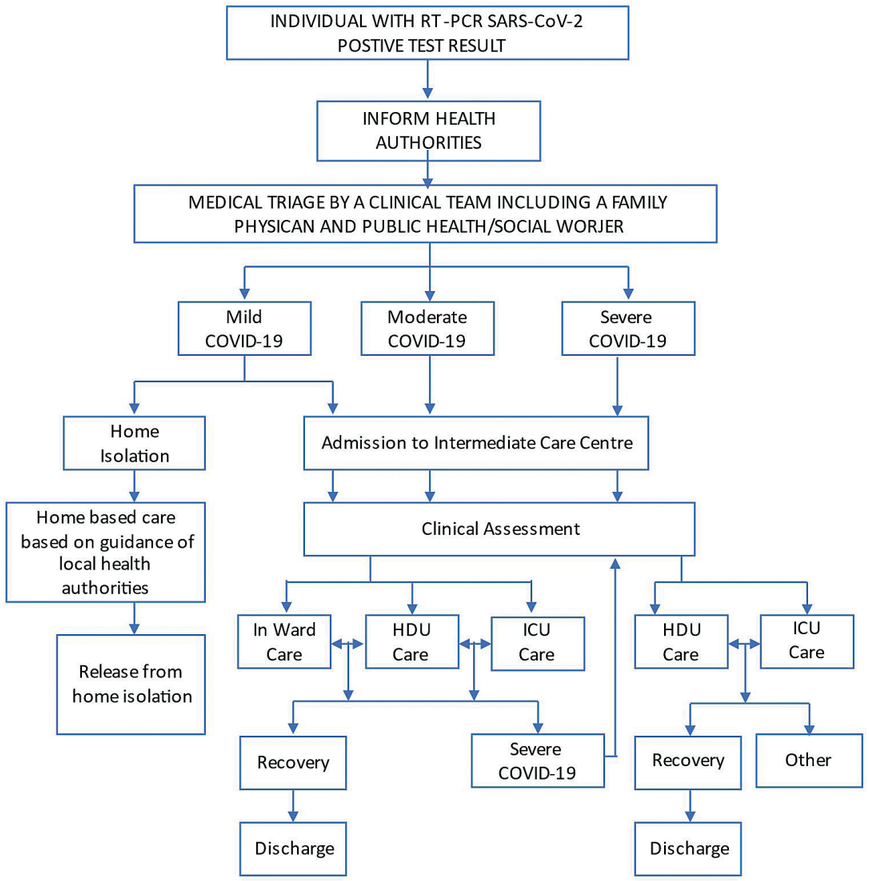
Home as a clinical setting for asymptomatic mild Covid-19 positive patients: What you should know

Dr.Ruvaiz Haniffa
Head, Department of Family Medicine,
Faculty of Medicine,
University of Colombo
(and Past President of the SLMA-2018)

Introduction

Most people with COVID-19 develop only a mild or uncomplicated illness that can be managed at the primary care level, and as such, the demand for primary care services will escalate during periods of increased transmission. Health policymakers at the national and subnational level will need to take appropriate action to support the role of primary care in the response, such as managing mild COVID-19 cases or recovery of hospitalized cases, identifying strategies to increase surge capacity, managing and maintaining stocks of personal protective equipment (PPE) and other essential supplies, and maintenance of essential services, while ensuring timely adaptation to address the needs of vul-

Algorithm for Referral For Home Isolation and/or Intermediate Care /Hospital Care of COVID-19 Positive Patients



FACTORS TO CONSIDER WHEN ASSESSNG HOME AS CLINICAL SETTING FOR COVID-19 CARE

- Is the person with COVID-19 living alone? If so, what support network do they have? If not, who is living in the household with them?
- How is the person with COVID-19 and their family living? How feasible and practical would it be to implement recommendations? What alternative options are available?
- What are the needs related to disability, caring responsibilities for adults, older adults or children? What are the needs of other household members?
- How feasible is it for one caregiver to be identified to support the person with COVID-19 at home?
- What do household members know about COVID-19 and preventing transmission in the home? What are their information needs about COVID-19 and transmission prevention? Does the household know where to seek additional support or information related to care for the person with COVID-19 if needed?
- What does the person with COVID-19 and/or their household members think they need to be able to cope at home?
- Does the family understand when to call for medical assistance? Do they have the means to call for medical assistance?
- What are the psychosocial needs of the person with COVID-19 and household members? What support is available to them related to coping with the emotional impact or fear of stigma?
- What is the economic impact on the household? Who is the primary provider financially? What is the impact if that person needs to be isolated and/or to carry additional household or care responsibilities?
- Which health facility and, if possible, named professional is responsible for following up the care of the person with COVID-19? How will follow up of this care be maintained?

nerable groups.

