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Assessing COVID-19 Prognostic Indicators in the Kingdom of Bahrain

Elizabeth J. Williamson*

Department of Hygiene and Tropical Medicine, Oxford University, London, UK

***Corresponding author:** Elizabeth J. Williamson, Department of Hygiene and Tropical Medicine, Oxford University, London, UK, E-Mail: Elizabeth@yahoo.com

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Description

Assesing the COVID-19 prognostic indicators is crucial to identify high risk group and is vital in order to establish admission ground basis and identify the level of care required as well as prevention of rapid progression and deterioration by providing the proper care level at the time of presentation . This study has been designed to assess the outcome of hospitalized COVID-19 patients across government medical institutions in the Kingdom of Bahrain to delineate any bad clinical representations based on demographic prognostic indicators and laboratory parameters [1].

A prospective observational analysis of all patients that were admitted with confirmed COVID-19 disease at different COVID governmental treating institutions throughout the Kingdom of Bahrain over a period of nine (9) consecutive months (February to October 2020). During the months of February and October 2020, it was estimated that 490 patients were admitted at the governmental COVID-19 isolation and treatment centers. Male predominance as well as old age were the most common risk factors. However, the latter was noticed to show no significant difference between ICU and non-ICU group. Among the comorbidities, diabetes was the commonest, although immuno-compromised state, respiratory diseases and hypertension were associated with higher risk of ICU admissions. Added to that, the clinical presentation had an impact on the outcome, as higher rates of ICU admissions were reported with fever, cough, and shortness of breath. (p value of 0.003, 0.001 & 0.001 respectively). Moreover, high inflammatory markers reflecting the presence of a cytokine storm were noticed among ICU patients [2].

Leukocytosis and Elevated Inflammatory

It was found out that both the male gender as well as the comorbidities such as immuno-compromised status of admitted patients, respiratory diseases and/or hypertension reflected an independent risk factor for the severity of COVID-19 disease amidst adults. That, while clinical and laboratory indicators for the disease progression to a severe one included fever, cough and shortness of breath with presence of leukocytosis and elevated inflammatory markers such as D-Dimer, LDH, Ferritin and ESR. This is the third edition of WHO's interim guidance on infection prevention and control (IPC) strategies during health care when coronavirus disease (COVID-19) is suspected or confirmed. The first edition was adapted from WHO's interim guidance on Infection prevention and control during health care for probable or confirmed cases of Middle East respiratory syndrome coronavirus (MERS-CoV) infection, 1 and on Infection prevention and control of epidemic- and pandemic-prone acute respiratory infections in health care. 2 The rationale for this updated edition has been to expand the scope and structure of earlier guidance, bringing together other interim recommendations as well as considerations and advice from subject matter experts [3].

To mount an optimal response to the COVID-19 outbreak using the strategies and practices recommended in this document, a facility level IPC programme with a dedicated and trained team or at least an IPC focal point should be in place and supported by the national and facility senior management.3 In countries where IPC is limited or inexistent, it is critical to start by ensuring that at least basic IPC standards are in place at the national and health-care facility level to provide minimum protection to patients, health workers and visitors. These are known as the minimum requirements for IPC that have been developed by WHO in 20194 based on a broad consensus among international experts and institutions to facilitate the implementation of the WHO recommendations on the core components for IPC programmes. 3 Achieving the IPC minimum requirements as well as more robust and comprehensive IPC programmes according to the WHO core components across the whole health system in all countries is essential to sustain efforts to control the COVID-19 pandemic, other emerging infectious diseases health care-associated infections and antimicrobial resistance [4].

According to current evidence, SARS-CoV-2, the virus that causes COVID-19, is primarily transmitted between people through respiratory droplets and contact routes.17-22 Droplet transmission occurs when a person is in close contact (within 1 m) of someone with respiratory symptoms (e.g. coughing or sneezing) and is therefore at risk of having his/her mucosae (mouth and nose) or conjunctiva (eyes) exposed to potentially infective respiratory droplets. Transmission may also occur through fomites in the immediate environment around the infected person. Therefore, transmission of the COVID-19 virus may occur by direct contact with infected people and indirect contact with surfaces in the immediate environment or with objects used on the infected person (e.g. stethoscope or thermometer). Airborne transmission is different from droplet transmission as it refers to the presence of microbes within

droplet nuclei. Droplet nuclei are generally considered to be particles. Some AGPs have been associated with an increased risk of transmission of coronaviruses (SARS-CoV-1, SARS-CoV-2 and MERS-CoV). The current WHO list of these AGPs is: tracheal intubation, non-invasive ventilation (e.g. BiPAP, CPAP), tracheotomy, cardiopulmonary resuscitation, manual ventilation before intubation, bronchoscopy, sputum induction induced by using nebulized hypertonic saline, and autopsy procedures [5].

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