

The Possibilities Of The COVID-19 Implications On The Patients Of Lungs Disorder

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Abstract: This study aims to present the current scenario of the covid-19 and its implications on the patients of lungs disorder. The rising global crisis regarding the pandemics left its deep harmful consequences on the public health and patients with low immunity. Moreover, it is perceived via medical scientist, and researchers' investigation to highlight the implications of the covid-19 on the patients of respiratory disorder of the pneumonia character via damaging the alveolus. In Pakistan population in high majority is suffering from Asthma and chronic obstructive pulmonary disease (COPD) that alarms an elevating risk and harmful implications on the patients of lungs and pulmonary to be affected by the covid-19 in more chances. Hence, the current study presents a clinical feature associated and produces a literature to the hazards of the pandemic for patients with lungs infection that results extremely harm illness by characterized with the pneumonia and its severity. For an empirical analysis data has been collected from the doctor as they were in touch with covid-19 patients during medical service in which Symptomatic patients remained 193 patients (90.6%) whereas asymptomatic patients stayed patients were 20 out of 213 patients 9.3%. Furthermore, 105 doctors, nurses and other paramedical staff produced their standpoint whether COVID-19 patient complained with lungs and respiratory disease or not.

Keywords: COVID-19 pneumonia, Public health, Lungs patients

1. Introduction

The severe acute respiratory syndrome coronavirus2 (SARS-CoV-2) and COVID-19 by an officially named and it has been referred to as coronavirus Disease2019 (COVID-2019) by world health organization (WHO) (Acter, et al., 2020; Chandio, 2020). COVID-2019 is to be considered an infectious disease of the most severe pandemic nature in the world widely where it made affected organ of an infected person (host) due to lungs in severe cases to a patients (Acter, et al., 2020). As COVID-19 pneumonia progresses, more of the air sacs become filled with fluid leaking from the tiny blood vessels in the lungs. Eventually, shortness of breath sets in, and can lead to acute respiratory distress syndrome (ARDS), a form of lung failure. The illnesses of COVID-2019 can be well thought-out as a family virus that become the cause of common cold, SARS, and Middle East respiratory syndrome (MERS) and it also inculcates the symptoms like fever, cough, difficulty breathing or shortness of breath, aches, tiredness, headache, sore throat, vomiting, and diarrhea (Rocke, et al., 2020).

The common symptoms also depend on the immune system of the patient as besides the above signs there are many other symptoms to be linked with the pandemic as to emerge in the forms of the abdominal pain and loss of smell as well (Corbellini, et al., 2020). The period of exposure of symptoms ranges from five days or two to fourteen days and the majority of cases come under the jurisdiction of the symptoms of multi-organ failure and viral pneumonia. The coronavirus Disease 2019 (COVID-2019) is to be considered an infectious disease of the most severe pandemic nature in the world widely. The illnesses of Coronavirus es can be well thought-out as a family virus that become a cause of common cold, SARS, and Middle East respiratory syndrome (MERS) and it also inculcates the symptoms like fever, cough, shortness of breath or difficulty breathing, tiredness, aches, runny nose, sore throat, headache, diarrhea, and vomiting (Acter, et al., 2020; Zhang, et al., 2020). The common symptoms also depend on the immune system of the patient as besides the above signs may emerge in the forms of loss of smell, and abdominal pain as well. The period of exposure of symptoms ranges from five days or two to fourteen days (Corbellini, et al., 2020).

The primarily transmission and spreading of the virus is based on social contact usually utilizing the mobility of small droplets shaped by sneezing, coughing, and talking (Santacroce, 2020). Whereas these droplets can be produced and propagated through breathing out as these droplets usually fall to the surface of the ground rather than being infectious over certain distances. The recommendations of the social distancing have become beneficial according to medical experts it reduced the speedy counting of the coronavirus (COVID-2019) patients (Chandio, 2020). A bit of advice has been mobilized to see a doctor if symptoms concerned illness relating to a respiratory disorder and other lung related illness during or after travel abroad has been alarmed in Pakistan. The effective measures is be taken timely to protect the people at risk, as the respiratory patients in Pakistan a serious dilemma as compare to other illnesses and people of older age can be at a fatal risk and people with an underlying medical condition, as well as healthcare workers are in the vital risk to the pandemic (Asgar , et al., 2020; Chandio, 2020). For the medical cure to illness require the standard diagnostic method as reverse transcription-polymerase chain reaction (rRT-PCR) from

nasopharyngeal swabs and the Chest CT can become fruitful to diagnosis where patients of high suspicion meet the symptoms and it must be avoided to routine screening.

