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Review Article

THE EPIDEMICS OF COVID-19

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Abstract: *Due to modernization and industrialization the whole world population is under the threat of new diseases. With the passage of every day even every moment the diseases are taking the world by large. Recently, there is a new public health issue which started from China and has raised the eyebrow of the whole world population. The reversal and modified coronavirus, known as novel coronavirus leading to acute Respiratory syndrome coronavirus, (SAR-CoV-2) is causing deaths throughout the world. This Virus has been originated and usually found in bats with an ability to be transmitted to humans or animals through various unknown intermediate vectors from Wuhan, The Hubei Province of China (December 2019). This virus has been named as COVID-19, which spread through inhalation or even through contacting with the infected person. The survival and the incubation period of this virus have been found to be ranged from 2-14days. Most one of the three people suffering are found to be asymptomatic, act as carrier and they are source of transmitting it to the healthy people. The disease has been found to be remained mild in most of the people with symptoms which are usually in the form of cough, fever, fatigue, sore throat, malaise, breathlessness lack of taste and among others, it may lead to pneumonia, multi-organ dysfunction and severe respiratory disorders, the fatality rate is 2-3%. It can be diagnosed by respiratory secretion through molecular test. The tomographic scan of chest has been found abnormal in most of cases, even among those patients who have been suffered with mild or no symptoms. Antiviral agents are being used in treating the disease due to lack of solid medicine in the market. It has been recommended to isolate the person with mild, severe of chronic symptoms and to take possible precautionary measures as the virus spread faster than its two previous strains as SAR CoV and Middle East Respiratory syndrome coronavirus (MER-CoV) which had low fatality rate.*

Keywords: Tomographic chest scan, SAR-CoV-2, MERS-CoV, CoVID-19, fatality

Introduction

The severe acute respiratory syndrome corona virus-2 (SAR -CoV) has been known as a modified form of novel coronavirus firstly introduced and started rapidly spreading from within the city of Hubei province of China to the rest of world (COVID and Team, 2020; Fauci *et al*., 2020; Nishiura *et al*., 2020). The USA register 86,000 cases, including fewer than 800, Recoveries 1,300 have died so far in the country till (27-7-20), while now currently there are around 6943,461 (Table 1) registered cases in USA including 203,455 deaths with 4,194,597 total recovered from this disease. Now India has been found the most affected country with respect to daily registered patients, currently India has 5,351,723 cases including 86,043 deaths with 4,249,648 total recovered from disease (dated 18-09-2020). Fortunately, it has been reported that the children are less effective with it due to their strong immunity. There is a need to seek knowledge from articles and news to update our self regularly.

Table 1 Top ten countries for cases, death, recovered and active cases of COVID-19

Countries	Cases	Deaths	Recovered	Active cases
USA	6,943,527	203,455	4,194,597	2,545,475
India	5,351,723	86,043	4,249,648	1,016,032
Brazil	4,503,002	136,035	3,789,139	577,828
Russia	1,097,251	19,339	906,462	171,450
Peru	756,412	31,283	600,795	124,334
Colombia	750,471	23,850	621,521	105,100
Mexico	688,954	72,803	492,192	123,959
Spain	659,334	30,495	N/A	N/A
South Africa	657,627	15,857	586,844	54,926

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Argentina	613,658	12,705	N/A	N/A

History

Four types of coronavirus have been discovered named as HKUI, Nl63, 229E and OC43 Beta coronavirus exists among past years causing severe disease in animals and then to humans in 2002-2003, of B-genera derived from bats, passed over to humans by a host of palm civet in the Guangdong one of China province, causing the severe respiratory syndrome (Clerkin *et al*., 2020; Zu *et al*., 2020). Decades later the East respiratory syndrome coronavirus named as MERS-CoV has been also found to be derived from bats, which was emerged in Saudia Arabia (Organization, 2020; Remuzzi and Remuzzi, 2020).

