Even After Control of The Disease, Is There A Chance of Cross Infection After A Time Period.

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Abstract: The coronavirus (COVID-19) is a pandemic disease that had its origin last year and is a rapidly spreading disease across the world. COVID 19 is a viral infection, mostly affecting the respiratory tract of a healthy individual. Coronavirus is transmitted from an infected patient to a healthy individual through modes such as direct contact, droplet transmission etc. The symptoms of coronavirus are sore throat, shortness of breath and fever, loss of taste and smell sensations. Coronavirus infection may be a fatal illness as it has wiped out a huge number of the human population. Prevention against this pandemic includes social distancing, use of face masks to protect themselves and others from getting infected, avoiding public gatherings - social, cultural or religious. Strict precaution methods should be followed by every individual such as, washing hands regularly with hand washes or sanitisers to keep this infection under control. Relapse of the infection is common among people which depends on the incubation period of that specific disease. Each infection has its own incubation period. In this article, a current review has been done after extensively evaluating various related articles from different journal sources whether significantly after control of disease there is an opportunity of cross-contamination in an individual.

Keywords: COVID 19, pandemic, life-threatening, immune system, social distancing

INTRODUCTION

COVID 19, coronavirus is a perilous infection which affects people all over the world.(Shereen et al., 2020) COVID 19 which had its origin from China a year ago 2019 and is spreading rapidly among the individuals. This infection is moving quickly and affecting all individuals with weak immune systems or individuals in contact with an infected individual.[(Kumar, 2020) All the nations have begun infection testing and rewarding the patient with units known as a rapid kit test done.(Mitra and Mitra, 2020) Government of each state have made lockdown in isolating individuals to stay away from the infection spread. (Han et al., 2020) Coronavirus is not just a health crisis but all affecting the financial status of the individuals and the socioeconomic status of human by leaving profound scars in all the nations around the world.(Narain et al., 2020)

This infection is a dangerous disease that is spreading quickly around the globe crossing borders and affecting individuals. This infection has an incredible death rate as it spreads quicker when compared to any other infections.(Ness, 2020) This infection which began a year ago 2019 December has reduced the population rate to a greater extent. All the nations around the globe are losing their lives to this infection with no proper treatment. Instances of COVID - 19 are rising today(Mathews, no date; Gao et al., 2020) in all the nations moving like a wave - that may crash on those with least capacity to cope. COVID - 19 is substantially more than a wellbeing emergency that has focused on all of them in a nation. Our team has rich experience in research and we have collaborated with numerous authors over various topics in past decade (Deogade, Gupta and Ariga, 2018; Ezhilarasan, 2018; Ezhilarasan, Sokal and Najimi, 2018; Jeevanandan and Govindaraju, 2018; I et al., 2018; Menon et al., 2018; Prabakar et al., 2018; Rajeshkumar et al., 2018, 2019; Vishnu Prasad et al., 2018; Wahab et al., 2018; Dua et al., 2019; Duraisamy et al., 2019; Ezhilarasan, Apoorva and Ashok Vardhan, 2019; Gheena and Ezhilarasan, 2019; Malli Sureshbabu et al., 2019; Mehta et al., 2019; Panchal, Jeevanandan and Subramanian, 2019; Rajendran et al., 2019; Ramakrishnan, Dhanalakshmi and Subramanian, 2019; Sharma et al., 2019; Varghese, Ramesh and Veeraiyan, 2019; Gomathi et al., 2020; Samuel, Acharya and Rao, 2020)
COVID - 19 Symptoms
COVID 19 virus affects people of all age groups in different ways and is spreading rapidly around(Singh, 2020) the world. Commonly people affected with this deadly virus develop mild to moderate illness, at times recovering without even a hospitalisation.(Wilson and Jungner, 1968)(Kalaiselvi and Brundha, 2016) Most common symptoms of COVID 19 virus are fevers, dry cough.(Hannah et al., 2019) sore throat and shortness of breath. Other symptoms of COVID-19 include body pain, tiredness, aches, skin rashes (A Comparative Study- The Role of Skin and Nerve Biopsy in Hansen’s Disease, no date), diarrhoea and headache (Jarvis, 2008) and so on.(Kumar, Ashok Kumar and Brundha, 2016) Symptoms of COVID-19 are more severely shown in people with anaemia , low red blood (Quantitative Changes of Red Blood cells in Cancer Patients under Palliative Radiotherapy-A Retrospective Study, no date)cell count (Shreya and Brundha, 2017)decreasing, sickle cell anaemia patients and are easily prone to coronavirus. Mostly COVID -19 virus is asymptomatic for the first few days.(Narain et al., 2020) As the serious symptoms of this COVID 19 (Mp, Brundha and Nallaswamy, 2019) virus is shortness of breath and sore throat in an affected individual, normally an infected person will take up to 14 days for the symptoms to show up.(Ness, 2020)