The corona virus (COVID-19) pandemics impact the lungs and its implications on the lungs disorder alarm the high risk to the concerned patients. The rising global crisis regarding the COVID-19 left its deep harmful consequences on the public health and patients with low immunity as perceived by medical scientists, and researchers' investigation to highlight the implications of the pandemic on the patients of respiratory disorder of the pneumonia character via damaging the alveolus. Hence, the current study presents a clinical feature associated and produce a literature to the hazards of the COVID-19 for patients with lungs infection that results extremely harm illness by characterized with the pneumonia and it can increase risk of COVID-19 severity. In Pakistan a high mortality rate has been recorded to due lungs patients and the scenario is in progress and lungs cancers patients with high frequency match the 25% as assessed from non-smokers (Wahbah, et al., 2007; Lam, 2005). Suffering from Asthma perceived 24-15% and chronic obstructive pulmonary disease (COPD) sustain 40% indicate an alarming to a high population with lungs disorder and pulmonary related illnesses. For the empirical investigation researcher applied survey of 14 doctor and 91 staff nurse as they served at isolation centers to treat the covid-19 patients as they produced the history of 213 COVID-19 patients as these hospitalized under there care in which health mobilizers perceived 193 patients were symptomatic patient (SP) with lungs disorder earlier to be affected with and 20 patients remained asymptomatic patient (AP) with lungs disease.

The World Health Organization (WHO) declared COVID-19 as a pandemic and calls that the majority of people suffered from the illness due to contact to others and it becomes a major cause of the seriously pandemic and develops difficulty for breathing (chronic illness) as COVID-19 develops into a more serious illness featuring pneumonia (Xu, et al., 2020; Zhao, et al., 2020). The patients concerning the lung damage make a chief hurdle to recovery as if an individual has been infected with the COVID-19. The number of studies presents the lungs patients at a risk to those people who are in infection of the COVID-19 thus in early supplementary urges to apply the doses to introduce the vitamin B3 (niacin or nicotinamide) as an effective catalyst to prevent the lung damage (Gebicki, and Wiczorkowska,2020; Zhao, et al., 2020). According to medical experts, intellectuals, and respiratory physicians argue that approximately all serious consequences of COVID-19 feature pneumonia whereas the number of the medical experts ho against the assumption that the rest of the COVID-19 patients suffer from respiratory illness (Guan, et al., 2020). When patients with COVID-19 encompass the symptoms of a cough and fever that result in an infection to meet the respiratory tree.

The patients with lungs disorder is at high risk as scholars and medical experts support the argument and individual associated with smoking relate to with an affection of increased risk of severity of COVID-19 (Luo, et al., 2020; Patanavanich, and Glantz, 2020). Smoking weakens the functions of pulmonary immune and it becomes a cause of a risk with serious lungs infections and progression of the COVID-19 (Patanavanich, and Glantz, 2020). According to research viewpoint majority of patients with lungs cancer were affected with COVID-19 pandemic as the study identified with lungs cancer diagnosed with COVID-19 (Luo, et al., 2020).The air passages conduct air between the lungs and the outside as the respiratory tree can be injured due to the rise of inflammation to irritate the nerves in the airway to stimulate a cough. In serious condition, he goes to the lining of the airways and allows the gas exchange nodes to remain at the end of the airways.