Origin and the spread of COVID -19

During the last month of 2019, the adults from the Hubei city, province who were using local transportation were diagnosed with severe type of pneumonia due to unknown cause, after that the initial most cases were found to be exist in the local market of seafood, had been sealed by government (The surveillance system output in areas after the SARs outbreak) gets highly activated while the samples of patients for diagnose were sent to specified medical labs, for the etiological investigations of disease (Velavan and Meyer, 2020; Yi *et al*., 2020). The market was closed, later on, it has found more than 95% homology with coronavirus found in bates while more than 70% of similarities were found with SAR-CoV, then a samples taken from Sea-food and environmental air drops were also tested as positive for COVID-19, indicating that it may be a source of spreading by the person who comes with exposure to environment droplets or humans infected with this virus (Croda *et al*., 2020; Pei *et al*., 2020; Wang *et al*., 2020).

The very first initial case which was reported on 11thJan 2020 as there was a huge in sense of number migration followed during that time as it was Chinese New year which fueled the epidemic, later on, the cases from other countries were also reported lied at boarder line as well as the far countries from China (Dhama *et al*., 2020; Schwartz *et al*., 2020). After the identification of cases in China there was lockdown of the Hubei Province for rest of the period until the complete end or removal of disease from population of the Province. It was found to be a risk for healthy people that's why there was onward lockdown with restrictions of entry and exit was applied to that region. Airports in the different regions including India and Pakistan put in screening mechanism and put all of them under observation to those returning from China for 14 days (Kandeel *et al*., 2020; Tu *et al*., 2020). Soon it appears that COVID -19 could be transmitted from asymptomatic people before the onset of symptoms so all were isolated for 14 days from airports to retest them later on using precautionary measures it decrease in China start increasing in countries like including Iran, Italy and South Korea. In spite that the (SAR -CoV-2) begin originated from bats however it transverse to people is questionable, the pangolin and snakes are still know as current suspects (Diao *et al*., 2020; Montalvan *et al*., 2020; Paoli *et al*., 2020).

Epidemiology and the pathogenesis

The population around the world of all age groups has been found susceptible. The infection has been found to be transmitted through the huge globules produced while hacking and wheezing by acute corona patients, at any rate, may be correspondingly happen from an asymptomatic individual and also before the start of the reaction. There have been several studies which have demonstrated higher corona viral weight in nasal hole when contrasted with the throat of no distinction in viral weight among most of the suggestive and patients with asymptomatic conditions (Contini *et al*., 2020; Montalvan *et al*., 2020). The some of the patients have been found to be stronger in sense of immune system for whatever timeframe that the symptoms continue onward and even on the clinical recovery of patients. The infection can stay reasonable on surfaces for a considerable length of time in favorable climatic conditions yet are decimated in under a moment by basic disinfectants like sodium hypochlorite, hydrogen peroxide, and so forth (Grech, 2020; Jouzdani, 2020; Saadat *et al*., 2020). The disease has been found to be acquired either by the internal breath of these dots or reaching surfaces polluted by them and a short time later reaching the mouth, nose and eyes. The contamination is moreover present in the stool and soiling of water deftly and coming about transmission through fecal-oral course is furthermore speculated (Pastor, 2020; Pozzilli and Lenzi, 2020). According to current data, transplacental transmission from pregnant ladies to their babies has also been depicted. However, neonatal ailment on account of postnatal transmission is depicted. The incubating time shift from 2 to 14 days. Studies have recognized angiotensin receptor 2 (ACE2) as the receptor through which the contamination enters the respiratory mucosa. The fundamental case duplication rate (BCR) is surveyed to reach out from 2 to 6.47 in various exhibiting considers. In assessment, the BCR of SARS was 2 and 1, 3 for pandemic flu H1N1 2009 (Huarcaya-Victoria, 2020; Jia *et al*., 2020).

Clinical characteristics

The clinical characteristics of COVID-19 have been found changed, expanding from asymptomatic form to strongly respiratory inconvenience and multi organs brokenness. Mild severe side effects may arise 12-14 days after introductions including, fever, chills, muscles or body hurts, fatigue, cerebral pain, shortness of breath, blockage, runny nose, sickness or vomiting, and diarrhea. Fever, cough, and weakness are the most common clinical features a patient with COVID-19 (D'Marco *et al*., 2020; Jia *et al*., 2020; Yuan *et al*., 2020). Hence they are unclear from other respiratory infectious diseases, in a subset of a patient, before the finish of the initial week of the disease which may progress in to pneumonia, the respiratory frustration. The start of pneumonia and respiratory problem cause to rise in the provocative cytokines including the IL2, IL10, IL7, IP10, GCSF, MIP1A, MCP1 and the TNFα. The average time from the onset of the side effects like dyspnea were found to be 5d, hospitalization 7days, and intense respiratory trouble disorder (ARDS) takes 8days (Aziz *et al*., 2020; Huarcaya-Victoria, 2020). Such patients required intensive care which is up to 25-30% among all of the affected patients throughout the world. There were large number of complications reported which has been included intense lung damage, kidney damage, and stun, recuperation begun within the 2nd and 3rd week (D'Marco *et al*., 2020; Diao *et al*., 2020). The middle term of the healing center remains in those who recuperated within 10days. Unfavorable results and death is the common within elderly and those with basic co-morbidities which are 50-75% among all of the deadly cases. Casualty rates in hospitalized grown-up patients have been extended from 4 to 11%. The general cases casualty rate is evaluated to extend between 2 to 3% (Clerkin *et al*., 2020; Contini *et al*., 2020; Croda *et al*., 2020).