Mode of transmission
The COVID - 19 is a respiratory viral infection which is transmitted through droplets of infected people to another individual.(Xia et al., 2015) Recent articles on COVID 19 virus have reviewed that primarily coronavirus is transmitted between people through respiratory droplets and contact routes such as surface of the environment or objects used by the infected person.(Mathews, no date) Dentists are also prone to coronavirus while treating the dental (10,3)anomalies (Prevalence of dental developmental anomalies among men and women and its psychological effect in a given population, no date) as they are in close contact with the oral fluids.(Timothy, Samyuktha and Brundha, 2019) (Knowledge and awareness of blood/body fluid spill management among the third year dental students, no date)This virus occurs through droplet transformation from an infected person or close contact with respiratory symptoms which includes cough or sneeze, to another individual.(Urban, Reader and Holtzhausen, no date)

Incubation Period
Every disease or infection has its own incubation period for its effect on an individual according to their virulence factor and the potential of each virus or bacteria. Like all microorganisms, even this virus COVID 19 has the incubation period from the time of exposure until the onset of symptoms.(Urban, Reader and Holtzhausen, no date; Mrudula, 2020) Surprisingly in some cases, coronavirus disease can be affected by a person with no symptoms in his body. Current reviews articles have suggested information that incubation period ranges from 1 to 15 days (with the median estimation of 5 to 6 days).(Gao et al., 2020) Therefore the normal incubation period of this COVID -19 virus can be as long as 14 days.

Relapse of infection
Cross infection occurs in an individual with a weak immune system. (Lango, 2020) There is a likelihood of relapse of infection to occur. Current reviews have stressed to know about coronavirus immunity and relapse of infection in cured individuals.(Pasqualon, 2020)Many articles have shown that even patients who are asymptomatic have been a victim to this novel virus. Test results from these patients(asymptomatic) have shown false negative results to COVID-19. A chance for cross infection always exists, “there is currently no evidence that people who have recovered from COVID 19 and having antibodies are protected from the second infection” (as suggested by WHO) (Bearman et al., 2017) Secondary infections is an innate risk factor of coronavirus,where diabetes mellitus (Preethikaa and Brundha, 2018),cardiac problem, cancers, haemoglobin level alterations, hypertension and PCOD (Awareness of polycystic ovarian disease among females of age group 30-50 years, no date). Coronavirus easily affects individuals already having the above mentioned deficiencies when compared to healthy individuals.

Prevention and treatment
As the pandemic COVID -19 is spreading across the world, it is more important to prevent the spread of the virus before it reaches. COVID-19 virus is dangerous and health care workers are more prone to COVID -19 as they are in contact with body and body fluids . Hence, disposing them and cleaning up with disinfectant and also using sanitizers is highly essential.(Godlee, 2017) The doctors who work in close contact with the infected patients and others for any symptoms of the virus should strictly follow check-up routines to avoid cross-infection. WHO, public health groups and all other NGOs are monitoring this pandemic disease with a serious note.
The government has passed lockdown all over the country for reducing this fast spreading coronavirus. And steps like virus testing and “treating the patient”, “carrying out contact tracing”, “limiting travels”, “quarantining citizens” and “cancelling all the large social gatherings like sports meeting concert schools.

