

## Reduction in Hospital Acquire Infections after Intervention of Hand Hygiene and Personal Protective Equipment at COVID Unit Indus Hospital Karachi

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**Abstract :** Introduction: Coronavirus Disease 2019 (COVID-19) is spreading rapidly around the world with devastating consequences on patients, health care workers and health systems. Severe 2019 novel coronavirus infectious disease (COVID-19) with pneumonia is associated with high rates of admission to the intensive care unit (ICU) and they are at high risk to obtain the hospital acquire bloodstream infection (HAIs) such as central line associated bloodstream infection (CLABSI), catheter associated urinary tract infections (CAUTI) and laboratory confirm bloodstream infection (LCBSI). The chances of infection transmission increase when healthcare worker's (HCWs) practice is inappropriate. Risk related to hand hygiene (HH) and personal protective equipment (PPE) as regards multidrug-resistant organism transmission: use of multiple gloving instead of HH and incorrect use of PPE can lead to a significant increase of device-related infections. As it reaches low- and middle-income countries, its effects could be even more, because it will be difficult for them to react aggressively to the pandemic. HAIs are one of the biggest medical concerns, resulting in increased mortality rates. Objective: To assess the effect of intervention on compliance of hand hygiene and PPE among HCWs reduce the rate of HAI in COVID-19 patients. Method: An interventional study was done between July to December, 2020. CLABSI, CAUTI and LCBSI data were collected from the medical record and direct observation. There were total of 50 Nurses, 18 doctors and all patients with laboratory-confirmed severe COVID-19 admitted to the hospital were included in this research study. Respiratory tract specimens were obtained after the first 48 h of ICU admission. Practices were observed after and before intervention. Education was provided based on WHO guidelines. Results: During the six months of study July to December, the rate of CLABSI, CAUTI and LCBSI pre and post intervention was reported. CLABSI rate decreased from 22.7 to 0, CAUTI rate was decreased from 1.6 to 0, LCBSI declined from 3.3 to 0 after implementation of intervention. Conclusion: HAIs are an important cause of morbidity and mortality. Most of the device related infections occurs due to lack of correct use of PPE and hand hygiene compliance. Hand hygiene and PPE is the most important measure to protect patients, through education it can be improved the correct use of PPE and hand hygiene compliance and can reduce the bacterial infection in COVID-19 patients.

**Keywords :** hospital acquire infection, healthcare workers, hand hygiene, personal protective equipment

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