The infected persons pouring out with inflammatory material into the air sacs which can become to be inflamed the lungs with material that ends up with pneumonia and the Lung inflammation is the main cause of life-threatening for the Patients of respiratory disorders at the severe stage (Wang, et al., 2018). The mechanism of COVID-19 infection and replication cycle can be enumerated as below. Human lungs are the most affected organ in the COVID-19 infectious and an enzyme angiotensin convert to enzyme 2 (ACE2) which is the rich in the type II alveolar cells of the lungs (Acter, et al., 2020). The type II alveolar cells are organelles which contain secretory by nature and said to be lamellar bodies to fuse the cell membranes and secrete pulmonary surfactant. A little cavities of a hollow cup shaped in lungs are known as alveoli where exchange of gases and process of breathing has been carried out and the cells of Type II are found in alveoli abundantly.

- ✚ The special surface is used by virus particle and the spike of glycoprotein to connect to Angiotensin-converting enzyme 2 (ACE2) of the lungs and hence it enters the cell of a host as shown in figure (Fig. 3).
- ✚ The uncoated virus particle and its genome of RNA pass into cytoplasm of cell which goes to attach to the ribosome of host cell through the methylated cap of 5' and 3'polyadenylated tail. It is formed by the host ribosome to a long polyprotein through decoding the genome of virus genome and it is cleaved to polyprotein subsequently to multiple nonstructural proteins.
- ✚ At that time proteins of nonstructural traits merge and multi-protein replicase-transcriptase complex (RTC) forms and entitled RNA-dependent RNA polymerase (RdRp). RNA-dependent RNA polymerase (RdRp) produces positive-sense genome of RNA as viruses of progeny via the replication and positive-sense subgenomic RNA by way of gene transcriptions or mRNA by means of transcription (Alexandersen, et al., 2020).
- ✚ The ribosomes of the host interpret messenger RNA (mRNA) to structural proteins and additional numerous proteins inside (EPR) endoplasmic reticulum. Subsequently, (S, E, and M) viral structural proteins are mutual and combined by nucleo capsid through interactions of protein to protein. At an end from the host cell the progeny viruses are to be

released.

There is high density Angiotensin-converting enzyme 2 (ACE2) in tissues which associates to COVID-19 disease' severity and with progress of the disease outcomes the respiratory failure and it result to death (Acter, et al., 2020-16]. Moreover, enzyme (ACE2) also adhere the arteries surface, intestines, kidney and heart. The respiratory illness as COVID-19 can become a cause to damage the lungs and it can become more fatal to other infected patients. Pneumonia because of the COVID-19, affects the lungs and it infects fatally to a person as it leaves harmful effects to a sick person on an individual's recovery. According to scientists and clinicians, COVID-19 is widespread, and not all SARS-CoV-2 infected patients and other patients have severe respiratory infections in the affected pathogenesis (Shi, et al., 2020). The survival and recovery of patients stand on the nature of care and the immune system and timely hospitalization can minimize lung damage.

2. Preventive measures of covid-19 and objective of study

There are two approaches have been proposed to ensure the prevention and limit in the way to spread of the COVID-19 pandemic and any other type of infection. In the pharmaceutical use of drug such anti-viral medication and vaccine can be applied to the treatment of a disease. Vaccine is the most effective and primary preventive intervention of any disease (Odone, et al., 2015). According to Wikipedia the vaccine usually contains the agent of the pathogenic microorganism in its weakened or killed form. The adoption of vaccination boost up the body's immune system of body and its antigenic agent prevent the disease and recognize to affect the respective disease and successively destroys it. Coronaviruses vaccine is depend on the targeting the chief antigen of the virus which is structural protein (S-Protein) and numerous strategy applied to encode the protein (S-protein). Moreover, there is no approved vaccine to be obeyed across the world.

In the non-pharmaceutical preventive intervention require a speedy adoption in the way to ensure the provision of the measure of the public health security. Moreover it is important to reduce the spread of the chances of the COVID-19 to a population at high risk (Prem, et al., 2020). There are diverse strategies to be applied for combating COVID-19 as enlisted as below.