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colleges (Prashaanthi and Brundha, 2018) and all the public gathering have been cancelled, to keep the virus at bay. (Ness, 2020) As for now, there is no specific treatment for COVID-19, but medicine and measures are taken for increasing immunity. There are many homeopathy immunity-boosting drinks known as khasura kudineer which is very effective and also tablets such as hydroxychloroquine imported newly for COVID-19 treatment and it's also equally important for the health workers, doctors and the dental staffs who are at more risk to be aware of using personal protective equipment (Awareness about personal protective equipments in hospital workers (sweepers and cleaners), no date) in treating patients. (Ferdioz J, 2016) The best way to prevent this virus is to eat healthily and increase the immunity levels and by staying home by maintaining social distancing from others.

**Guidelines To Prepare For Covid-19 In Health Care Units**

- These guidelines should be followed strictly even by one person in facilities having more than 100 residents to provide on-site ventilator or hemodialysis services. And smaller facilities should consider staffing the IPC programs based on the resident populations and facility services needed in it.
- CDC have started creating online training courses that can be used to orient each individual to this role at all nursing homes.
- CDC’s NHSN have started providing long term care facilities with a customised system in tracking the infections and providing preventing measures in a systematic way. Four pathways of LTCF COVID-19 module which includes:
  1. Resident impact and facility capacity
  2. Staff and personnel impact
  3. Supplies and personal protective equipment
  4. Ventilation system and supplies
- Data submissions weekly should be done to NHSN to meet CMC COVID-19 requirements.
- Providing information on COVID-19 in managing stress and anxiety.
- Regularly reviewing CDS’s infection control guidance for healthcare professionals about COVID-19 for the current information and ensuring the residents and staff are updated when these guidelines are changed.
- Barbers, wound care workers, podiatry, volunteers and health care people are commonly exposed to this virus so educating them and training them is important.
  1. Reminding the HCP not to report to work when they are ill.
  2. Reinforce adherence to standard IPC measures including hand hygiene, selection and correct use of personal protective equipment (PPE). And also having HCP demonstrate the use of PPE.
  3. CDC has created training modules for front-line staff that should be used to reinforce recommended practices from preventing the SARS-CoV-2 transmission and also from any other pathogens.
  4. Any new policies or procedures should be updated to the HCP.
- Educate families and residents about COVID-19, and the facility is taking steps to protect and their loved ones, restricting to any visitors and the residents and families should take steps in protecting themselves and also emphasizing the importance of hand hygiene and source control.
- HCP while in the facility, should wear facemasks.
  1. Generally cloth face covering are preferred for HCP as facemasks offer both protection and source control against the exposure of splashes and sprays of infectious material from others. Guidance on extended use and reuse of this facemasks should be made available. Cloth face covering should not be worn by HCP instead of a respirator or facemask if PPE is required.
  2. It's necessary for the residents to wear cloth face covering or facemask (if tolerated) whenever they leave their room, and also for procedures done outside the facility. Cloth face coverings are not recommended for people with breathing problems or unconscious patients, incapacitated or anyone who is unable to remove the mask without assistance. With all the categories described above, cloth face coverings should not be used on children below the age of 2.
- Visitors are permitted into the facility, only with masks covering them.
- Letters or emails to be sent to the families in reminding them not to visit people when ill or if someone is affected with COVID-19.
- Rather encouraging and facilitating alternative methods such as video conferencing and communication with the resident should be made.
- Visitors to check in with the front desk to be assessed for any symptoms prior to entry should be made.
  1. Screening visitors for fever (more than 100 degree fahrenheit), symptoms consistent with COVID-19, or known exposure to someone with COVID-19.
  2. Visitors should inform the facility if they have developed fever or any symptoms consistent with COVID-19 within 14 days of visiting the facility.
- Considerations for the public health response to COVID-19 in nursing homes.
● Depending on the prevalence of COVID-19 in the community ,self quarantining of the people should be done .so that the resident can be monitored for evidence of COVID-19.HCP should wear an N95 or higher - level respirator,eye protection ( like goggles or disposable face shields covering the front and sides of the face),gloves and gown when caring for these residents.Residents can be shifted from observation are to main facility if they are afebrile and without symptoms for 14 days after their admissions.Testing at the end of this period can be considered to increase certainty that the person is not infected.