Infection neonates, newborn babies, and the children have also been detailed to be basically in mild cases as compared with their grown-up partners. An evidence was there in China province Shenzhen where there were around 34 children who were infected and were under treatment in care center of Shenzhen during January 19th to February 7th. Among all f these children there were 14 males while 20 females with average age of around 11 years. It was found that the case of disease in 8 children was connected to their family while the remaining 26 children were heaving infection due to travel from Hubei province of China (Pastor, 2020; Schwartz *et al*., 2020; Yi *et al*., 2020). The patients were found either as asymptomatic (9%) or a gentle malady. The foremost common indications were fever in up to 50% while cough in 38% of patients. All patients were given with a symptomatic treatment which showed effectiveness and there was no any death reported in all of 34 patients (Chakraborty and Das, 2020; O'Dowd *et al*., 2020).

Diagnosis

The continuous high fever, shortness of breath and a patient with history of travel to China or other zones of determined neighborhood infected countries or contact with patient comparative travel history or those with affirmed COVID-19 contamination and in some cases the quiet may have shown the upper respiratory problems, lower respiratory symptoms (Poyiadji *et al*., 2020; Velavan and Meyer, 2020). To begin with, here we got to the conclusion of the respiratory test (throat/swab/sputum). Other research facility examinations are including the total blood diagnose, lymphopenia (a lymphocyte numbers < 1000) has been related to extreme infection, but procalcitonin levels are ordinary typical (Gardiner *et al*., 2020; Mannan and Mannan, 2020). A high procalcitonin level may demonstrate a bacterial co-infection. Nonspecific marker of irritation is C-reactive protein, erythrocytes sedimentation rate, IL-6, D-dimer, LDL mostly increased. High motility due to high troponin, CK-MB (creatine kinase-MB) by doing chest X-rays you might see lungs infection level. For the more delicate test, we go for a CT scans which to check the lungs shape and colour, a few regions of combination (Corona *et al*., 2020; Faiq *et al*., 2020; Mohammed *et al*., 2020).

Differential Diagnosis

The differential conclusion incorporates a wide range of viral infections (influenza, parainfluenza, human metapneumovirus, adenovirus, non-COVID-19). It is over the top to hope to isolate COVID-19 from these aliments clinically or through a routine lab test. The travel history of patients provided enormous information about the infectiveness due to COVID-19 (Campos *et al*., 2020; Ray *et al*., 2020; Shams *et al*., 2020).

Treatment

Treatment is permanently or approximately admiring and symptomatic. In start 1st step is secure sufficiently isolation to avert transmission of virus other links, patients, friends, healthcare workers and doctors. The mild illness could be handled at home with guidance about hazard signals (Gardiner *et al*., 2020; Huarcaya-Victoria, 2020). The general principles are including the hydration, asservating, nutrition and commanding continuous cough and higher fever. Daily use of antiviral and antibiotics such as oseltamivir could be the nullified drug in all of the active cases of corona virus. In the hypoxic patients of COVID-19, the movement of oxygen through the nasal prongs, high flow nasal cannula

