

All about COVID-19 what do we know?

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1. INTRODUCTION

In December 31st 2019, China alerted WHO several flu like cases. As we know the flu has been occurring since decades but the cases were exceptional at those times. January 5th 2020 WHO put travel restrictions so that the flu would not transfer from one country to another. Amid the fear lockdown was made. In January 1st 2020 first death was reported from the same flu that had started in December 2019. On January 7th the virus was identified as novel-corona virus. The number morbidity and mortality was increasing day by day. In January 31st it was public health emergency of international concern. Seeing the epidemic and possible pandemic WHO strategic preparedness and response plan was released in February 3rd. And on February 4th there was request activation of UN crisis management policy to establish a crisis management team. On February 6th WHO briefed on strategic preparedness and response plan. On February 11th the new name was given COVID-19. And on February 12th strategic preparedness and response plan operational planning guide was released.

The main aim of the plan was to support the UN country team in providing guidance to national governments and partners in scaling up response to COVID-19. And three core response strategies are to rapidly establish international coordinates and operational support. Scaling up country readiness and response operation and accelerating priority research and innovation.

2. ABOUT THE DISEASE COVID-19

It is an acute viral illness caused by severe acute respiratory syndrome CoV-2(SARS-CoV-2). It is related to group of coronaviruses that cause disease in mammals and birds. Similar to the recent pandemic there was severe acute respiratory syndrome (SARS) in 2003 and Middle east respiratory syndrome (MERS) in 2012. They are enveloped viruses with a positive-sense single-stranded RNA genome. The name coronavirus is derived

from the Latin corona, meaning crown, which refers to the characteristic appearance reminiscent of a solar corona around the virions.

3. TRANSMISSION OF THE VIRUS

It is transmitted by droplet infection by sneezing, coughing and contamination of fomites and surface articles. It infects human cells by attaching to the angiotensin-converting enzyme 2 (ACE2) receptor. The incubation period of the virus ranges from two to fourteen days and main risks to the viruses are health care personnel, 60+ age groups, immunocompromised patients, children and those with malignancy. The symptoms can range from mild viral prodrome like dry cough, fever, malaise to severe lethal consequences like pneumonia, kidney failure and death.

4. DIAGNOSIS

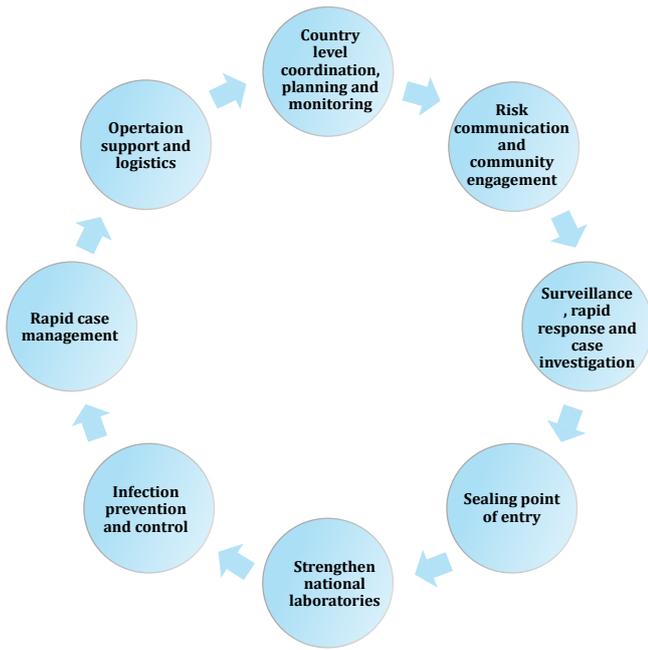
The diagnosis is done by two methods RT-PCR and detection of the antibodies in the serum. In clinical settings RT-PCR is best method and antibodies detection should be limited to surveillance. No any cure is made till now nor vaccine is made and the treatment is symptomatic.

5. PREVENTION OF THE DISEASE

- Cover mouth and nose while sneezing and coughing
- Avoid close contacts
- Use PPE while in health care facility
- Cook the foods thoroughly
- Stay at home during epidemic
- Seek early medical advice amid symptoms

6. EIGHT PILLARS TO STOP OUTBREAK, EPIDEMIC AND PANDEMIC

The eight pillars to stop any possible outbreak, epidemic and pandemic are given as below:



