



Public Health Initiatives for the Control of COVID-19: Challenges and Solutions

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Abstract

This study analyzes public health campaigns to control COVID-19, pointing out problems and practical solutions. We examine testing and contact tracing initiatives, vaccination campaigns, and public health messaging, highlighting the importance of equitable access to health care and community engagement. Ensuring comprehensive strategies for effective disease management, the findings highlight the need for global coordination and flexible responses to changing variations to improve preparedness and resilience against future pandemics.

Keywords: COVID-19, Public Health Initiatives, Testing and Contact Tracing, Health Equity, Disease Management

INTRODUCTION

December 29/2019, the five cases of primary and mild respiratory system related disorder of idiopathic pathogenesis are published in China city Wuhan Hubei province the peoplesinterlinked to the ("wet market") called as seafood market. Researchers are on progress to find out the mode of transmission, peak value of severity, and other important factors related to COVID-19. The total mode of transmission of Corona virus is direct contact with the seafood market it is the main cause for the spread of this deadly virus and transmissed from person to person through contact history.

It was a peak value of the peoples who are infected having noany type of history of wildlife contact or Wuhan city visited, it is also reported that many cases were reports in health care professionals includes doctors, nurses, paramedical staff.

Mostly cases were reported between the adulthood and old ages and least cases are published among children's of the age of 1-8 years. A very earlier studies reports that the dynamic transmission of Corona virus in the age of 59 years. Starting from 16 to 89 years in which bulk of infected ratio is being male (59%) being male. it had been advices that the community mostly in dangerous situation due to the poor immune system and having a diseases of immune compromised it may be renal failure or Hepatobilliary disfunctioning also noticed diabetic and cardiac diseases patients are also in high state of risk for the spreadness of this deadly virus very fatal in this situation.

In the China republic, 12000 cases are initially reported and 18000 cases in thirty four main suspected provinces are reported, reports in 31 January 2020. Most research studies indicate that the spreadness of COVID-19 was relatively fast and also noticed and informed that it had been spreader to other countries of the whole world it's an alarming situation since cases are reported in Wuhan city of China.

It was reported in 31 January 2020, 213 deaths have been reported worldwide. Most authentic and confirmed ratio of spreadness were reported within the some days or one month total 19 countries of the world rather than China which is included Cambodia, Philippines, Canada, Australia, Singapore, Sri Lanka, Thailand etc.

SPREADNESS CAUSES:

COVID-19 is RNA single strand enveloped microorganisms which belongs to the family of zoonotic region the symptoms of corona virus is similar to the common cold after incubated in our respiratory tract for some days and it were converted into more dangerous respiratory collapse it were also reported the associated symptoms and also effects the hepatic, enteric and having important neurological symptoms were appeared. Other than COVID-19, Round about Seven common types of corona virus is present simultaneously in humans other than COVID-19 these are not pandemic in nature.

COVID-19 and MERS Corona viruses have spreader most rapidly in the last two decades in the world. It is very dangerous in each pandemic and effects mostly the population.

COVID-19 DETECTION:

33 samples were detected that virulent factors of COVID-19 and it is reported these factors are spreader mostly from the forest habitat animals is sold in the markets of seafood contains in the Wuhan city of China. As a result, research scientists contains and used the blood, fluid from lungs, and also collected the fluid through swab from throat in the fifteen patients for further study and analysis in the diagnostic laboratory. Mostly collected samples are used to perform tests in laboratory find out most important and very specific sequences of COVID-19. Finally research studies find out the differences in the sequence of COVID-19 is totally different from these species which are much known to humans and causes infection is quite different. Diagnostics tests are performed in laboratories also indicated that that COVID-19 is consist of analogous pattern having beta (β) COVI-19 specie is identified in bats which is considered in groups of SARS/SARS-like COVID-19.

The Research studies also published that Corona virus consist of very strong S-binding proteins that supported the force within the body of humans with ACE receptors molecules latter on the differences of its sequence homology upon COVID-19. Most important sequencing in next generation is (SARS-CoV-2 it is more far from the sequence of SARS-COVID-19). Its virulence is most dangerous and can causes respiratory collapses and appears the symptoms just like pneumonia.