With the rapidly increasing incidence of COVID-19 in Sri Lanka, and the health systems' possible inability to provide in-hospital care for PCR positive COVID-19 patients; the HOME as a setting for clinical care provision for asymptomatic mild COVID -19 patients may indeed become possible or even necessary. In this context pre-emptive planning for provision of home-based care for carefully clinically triaged and selected patients becomes important.

As per the World Health Organisation (WHO), COVID-19 is classified into 3 clinical entities: mild, moderate, and severe (Fig.1). People classified as having mild COIVID-19 with no symptoms should be able to stay at home, if adequately isolated from others. This also implies that if you are symptomatic even with mild COVID-19 you will require hospital admission.

Decision to care for COVID-19 patients at home

This decision cannot, and should not, be made by the patient or the family. This decision must be made after clinical triage by a healthcare team which must include a family physician and a social worker who are aware of the patient's physical home infrastructure, in addition to the past and current health status of the patient.

Home care should be considered for an adult or child with confirmed COIVD-19 when in-patient care is unviable or unsafe (e.g. when heath care service capacity is insufficient). It must be understood that home care increases the risk of transmitting the virus to others at home. However, isolation of people at home and using the home as a clinical setting to provide care to carefully selected patients can make an important contribution to breaking the chain of transmission of the virus.

Home care (provided the essential requirements are fulfilled) should ideally be considered for individuals under the age of 60yrs, who do not smoke, are not obese and have no other diseases such as cardiovascular diseases, diabetes mellitus, chronic lung disease, cancer, chronic kidney disease or are immune suppressed.

The decision as to isolate and care for an infected person at home depends on the following 3 factors.

1. Clinical evaluation of the COVID-19 patient
2. Evaluation of the home setting (Please see Box 1). In the Sri Lankan context of considering home as a clinical setting for COVID-19 home care, the following, in addition to those in Box 1, should also be considered.

2.1. Adequate floor space area with a minimum of two individual rooms, adequate natural ventilation and two toilets

2.2. Home should preferably have access to running water.

3. The infected patient/family should be equipped with communication facilities to contact healthcare providers routinely and in an emergency.Ability to monitor the clinical evolution of the person at home.

What to monitor in a COVID-19 positive patient receiving home care

The patient and care giver must be advised about the signs and symptoms of complications or how to recognize deterioration in their health status that requires medical attention.

The most important parameters to monitor in the home setting are fever, difficulty in breathing, fast or shallow breathing, blue lips or face, chest pain or pressure, confusion (which was not present earlier), inability to wake up, inability to interact when awake and inability to drink or keep liquids down. For infants, in addition to these, grunting and inability to breast feed also must be considered. (Please note this list is not an exhaustive list and if you have any doubt, please contact healthcare team immediately)

Home pulse oximetry is a safe, non-invasive way to assess oxygen saturation in the blood and can support the early identification of low oxygen levels in patients with initially mild or moderate COVID-19 or when a patient does not appear to be short of breath but their oxygen levels are lower than expected (Silent Hypoxia). Home pulse oximetry can identify individuals in need of medical evaluation, oxygen therapy or hospitalization, even before they show clinical signs of worsening or symptoms.

This author is of the view that if home care for mild asymptomatic COVID-19 positive patient is recommended the minimum requirement should also include the possession or access to a finger-probe pulse oximeter.

What should be done to prevent other people in the house from becoming sick if a person with COVID-19 is being cared for at home?

It is highly recommended that the patient, caregiver/s are given a simple and short orientation programme to use the provided equipment and to create awareness on the 'red-flag' signs to look out for and contact the primary health care provider for further instructions.

> The article is entirely based on the two reference WHO documents (given under reference) and the algorithms operating in Sri Lanka for handling COVID 19 positive patients. This article also contains evidence based expert opinion on the need for use of finger pulse oximeter for home monitoring of COVID positive patients and the experience of the author who has 20 years' experience in delivering Family Medicine care to patients in Sri Lanka - both in the state and private sector.

There are several precautions that can prevent the spread of COVID-19 to other people in the house:

The ill person should stay in a separate room. If this is not possible, then keep at least a one-metre distance from them. The sick person and anyone else in the same room should wear a medical mask.

Provide good ventilation in the room of the ill person and shared spaces, and open windows if possible and safe to do so.

- The ill person should wear a medical mask as much as possible, in particular when not alone in the room and when at least a one-metre distance from others cannot be maintained. Limit the patient's movement around the house and minimize shared spaces. Ensure shared spaces (e.g. kitchen, bathroom) are well ventilated.
- Visitors should not be allowed in the home.
- Limit the number of caregivers to one person with no underlying comorbid conditions, if at all possible.
- Caregivers and household members should wear a medical mask while in the same room with an ill person, not touch their mask or face during use, discard the mask after leaving the room, and wash their hands immediately afterwards.
- The ill person should have dedicated dishes, cups, eating utensils, towels and bed linen. They should be washed with soap and water, and not shared.
- Frequently touched surfaces by the ill person should be cleaned and disinfected at least daily.
- Everyone in the household should wash their hands with soap and water regularly, and especially:
  - after coughing or sneezing
  - before, during and after you prepare food
  - before eating
  - after using the toilet
  - before and after caring for the ill person
  - when hands are visibly dirty
- A cough or sneeze should be covered with a flexed elbow or a disposable tissue that is discarded immediately after use.
- The waste from the ill person should be packed in strong closed bags before disposal.

