

SARS-CoV-19 and Healthcare-Associated Infections

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SARS-CoV-19 is a virus-related respiratory disease; the first readily transmissible and highly severe disease of the 21st century. It was identified in 2019 in China and spread to other countries. The airborne disease spreads through salivary droplets, just like influenza and cold. It can also spread through surfaces touched by an infected person. The disease affects all people despite their age or location. The Covid-19 pandemic has proven to be a challenge to health systems globally. National health systems are faced with various health emergencies relating to Covid-19. The disease also places a strain on health workers, especially following the various healthcare-associated infections relating to the pandemic.

A study done by (Marin-Corral & Pascual-Guardia, 2022) aimed to identify the Covid-19 healthcare-associated infections in patients admitted to different Covid-19 ICUs. The study was done on adult patients aged 18 years and above who were placed under hospitalization from 1st March to 5th August 2020. The study was an observational, retrospective, and single-center study. It entailed an evaluation of all urinary tract, nosocomial bacteremia, pressure ulcers, respiratory and tracheostomy site infections among patients admitted with Covid-19. The results showed that 158 Covid-19 patients, 29.5% of them had healthcare-associated infections. The most common infections noted among the patients included urinary tract infections (UTI), bloodstream infection (BSI), and viral lower respiratory tract Infections (VLRTI). There were a total of 144 microorganisms noted in the study results including enterococci, aeruginosa, and candida. Among the patients with healthcare-associated infections, 69.2% had more than one infection. However, it is vital to note that patients who tested positive for healthcare-associated infections did not have higher odds of demise.

A different study done by (Kumar, 2021) involved a total of 1565 Covid-19 patients. Of the total number of patients, 140 tested positive for healthcare-associated infections. There were 73 different organisms noted in the patients. Among the 140 healthcare-associated infections, 67 were pneumonia, 53 bacteremia, and 17 were UTI. 15 patients had bacteremia from multiple organisms, while 15 had bacteremia from a single organism. Among the HAIs, 39 of them were Gram-negative, while 23 were gram-positive, and 11 were fungal infections. In addition to the 140 patients already confirmed to be positive for HAI infections, an additional 118 instances are seen as possible infections. The results from the two studies show various healthcare-associated infections in Covid-19 patients. Despite being admitted to clean ICUs, the patients still tested positive for various infections.

Reasons behind the Healthcare-Associated Infections.

There are various reasons behind the high rates of healthcare-associated infections among Covid-19 patients. The reasons include structural reasons such as opening the hospital beds in other hospital areas, organizational reasons such as allowing a new team of healthcare providers to care for the Covid-19 patients without providing them with training on critical care; functional reasons such as changing patient care standards. In addition, the various organizational and care aspects in healthcare facilities can also motivate HAIs (McMullen, 2020). For example, the transfer of a patient from one ICU to another could predispose HAI development. Patient's susceptibility to infection can also be a factor. The illustrated reasons could make it difficult for those involved to adhere to the recommended measures provided by different scientific societies on preventing HAIs.

Renal replacement therapy (RRT) was noted to be a risk factor for healthcare-associated infections. RRT is viewed as a major risk factor for patients needing more than one venous

catheter. The process of managing and placing the catheter could trigger an infection (Aghjayan, 2021). In 16 patients in need of RRT, 10 had an episode of BSI relating to catheters or bacteriemia from an unidentified origin. Therefore, catheter placements, notably in patients needing RRT, should be done with quality care to avoid infections of the already ill patients.

Various nursing practices increase the risk of healthcare-associated infections. For example, caregivers who batch their tasks when caring for patients to reduce the use of personal protective equipment motivate the risk of infection. Batching tasks could lead to more tasks during visits, resulting in fatigue and pushing through vital and time-critical activities (Baccolini & Migliara, 2021). The critical activities include disinfecting access devices and needles. Several hospitals have implemented measures to help reduce the need for unnecessary entry into hospital rooms. They have configured innovations such as moving dialysis machines and medication pumps out of patient' rooms and setting them in the hallways. Such measures sort the problem of reducing personnel entering the room but could result in substandard infection prevention (IP) practices and medication administration risks. The substandard IP practices include the risk of contamination due to tubing laying on the floor. It is vital for patients' healthcare providers to maintain high standards of care when treating with Covid-19 patients to avoid any form of infection.

How to solve the risk of healthcare-associated infections among Covid-19 Patients.

Infection preventionists should implement measures to prevent the anticipated infections and to sustain factors aimed at decreasing other infections. IP should pay great attention to the innovative care measures being used by being part of the procedures' risk mitigation and decision-making strategi (Whitacre, 2022). In addition, the focus should also be placed on caregivers' hygiene, especially hand hygiene, particularly before and after body or blood fluid

procedures and cleaning of aseptic tasks. Infection preventionists should also encourage the use of catheter-associated urinary tract infections (CAUTI) and central line-associated blood stream infections (CLABSI) best prevention measures for newer, cross-trained staff and seasoned critical care staff. Environmental rounding should be prioritized in operating rooms, ancillary areas, and procedural areas. In addition, IP should ensure to continuously inform staff members to maintain critical infection prevention practices and maintain intensive cleaning measures.

SARS-CoV-19 is placing a strain on health workers, especially following the various healthcare-associated infections relating to the pandemic. Studies on HAI risk among Covid-19 patients consisted of evaluating all urinary tract, nosocomial bacteremia, pressure ulcers, and respiratory and tracheostomy site infections. The results showed that the most common infections include UTI, BSI, and VLRTI. Also, enterococci, aeruginosa, and candida microorganisms were noted. The reasons behind the high rates of healthcare-associated infections include structural reasons, organizational reasons, and functional reasons. RRT and nursing practices could also be risk factors for infections. As such, infection preventionists need to implement measures to prevent the infections. The measures include focusing on the innovative care measures and maintaining proper hygiene.

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