Pattern of Transmission:

Many wild and domestic used animals like cows, camels, cats, dogs, also included bats, and these animals are reservoir this hosts for corona viruses. It's noted that, generally, animal containing corona viruses don't spread among the human's beings.

Some sort of exceptions, like MERS and SARS are commonly spreads though the very near between the diseases containing people through Respiratory aerosol from flu like symptoms main source of spread is sneezing and coughing.

In the reference Corona virus, mostly patients were reported very earlier to interlink with Hunan Seafood containing Market in Wuhan city, China, recommended that these early infectious are the main source for the transmission from animals to humans.

The updated instructions from Chinese health professionals and health care authorities explained three main transmission routes for the corona virus:

- 1) Air Droplets transmissions
- 2) Direct Contact transmissions
- 3) Aerosol transmissions

Air Droplets transmissions:

It was reported that the occurrence of corona through respiratory drops (as developed to an already having diseases patients sneezes and coughs) also ingestion and inhalation by persons very close contact with infected person.

Direct Contact transmissions:

It may occurs when tropical contact to the infected person skin surface or any object that is already contaminated with viruses mostly from hands, nose, phlegm, spitting mouth and flu like symptoms coughing and sneezing.

Transmission through Air droplets:

It transmitted through aerosol mixed with the contaminated oxygen present in air, after contamination with air aerosols

formation takes place when person inhaled these infected having a high frequency of aerosols enters into the lungs and causes infection inside the pleural cavity of the lungs consolidation happens symptoms appears similar to the pneumonia also effects the whole environment of lungs associated cavity.

Gastrointestinal tract Transmissions:

According to the research study it is indicated that the gastrointestinal tract is also a possible spreading way for COVID-19 infections. When patients had diarrhea and abdominal pain or associated symptoms, research scientist further analyzed four to five complete sets of data with RNA single-cell enveloped transcriptomes of GIT and it is present in molecules of ACE2 was actively and increases the absorption of nutrients from the main parts of small intestines also it refers that whole small intestine is the main reservoir of corona virus.

Symptoms and diagnosis of COVID-19:

The complete sign symptoms of corona virus are not clear yet, because present research studies reported the most common symptoms closely related to influenza virus, with some cases patients life is threatened are near to end in some old ages patients already suffered from immunocompromised diseases.

Symptoms commonly reported:

Are sophisticated dyspnea, fever, myalgia, cough, fatigue, pneumonia, diarrhea, hemoptysis, mild very closely related symptoms are appeared including abdominal pain, headache, phlegm-producing Cough and sneezing. Some individuals with mild symptoms are published that the patients are recovered from covid-19 after seven days of prodromal phase in other hand in case of severity of symptoms can causes a respiratory collapse may lead to shortness of breath it is also reported that the severe damaging of lung alveoli in case these findings patients life is threatened and chances of death increases.

MORE CRITICAL CASES:

In more critical and advance cases and in middle-aged and old age patients with already diseases (hypertension, coronary heart condition, tumor surgery, Parkinson's disease Liver cirrhosis, diabetes, Cardiac diseases).

Case studies reported the guidelines mention most important symptoms: when severity of respiratory symptoms as a result lungs consolidation is appeared on radiography, high grade fever is also reported when no relief in symptoms' after taking three days antibiotics therapy. On complete blood count we are find out the very low level of lymphocytes and white blood cells, severe nasal congestion, sore throat, productive cough, shortness of breath.

Preventions and control:

Mostly the control and Prevention measures and methodologies are published in 03 forms: 1. Propagate the national form 2. Population related cases, and 3. Population in general form, In the national form, the National Health control and command of the China published the "No.1 announcement" January 20/2020, and allowed for sophistication a communicable disease preventions and take necessary actions to be implemented which is officially included the corona virus into the typical care of sophistication Be legal infectious diseases.

Under these guidelines, medical authorities and institutions can follow treatment isolation and find out the protocols and take preventive measures to control and stop the further spreadness of the Corona virus. January 22/2020, take preventive measures and gain maximum control of COVID-19 published the National Health Commission for medical institutes to stop air droplets carrying infection.

