Development of Remote Controlled Smart Appliance for Medical Support and Assistance – COVID-19 (MEDiMATE)

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At the beginning of the year 2020, COVID-19 created International Public Emergency and caused a worldwide outbreak. Social Distancing became an effective solution and an important remedial action to be adopted against the impact of coronavirus on mankind. This paper depicts the design and implementation of control methodologies for specific Remote Controlled Smart Appliance for Medical Support and Assistance (MEDiMATE), which is abundant in combatting the pandemic of COVID-19. These appliances reduce the risk of spreading the corona virus to the hospital staff from the COVID-19 infected patients. This appliance significantly reduces the risk of infectious disease transmission to frontline healthcare professionals by making it possible to visual inspection, triage, evaluation, monitoring, and treating patients being at a safer distance from patients. Also, this facilitates transferring food and goods to locations near patients, which indirectly saves the cost of personnel protective kits (PPE) to be worn by healthcare workers. The contribution of the medical and engineering come together to aid the healthcare system, healthcare workers and society to cater the COVID-19 situation. The proposed appliance was developed in a limited time, where professionals were lacking during the first wave in Sri Lanka. It was able to operate remotely by entertaining social distancing for healthcare professionals who work closer to COVID patients and at the same time reduced the huge cost involved with the PPE within. It was found out that healthcare professionals have to suffer due to many difficulties by working in the PPE, and it is understood that MEDiMATE is able to reduce such difficulties up to a certain level.

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