

Diagnostic Testing of Corona Virus Disease 2019 (COVID-19): A Challenge to the Developing Nations

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Abstract: *Pneumonia of unknown origin is reported in Wuhan on December 2019. The laboratory result is negative for respiratory infections and later it confirmed to be a novel enveloped RNA betacoronavirus now known as SARS-Cov-2. There are 693,224 cases of COVID-19 worldwide as of 30th March, 2020 with 33,106 deaths globally. USA has 122,653 which is highest globally and Italy highest number of death 10,781 as of 30th March 2020. Africa and other developing countries has highest risk of introduction and spreading of this pandemic disease but record lower number of confirmed cases so far. Nigeria has 139 confirmed cases of COVID-19 as of 30th March 2020 out of which 9 have been recovered, 128 receiving care and 2 deaths. There are 5 laboratories for testing COVID-19 in Nigeria and has a capacity for testing 1500 sample per day as of 11th March 2020. No approved COVID-19 Rapid Test Kit in Nigeria. India has a total of 649 cases in which 42 recovered, 594 receiving treatment and 13 deaths as of 26th March 2020, 13,143 samples has been tested in India on 8th April 2020 alone. There are 157 laboratories for testing COVID-19 in India as of 27th March, 2020. Algeria has 454 cases of COVID-19 out of which 29 deaths as of 30th March, 2020 and there is 5 laboratories for testing COVID-19 in Algeria as of 10th March, 2020. Pakistan has 1625 COVID-19 cases as of 30th March, 2020 out of which 18 cases deaths. Pakistan has 14 laboratories for testing COVID-19 as of 30th March, 2020. The low number of COVID-19 positive cases recorded in most of these developing country it may be due to lower level of laboratory testing and reporting. Some of these developing countries have insufficient resources to scale up testing and this lead to limited laboratory capacities.*

Keywords: Pneumonia, pneumonia, Betacoronavirus, SARS-Cov-2

1. Introduction

A Chinese health authorities examined a case of pneumonia of unknown origin in Wuhan, Hubei province, in December 2019¹. The laboratory results appear negative when tested for respiratory infections. Later the pathogen has been discovered as a novel enveloped RNA beta coronavirus, which has phylogenetic similarity to SARS-CoV and it is currently named as SARS-CoV-2 by the international Committee on Taxonomy of Viruses². The illness caused by SARS-CoV-2 was named coronavirus disease-2019 (COVID-19) by the World Health Organisation (WHO).

As of 30th March, 2020, about 693,224 cases of COVID-19 has been confirmed worldwide out of which 33,106 death have been recorded. With USA having the highest number of confirmed cases with about 122,653 and Italy having the highest number of deaths with about 10,781³.

Although Africa and other developing countries recorded lowest number of confirmed cases of COVID-19 so far, they also have the highest risk for introduction and spread of this pandemic disease⁴.

Diagnostics Testing of COVID-19 in Developing Countries

As of 30th March 2020, the Nigeria Centre for Disease Control (NCDC) has confirmed a 139 confirmed cases of COVID-19 in Nigeria in which 9 (7%) have been recovered, 128 (92%) receiving care and 2 (1%) deaths⁵. According to World Health Organisation (WHO), there are five (5) laboratories that has the capacity for testing COVID-19 in Nigeria as of 11th March 2020⁶ and those laboratories has a

capacity for testing 1500 cases per day, also there is no approved COVID-19 Rapid Test Kit (RTK) in the country⁵.

As of 26th March 2020, the Indian Council of Medical Research and Ministry of Family Welfare has confirmed a total of 649 cases so far, in which 42 (6%) recovered, 594 (92%) receiving treatment and 13 (2%) deaths. The India COVID-19 infection rate is reported to be 1.7, which is relatively lower than the worst affected countries⁷. A data published online by statista.com claimed that around 13,143 samples for COVID-19 has been tested in India on 8th April 2020 alone, which of 320 (2%) samples were confirmed to be positive⁸. According to India Council of Medical Research (ICMR), 157 laboratories are gearing up to conduct testing for COVID-19 in India as of 27th March, 2020⁹.

As of 30th March, 2020 Algeria recorded 454 confirmed cases of COVID-19, in which 29 (6%) deaths³. There are 5 laboratories that have capacity for in testing COVID-19 in Algeria as of 10th March, 2020⁶.

Pakistan recorded a total of 1625 confirmed COVID-19 cases as of 30th March, 2020, among which 18 (1%) cases deaths³. As of 30th March, 2020 there are only 14 laboratories for testing COVID-19 in Pakistan¹⁰.

2. Conclusion

The low number of COVID-19 positive cases recorded in most of these developing countries it may be due to lower level of laboratory testing and reporting. Some of these developing countries have insufficient resources to scale up testing and this lead to limited laboratory capacities.

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