January 28/2020 National commission of health the direct control and command published the instructions for sharp acting cares and control measures so as to importantly contain the spread of the epidemic through a "avoidance of any type of direct contact with infected person and use the methods of hygiene proper isolation required for patients" Instructions during the Chinese coming seasonal Festivals. Country level and public-sector recommendations have also been reported with targeted precautions for city regions of the china (published on January 28/2020) and also take preventive measures to stop the spread of COVID-19 in the old ages peoples of china.

Mostly National control and command health authorities' take precautions which will control or stop the transmissions of the Corona were channelized; these measures includes the case isolation, take care of many contacts persons like health professionals, identification and environmental disinfectants, and must wear public or private protective kits to avoid the further spread.

Till date, no any type of most effective treatment of COVID-19 has been published to be beneficial to cure Corona. Regarding corona patients already suffered with Corona virus, it is noticed to use proper supportive care and treatment of choice for further spread and control. More than six clinical trials registered in both Chinese Clinical procedures already Registered in china and the International levels of clinical testing's registered directory and therefore to force and ensured effective potency and take safety precautions of the designated treatment within the medicine and also reduces the further diagnosis of Corona virus. Regarding to the ill patients with Corona, it's been suggested to use proper supportive care and

valuable treatment. Researchers have also explained the precautionary measures of mental health and Aerosol infection related to COVID-19. A series of guidelines are suggested to scale back nosocomial infection, which includes the effective knowledge and training for the cure and treatment, disinfection, separation, classified protective methods and reduces the degrees of infection in the different areas, and also take measures to avoid the exposure of positive cases.

Mostly guidelines for overall nation, in this present situation vaccine are not available to cure corona virus. A very simple cure and preventive measure is to take and avoided contact with virus. Airborne preventive measures and other precautionary measures are published and suggested to take preventions. (IPC) Infection preventive and control guidelines which will reveal the dangerous situation to direct exposure with virus take proper face masks, hand sanitizers maintain your health to stay at home.

During sneezing coughing proper usage of face masks and tissues and covers your whole face after usage proper disposed off safely. (If there is no availability of face masks and tissues use a elbow to cover-up the sneezing or coughing); properly and priority bases proper hand washing with antiseptic and proper used of hands sanitizer containing a minimum of spirit or Alcohol (if soap and water aren't feasible) or proper soaps are used for hand washings.

Take preventive measures to expose with Corona patients and keep maintained a proper distance from the exposure of virus maximum amount as available; and avoidance from contact mouth, eyes, hands and nose.

Complete Instructions published by WHO to avoid the direct contact with infected patients and proper distribution and utilization of surgical masks within the through the community, it is very necessary care reception, and within the instructions of health prevention of Corona during this Recorded, the health care professionals are advise to use proper respirators or surgical masks like those authentic FFP2 or N95 when proceedings the air droplets forming methods and to use medical face masks while providing any treatment to confirmed or suspected cases of COVID-19.

Proper follow with these guideline published by WHO and other health authorities, Peoples with respiratory abnormalities are directly advised to use proper surgical masks bilaterally used in Medical professionals and residential care professionals sets the proper criteria for avoided any type of exposure of viruses.

For any type of avoidance to the direct contact with virus follow the proper instructions made by authorities and health care professional proper usage of the face masks, hand sanitizers, soaps. Safe methods are used to dispose of the already used face masks and tissues to avoid any harmful transmissions to other peoples of the community.

In additional to research studies are published in many research journals of the world, CDC journal of china published a useful suggestions to increase awareness and prevention among the population and proper control of COVID-19. The important messages of the rules which includes the main causes, the reported suggestions to choose and wear proper medical face masks, and daily or properly adopted the hand washing routines, take important preventive precautions at different areas (e.g., at home, publicly space, on public transportation), disinfectants methodologies are implemented in medical observation and receptions in hospitals and other health care centers. By adding the knowledge domains on progress to handle the Corona virus outbreak, by adopting the proper rules and regulation are the important ways to reduce the panic situations among the total population.

CONCLUSION

In short, successful public health campaigns are essential to containing COVID-19. Health disparities and vaccine hesitancy are two issues that require teamwork and creative solutions. We can increase response capabilities and resilience against upcoming pandemics by fostering community engagement and strengthening international collaborations, ultimately protecting public health.

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