The household (patient and care giver/s) should be encouraged to have a steady supply of masks

(essential and 3 ply surgical mask would do), face shield (optional), disposable or washable overalls (optional), 70% alcohol hand sanitizer (optional in the presence of clean running water and soap)

How long should people with COVID-19 stay at home and be in isolation?

People with COVID-19 who are cared for at home should stay in isolation until they are no longer able to transmit the virus to others:

Those with symptoms should stay isolated for a minimum of 10 days after the first day they developed symptoms, plus another 3 days after the end of symptoms, i.e. when they are without fever and without respiratory symptoms.

People without symptoms should stay isolated for a minimum of 10 days after testing positive.

Please check with you Family Physician/PHI for updated release from home isolation guidelines as they are subject to repeated updates.

Conclusion

Primary care is an essential foundation for the global response to COVID-19. Primary care plays a significant role in gatekeeping and clinical responses, identifying and triaging possible COVID-19 cases, making an early diagnosis, helping vulnerable people cope with their anxiety about the virus, and reducing the demand for hospital services. The role of primary care has become increasingly important as cities imposed strict control measures including non-pharmaceutical interventions and as larger hospitals closed their outpatient departments during periods of increased transmission.

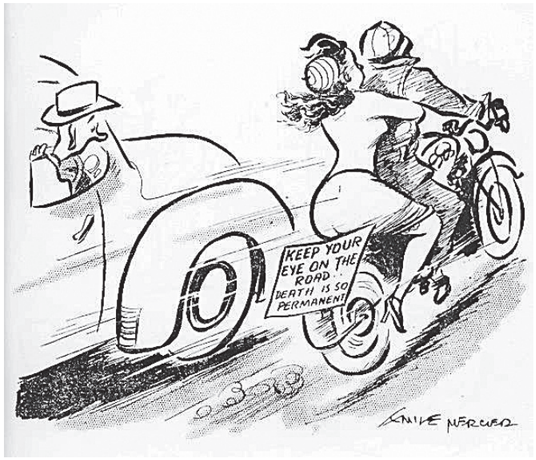
There also is an increasing role of home care for COVID-19 cases within communities supported by a strong primary care system, which strengthens the trust between health-care workers and communities. A response built around primary is also a more cost-effective measure.

The SARS-CoV-2 Virus is doing its job. Are we as individuals, families and communities doing our job to prevent the spread of the virus? None of us will be safe until all of us are safe.

The government/health authorities by allowing home care of mild or asymptomatic COVID-19 patients are taking us, the people of Sri Lanka into their confidence, and giving us the responsibility to actually be a part of the clinical care process of COVID-19 management in Sri Lanka. Let us not disappoint the government/health authorities by misusing, manipulating, and abusing the trust they have placed in us. Let us show them that, we the people of Sri Lanka, if given responsibility, we will cooperate and deliver on it in the context of home care for COVID-19 patients.

REFERENCES

1. Home care for patients with suspected or confirmed COVID-19 and management of their contacts. Interim guidance 12th August 2020. Updated 2nd March 2021.
2. Role of primary care in the COVID-19 response. Interim guidance. Revised and republished as of April 9th, 2021 (Originally published 26th March 2020).



JOKES

Sri Lankan Cricket Team refuses virgin sponsorship!

Billionaire Virgin Airlines boss Richard Branson offered to sponsor the Sri Lankan cricket team, currently reeling after a string of tournament defeats.

However, the embattled Sri Lankan Cricket Board had to politely refuse the generous multi-million-pound offer by the cricket magnate.

As one harassed Board official snapped: "We cannot have 'VIRGIN' written on our shirts, when we get screwed in every match!"

From an e-mail sent by Professor Sanath P. Lamabadusuriya

Extracted and sent by Dr B. J. C. Perera

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Guidelines

- The title of the innovation with the category should be mentioned at the top.
- Author(s) - Last name followed by initial(s). Underline the name of the presenting author.
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- Font - Times New Romans, Size 12, Single line spacing.
- The body of the Abstract should not exceed 400 words and structured with following subheadings:
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- Upload the abstract as an MS Word Document

Send your innovation to the following google link:

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Closing Date - 30th June 2021

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WWW.SLMA.LK

“WIJERAMA HOUSE”,

NO. 6, WIJERAMA MAWATHA,
COLOMBO 07,

+94 112 693 324,
office@slma.lk