7. THE PROTOCOL FOR THE INVESTIGATION OF THE CASES ACCORDING TO WHO

<p>Objectives of the investigation</p>	<p>The objectives of any investigation of a suspected COVID-19 case include:</p> <ul style="list-style-type: none"> • Rapidly detect COVID-19 and any evidence of human-to-human transmission among contacts • Reduce human-to-human transmission, prevent outbreaks, and delay the spread of disease 	<p>Investigation case definition</p>	<ul style="list-style-type: none"> • Adjust national/WHO case definitions³ for the purpose of investigation (define time, person, place) for additional case finding and contact tracing (Figure)
<p>Composition, protection of and tools for the investigative team</p>	<p>Composition Personnel with the capacity, knowledge, and authority to:</p> <ul style="list-style-type: none"> • Interview persons with suspected COVID-19 and conduct contact tracing • Triage suspected COVID-19 cases and contacts for health care depending on clinical condition • Collect respiratory specimens from suspected COVID-19 cases • Recommend and implement measures to prevent further transmission <p>Protection The COVID-19 virus is spread through contact, droplet, and fomites. To minimize risk of infection of the investigation team:</p> <ul style="list-style-type: none"> • Optimize size of team to minimize contact with a suspected COVID-19 case • Ensure all those in the investigation team are trained in IPC measures specific to COVID-19 • Interview suspected cases and contacts over the phone, if feasible, or at a distance of more than One metre. <p>Tools</p> <ul style="list-style-type: none"> • Provide sufficient and appropriate PPE² • Gather biological specimen collection material, transport containers, viral transport media, labels, bags, coolers, and cold packs • Gather copies of case investigation protocols, questionnaires, contact tracing and monitoring tools, and the national case definition 	<p>Contact Tracing</p>	<p>Identify all social, familial, work, and health care worker contacts who have had contact⁸ with a confirmed case from two days before symptom onset of the case and up to fourteen days after their symptom onset. Create a line list, including demographic information, date of first and last common exposure or date of contact with the confirmed or probable case, and date of onset if fever or respiratory symptoms develop. The common exposures and type of contact with the confirmed or probable case should be thoroughly documented for any contacts that become infected with COVID-19. Instructions can be found WWW.WHO.COM</p>
<p>Management of case(s) and contacts</p>	<p>COVID-19 case(s)</p> <ul style="list-style-type: none"> • All patients with suspected COVID-19 who have severe acute respiratory infection should be triaged and isolated at the first point of contact with the health care system. Emergency treatment should be started based on disease severity.⁴ • For those presenting with mild illness, hospitalization may not be required unless there is concern about rapid deterioration. If there is only mild illness, providing care at home may be considered, with strict precautions regarding when to seek care.⁵ <p>Contacts</p> <ul style="list-style-type: none"> • For contacts of a suspected COVID-19 case, at a minimum, health authorities need to encourage respiratory and hand hygiene and may encourage, depending on the epidemiological context and resources available, self-monitoring for symptoms, social distancing, or quarantine. • For contacts of a laboratory-confirmed COVID-19 case, WHO recommends that such persons be quarantined for 14 days from the last time they were exposed to a COVID-19 patient.⁶ 	<p>Collection and testing of specimens</p>	<p>From all confirmed cases and their contacts, a respiratory sample should be collected and tested as soon as possible, particularly contacts with symptoms.⁷ Respiratory samples from quarantined persons, irrespective of whether they have symptoms, should be sent for laboratory testing at the end of the quarantine period.</p> <p>Ensure that all those involved in collection and transportation of specimens should be trained in safe handling practices and spill decontamination procedures.⁶</p> <p>For laboratory-confirmed cases, two negative specimens at least one day apart indicate recovery from infection. Based on initial data, this is estimated to be 14 days after the end of illness for mild cases of infection.</p>

<p>Risk communication</p>	<p>Assess the initial perception of risk among affected and at-risk populations, manage expectations and communicate uncertainties</p> <p>Encourage people to adopt protective behaviors: frequent hand hygiene and good respiratory etiquette, avoiding people with respiratory symptoms</p> <p>Encourage people to call hotline (if available) or their health care provider if they have concerns/questions or develop symptoms</p> <p>Discourage use of medical masks, unless one of the following exists:</p> <ul style="list-style-type: none"> • Individuals with respiratory symptoms • Health care workers • Individuals in close contact (within One metre) of a patient with a respiratory infection
<p>Reporting</p>	<p>National authorities need to report probable and confirmed cases of COVID-19 to WHO within 48 hours of identification.⁸</p> <p>Report using the Individual Case Reporting Form and consider transitioning to the aggregate Daily/Weekly Reporting Form if the number of cases increases and resources are no longer available for individual case reporting.⁸</p>
<p>Further investigations</p>	<p>Standardized epidemiological protocols have been developed for COVID-19 and are available on the WHO website.⁹ These may be initiated in addition to the public health investigation, but should not replace the investigation:</p> <ul style="list-style-type: none"> • First few cases and contacts transmission investigation protocol, which evaluates extent of infection among cases and their contacts • Household transmission investigation protocol, which evaluates extent of infection within the household setting • Assessment of risk factors for COVID-19 among health care workers working in a health care setting in which a confirmed COVID-19 patient is receiving care • Surface sampling of COVID-19 virus: A practical 'how to' protocol for health care and public health professionals to assess surface contamination and the role of environmental contamination in transmission • Global COVID-19 Clinical Characterization Case Record Form and data platform for anonymized COVID-19 clinical data to collect clinical data to better understand the natural history of disease and describe clinical phenotypes and treatment interventions

In Hospital: If there is case in hospital is identified then we have to identify contacts and monitor them for 14 days. We should test all the health care workers and patients contacts regardless of the appearance of symptom. If positive then isolate the patient until two consecutive negative tests. And while monitoring if the symptoms develop then we should isolate the case until two consecutive negative tests.

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8. CONTACT TRACING:

In the community: Once the case is identified we have to identify contacts and monitor them for 14 days. If no symptoms develop monitoring can stop. If symptoms appear then isolate, test and treat for COVID-19. The monitoring can only be stopped if two consecutive tests are negative.

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