

Editorial

COVID-19: A peril unsurpassed in living memory

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The coronavirus infection that originated in the Wuhan Province in China in late 2019, and spread rapidly to most of the other countries of the globe, has caused mayhem in many areas of the world. The impact of the virus medically has been devastating while the social consequences, as well as the economic implications too, are quite overwhelming. The scientific name of the virus is Severe Acute Respiratory Syndrome Corona Virus 2 (**SARS-CoV-2**) and the illness caused by it is called Corona Virus Disease-19 (**COVID-19**).

This little bug has brought even powerful nations to their knees. Large numbers of people have been infected and many deaths have been reported in the countries into which this virus has spread. The vast majority of the deaths have been in older and elderly people with other co-morbid conditions. The Latin word '*corona*' refers to a glowing circle or a ring of light around a luminous object or any structure that resembles a crown in shape¹. In the context of the current epidemic of the coronavirus, especially because of its enhanced infectivity, it is perhaps more appropriate for it to be most fittingly labelled as a veritable 'ring of fire'. From the time the virus emerged as a threat in China, the march of events right around the world, has compelled the World Health Organisation to declare the coronavirus crisis as a pandemic in mid-March 2020². The evolving situation seemed to be able to move very fast indeed. The global case fatality rate at that time was 3.7% and the hospital fatality rate of those admitted with the proven coronavirus infection was 15%. By 23rd March 2020, it has spread to 192 countries, affected over 300,000 people and caused over 15,000 deaths. The numbers affected and the numbers of deaths have now gone through the roof. The Sri Lankan authorities are currently involved in a committed and admirable venture to prevent extensive community spread of the disease. It is a time of unprecedented challenges for everybody, most particularly to our health service, and also to the society in general. Life has changed, quite suddenly. Uncertainty feeds anxiety and it is quite certain that nobody could deny feeling overwhelmed at times by the COVID-19 pandemic.

The scientific information available globally is evolving by the hour and is still in a state of flux. None of the material could be classified as written in stone and may change quite significantly from

time to time. Most of the available scientific information is on adults. Many reputed scientific academic journals have fast-tracked the material on the disease and presented them to the scientific community as soon as possible. We now know for sure that the full spectrum of the disease ranges from mild and self-limiting respiratory tract illnesses to severe progressive pneumonia, respiratory failure, adverse multi-organ disturbances, and death.

It is recognised that data regarding the epidemiologic characteristics and clinical features of infected children are still very limited and scarce. It is generally assumed that the virus may be able to infect children to the same extent as adults. There is really no reason to doubt this perception. Evidence from China³ now suggests that this is indeed so and it is also confirmed by the current Italian experience³.

However, there appears to be a difference in the level to which the actual symptomatic disease can produce major complications in children. Young patients do not seem to be affected to the same extent as adults³. Yet for all that, there are certain vulnerable groups amongst children as well. These include those who already have some lung and respiratory problems, as well as those with impaired immunity. Those children with pre-existing respiratory disorders, mainly chronic diseases are more susceptible to develop major respiratory complications of COVID-19. Those who have impaired immunity, i.e. a disturbance of the inherent abilities to fight off infections, are also more vulnerable, for obvious reasons. We have to be extremely careful with all such susceptible groups of children as most of the children the world over who have exhibited severe disease needing artificial respiratory support have been in such groups.

The authorities have still not seen any evidence of vertical transmission of the virus from the pregnant mother to her unborn baby. Expert opinion is that the baby is unlikely to be exposed during pregnancy⁴. This has indeed been the case with other coronaviruses such as SARS-CoV and MERS-CoV. In a study in China on nine pregnant mothers with COVID-19, amniotic fluid, cord blood, neonatal throat swab, and breastmilk samples from six patients were tested for SARS-

CoV-2. All those samples tested negative for the virus⁵. Neither has there been any tangible evidence of transmission from the mother to the baby through breast milk. In a similar related vein, there are so far no major concerns regarding the possibility of the virus causing congenital malformations. However, these are very early days and the world authorities need to keep a close eye on these aspects. One theory that attempts to explain the lack of such transmission so far is based on the size of the virus particle. The virus particles or virions, are spherical and approximately 125 nanometres in diameter. It is postulated that the pores or openings in the placenta are smaller than this and the virus is therefore not able to get to the foetus. The pores in the milk glands too are smaller than 125 nanometres and the same contention regarding the lack of transmission through breast milk is thought to apply. However, these are just speculative concepts at present and there is no corroborating robust scientific evidence for these opinions; at least not as yet.

It has to be stressed that at least some of this information does not imply that the general public should assume a state of nonchalance and misplaced complacency regarding paediatric and adolescent COVID-19. It must be kept in mind that infected children, even if they are asymptomatic, or even if they have mild disease, are likely to shed considerable amounts of the viral load in their bodies to the environment and inanimate objects. Some studies in adults have indicated that asymptomatic persons with the virus can transmit it through even normal breathing⁶. There is no reason to believe that it may be different in children. There is evidence that some adult patients who recover show virus shedding up to even three weeks following recovery. There is no reason to believe that the situation would be different in the case of children and adolescents. In view of all these perceptions, affected children, even asymptomatic children, would be a danger to the community at large. Children, being such capricious creatures, are not likely to be all that careful in minimising or preventing transmission of the virus.

In a recent, rather disturbing development, there is some suspicion that a multi-system inflammatory disorder in children, seen mostly in Europe and USA, may be linked to COVID-19⁷. The Royal College of Paediatrics and Child Health (RCPCH) of the United Kingdom, as of 01-05-2020, has labelled it as **COVID-19 paediatric multisystem inflammatory syndrome**⁸. The affected children have overlapping features of toxic shock syndrome and atypical Kawasaki disease and had become quite ill. Most of them have been less than 15 years old. Although only some of the entire affected lot have been positive for SARS-CoV-2, they seem to

have other blood test parameters suggestive of COVID-19. Many have needed intensive care and a few have needed Extra Corporeal Membrane Oxygenation (ECMO). Some deaths have also been reported among the affected children⁹. There does not seem to be evidence of any other underlying co-morbidity in these affected children as well as in those children who succumbed to this condition. As to whether this problem is directly caused by the virus of COVID-19 or whether there is another as yet unidentified infectious pathogen that is involved in this complication is so far not definitely established.

Yet for all this, it must be reiterated that practising the highest standards of infection control at all times is essential to protect everybody from SARS-CoV-2 in society. Even without considering the children and adolescent groups only, such an axiom should be the compelling and overriding responsibility of all citizens of our Motherland as well, in a committed endeavour to control this blight. One cannot help but most firmly stress this, over and over, again and again.

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