COVID-19; MOLECULAR DIAGNOSIS, PREVALENCE AND CONTROL IN SUDAN (REVIEW)

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ABSTRACT

The last day of 2019 delivered the first report to the World Health Organization (WHO) about a group of cases of pneumonia of unknown etiology in Wuhan, China. Subsequent investigations identified the new comer; a novel corona virus related to severe acute respiratory syndrome corona virus (SARS-CoV) and thus was termed as SARS-CoV-2. Being very contagious, the new virus led the era of "COVID-19" which is the acronym of "corona virus disease 2019,". Globally , as of 4:14pm CEST,14 October 2020 ,there have been 38,002,699 confirmed cases of COVID 19, including 1,083,234 deaths, where as in the Sudan ,from Jan 3 to 4:14 pm CEST, there have been 13,691 confirmed cases with 836 deaths reported to WHO. Validated and accurate laboratory testing for Severe Acute Respiratory Syndrome Corona virus 2 (SARS-CoV-2) is a crucial part of the timely management of COVID-19, supporting the clinical decision-making process for infection control at the healthcare level and detecting asymptomatic cases. Rapid and accurate molecular diagnostic technologies are crucial for the screening, isolation, treatment, prevention and control of COVID-19. Currently, nucleic acid detection-based techniques and rapid diagnostic tests that detect antigens or antibodies specific to 2019-nCoV infections are the primary diagnostic tools. In this article, we provide a molecular overview on the SARS-CoV-2 virus and summarize tremendous efforts that have been made to develop a rapid confirmatory diagnostic test for COVID-19, also in this article we aim to present a critical performance analysis of commercially available molecular diagnostics and reviews major factors influencing their diagnostic performance .

Keywords: Molecular diagnosis , COVID-19 Prevalence , COVID-19 Control, 2019-nCoV, RT-PCR.