● Residents should report if they have any symptoms or feel feverish consistent with COVID-19.

● Active monitoring of all the residents upon admission for fever and symptoms consistent with COVID-19,also on the assessment of oxygen saturation via pulse oximetry.If residents have fever or any symptoms with COVID-19 ,implement transmission - based precautions as described below:
  1. In older adults with COVID-19 may not show common symptoms of fever or any other respiratory symptoms .So less common symptoms can include new or worsening malaise, headache or new dizziness, loss of taste or smell.Additionally more than two temperatures greater than 99 degree fahrenheit can also be a sign of fever in these older adults.So ,identification of these symptoms should prompt isolation and furthermore evaluation for COVID-19.

● Every 72 hours ,the health department should notify residents or HCP with suspected or confirmed COVID-19,also residents with severe respiratory infection resulting in hospitalisation or death or more than 3 residents or HCP with new onset of respiratory symptoms.
  1. Respiratory infection surveil lance in long - term care facilities during an outbreak can be performed by referring to CDC resources.

● Information on clinical presentation and course of patients with COVID-19 are described in the Interim Clinical guidance for management of patients with confirmed coronavirus disease 2019(COVID-19). CDC also has developed guidance on evaluating and reporting persons under investigation (PUI).

● Based on evaluation of resident or prevalence of COVID-19 in the community ,if COVID-19 is suspected ,they should follow the Interim infection prevention and control Recommendations for patients with suspected or confirmed coronavirus disease 2019(COVID-19) in healthcare settings.And these guidance should be implemented immediately once COVID-19 is suspected.
  1. Residents with COVID-19 should be tested.
  2. Residents with known or suspected COVID-19 should not be placed into an airborne infection isolation room (AIR) rather should be placed in a private room with an attached bathroom.
  3. Residents with COVID-19 should be cared for in a dedicated unit or section of the facility with dedicated HCP.
  4. As roommates of residents with COVID-19 already be exposed, it is not recommended to place them with another resident until 14 days after their exposure, assuming they have not developed symptoms

● Residents suspected COVID-19 should be cared for in a dedicated unit or section of the facility.

● Incsd monitoring of ill residents,including assessment of symptoms ,oxygen saturation via pulse oximetry 3 times daily.

● Transport personnel and the receiving living facility should be notified about the suspected diagnosis prior to transfer.

Our institution is passionate about high quality evidence based research and has excelled in various fields ( Pc, Marimuthu and Devadoss, 2018; Ramesh et al., 2018; Vijayashree Priyadharsini, Smiline Giri and Paramasivam, 2018; Ezhilarasan, Apoorva and Ashok Vardhan, 2019; Ramadurai et al., 2019; Sridharan et al., 2019; Vijayashree Priyadharsini, 2019; Chandrasekar et al., 2020; Mathew et al., 2020; R et al., 2020; Samuel, 2021)

CONCLUSION
The COVID-19 pandemic disease is affecting all age groups with rapid spreading originating from Wuhan,China last year 2019. Crossing borders, this virus has taken many lives so far due to lack of proper or specific treatment and control of the disease. The most common symptoms are sore throat, dry cough, shortness in breathing and at times it is asymptomatic in patients.Even after cured from a disease ,there can be chances of cross infection as relapse of infection mainly depends on the immunity of an individual. Self-quarantine and social distancing and following the prevention methods only can stop or control the rapid spread of COVID-19 virus .A good immunity should be maintained by eating healthy food and staying healthy .Self quarantine is the best method of preventing COVID-19 virus and stopping its spread .

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