(HFNC), facemask or the non-invasive oxygen availability has also been affected (Kandeel *et al*., 2020; Nishiura *et al*., 2020; Paoli *et al*., 2020). The mechanical oxygen availability and even the extra cellular membranous oxygen concentration availability have to be maintained. The renal replacement therapy may also be needed along with some of the antifungal and antibiotics which are essential if there are co-infections in kidneys and blood of the patients. Role of the corticosteroids has been still unproven as the international heath organizations like WHO has opposed for its use, the Chinese health organization has given guidelines to urge the short term therapy with low up to the moderate type of doses for corticosteroids to treat COVID-19 patients. The detailed guidelines are important for care managements in treating COVID-19 have now been released time by time through WHO (Organization, 2020; Poyiadji *et al*., 2020). However, still there is, no any certified and recommended treatment for COVID-19 patients. There are some of the antiviral drugs like Lopinavir-ritonavir and ribavirin have been widely used for treatment of COVID-19 as already have been used for treating patients of SARD and MERS. During treatment of patients suffering with SARS, were treated with lopinavir-ritonavir and ribavirin shown better results in controlling COVID-19 as compared with ribavirin antiviral drug alone (Saadat *et al*., 2020; Velavan and Meyer, 2020). There has been an anecdotal experience for the use of remdeswir as antiviral, a widespread used anti RNA drug developed for EBOLA virus has been used to treat COVID-19. However, there is need for evidences before the approval of these drugs. Some of the drugs which have been proposed for the therapy of COVID-19 are including arbidol intravenous immunoglobin, interferon, chloroquine and plasma of patients recovered from COVID-19. Furthermore, the recommendations are there about using the traditional Chinese herbs which have found their place in Chinese COVID-19 treatment and control guidelines (Schwartz *et al*., 2020; Yuan *et al*., 2020; Zu *et al*., 2020).

Prevention

- Wash hands daily with soap and water for 20 seconds, and using hand sanitizer of at least 60% alcohol.
- Put separation among yourself as well as other people
- Stop scratching your nose.
- Maintain strategic distance from close contact with wiped out individuals.
- They would be told to cover cough and sneezes, rather than paws, with tissue papers
- Wear facemask in case you are wiped out or thinking about somebody who is debilitated
- Clean and sanitize surface.
- Home ventilation should be perfect with daylight, so that the virus is killed.
- Human services work force must utilize individual defensive hardware, for example, N95 covers, outfits and gloves.
- An applicant antibody is a work in progress.

Coronavirus from the Islamic point of view

Allah will never hurt us nor does He need shrewdness to come to pass for us. We may think something is awful for us because of our confined perspective on life, yet there is in every case great in a circumstance. At whatever point there is an issue, a test, or any hardship which we can expel, survive, tackle, or limit, we should do as such. A considerable lot of the wellbeing rules given by the Ministry of Health are in reality typical practices for Muslims, some of which are as per the following:

1. Washing hands: this is a piece of bathing, a Muslim's every day custom of immaculateness.
2. General neatness: The Prophet (ﷺ) said: "Cleanliness is a piece of confidence". Keeping our environmental factors clean, tidying up after ourselves, and cleaning surfaces down are on the whole parts of neatness which must be clung to in these circumstances.
3. Covering your mouth when sniffling; The Prophet would cover his mouth when he wheezed. This essential can take large part in the halting of the spread of infections. "At whatever point the Messenger of Allah (ﷺ) wheezed, he would cover his mouth with his hand or a bit of material."
4. Isolate in the midst of infections which can spread; The Prophet gave directions on what to do if there is an episode. Dispatcher of Allah (ﷺ) state: "On the off chance that you hear that (the plague) is in a land, don't go there, and on the off chance that it breaks out in a land where you are, don't leave, escaping from it." And Alhamdulillah we Kashmiri's have long periods of lockdown experience.
5. The Prophet (ﷺ) likewise showed us how to shield ourselves by keeping up our duas from the Sunnah. One such dua that he showed us was: "In the name of Allah with Whose name nothing can hurt on earth or in paradise, and He is the All-Hearing, All-Knowing".
6. Being certain and having a hopeful standpoint: Always have an uplifting viewpoint paying little mind to the circumstance you're in, this is the

thing that our Prophet Muhammad (ﷺ) educated us.

Conclusion

The recent virus name COVID-19 has not only challenged. The Chinese frame but its neighboring countries have confronted it. It's not anyone else just time which can tell its impact on Indians. Even the uprising of these micro-organisms of zoonotic origin continues in the same way. Thus apart from checking these outbreak efforts should be made to plan comprehensive zoonotic origin.

Conflict of interest

The authors have declared absence of any type of conflict of interest.

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