- ✚ Self-protection strategy: it encompasses the hygiene environment, avoiding to touch eyes, mouth and nose frequently, washing hands, creating social distancing, washing hands repeatedly and travelling (Andersen, 2020). At the public places where water and soap is not available, at the occasion hand sanitizer is used.
- ✚ For protecting people in community: it comprise to keep tissue to use while man coughs or sneeze and put the waste safely into a waste box and cover mouth while other coughs just aside and wear mask (Acter, et al., 2020). Social or physical distancing is an important mechanism to slow down the spread of the pandemic in a community and it can impact people's contact to minimize it.
- ✚ The adoption of quarantine and isolation can decrease the outbreak of the COVID-19 which can be most important to handle the dilemma and isolation separates the COVID-19 patients in order to stop the spread of the disease and frequent cleanliness of the public places (Acter, et al., 2020).
- ✚ Controlling measures at National and International level: initiatives were made at national and international level to encounter the spread of the COVID-19 via travel restriction, screening train stations and airports, workplace hazard controls, quarantines, curfews, and postponements of events (Zhou, et al., 2020).

There were few main objectives of this study can be enumerated as below.

- ✚ To find out the patients viewpoint that whether they were affected with lungs or respiratory disorder earlier to be affected with the COVID-19.
- ✚ To discover the health mobilizers (Doctors, paramedical staff or nurses) standpoint as they served at the isolation centers, quarantines and collecting the sampling of the COVID-19 patients. For achieving objectives survey questionnaire was followed to collect their concerned perception as these health workers remained with close contact during their service which highlight the implications of the COVID-19 on the lungs patients was calculated.

3. Results and discussion

Symptomatic patients with lung disorder before they affected with COVID-19 remained 193 patients (90.6%) whereas asymptomatic patients (AP) with COVID-19 inflection who stayed away from any lungs disorder earlier as these patients were 20 out of 213 patients 9.3%. These patients were under treat at self-isolation and quarantine. In addition, 105 doctors, nurses and other paramedical staff discovered their viewpoint whether COVID-19 patient complained with lungs and respiratory disease or not. The data collection four months duration remained from first September to 30 December 2020. According to the produced investigation majority of the COVID-19 patients were affected with lungs illness and it results to be affected with COVID-19 easily and high percentages of the care taker to the patients were staff nurses. Henceforth, asymptomatic patients were in the less number as compare to Symptomatic patients and staff were in majority in the provision of medical care to the affected patients. In addition, it is proved that lungs symptoms based patients were in majority numbers as AP < SA (20= 9.3% vs 193= 90.6 %) whereas doctors and staff contribution in the pandemic dilemma in the country is to be mathematized D < SN (14=13.3% vs 91=% 86.6). Respondents from Chandka Medical College Hospital Larkana 17 (16.19%), Ghulam Muhammad Mahar Medical College (GMMMC) 21 (20.00%), Liaquat University Hospital Jamshoro 18 (17.14%), Bilawal Bhutto Medical College Hospital

Kotri 14 (13.33), Jacobabad Institute of Medical Sciences 16 (15.23%), Syed Abdullah Shah Institute of Medical Sciences Sehwan 19 (18.09%) ensured their feedback of research survey questionnaires and in the demographic characteristics of the health worker encircles Male 87 (82.8%), female 18 (17.6%) medical workers participated age of workers remained between 30 to 50 years.

The respiratory illness as COVID-19 can become a cause to damage the lungs and it can become more fatal to other infected patients. Pneumonia because of the COVID-19, affects the lungs and it infects fatally to a person as it leaves harmful effects to a sick person on an individual's recovery. The lungs experts argue that COVID-19 can cause complications of the lung such as pneumonia and, it also allows appearing in severe cases, acute respiratory distress syndrome (ARDS) and at the ending it is possible to affect the lungs with other organs as well.

The survival and recovery of patients stand on the nature of care and the immune system and timely hospitalization can minimize lung disease. Moreover, in this study it comes out majority of the covid-19 affected were the patients of lungs disorder as it matches 193 (90.6%) and Asymptomatic patients (AP) with COVID-19 infection 20 (9.3%) and form 213 patients 151 were under the age of 50-65 (70.8%) whereas age between 20 to 30 (10.7%) and 30 to 50 (18.3%) recorded as these patients complained to be lungs patients in their early life as to become COVID-19 patient.

4. Conclusion

The COVID-19 pandemic is recognized as a severe acute respiratory syndrome (SARS) to spread from the Wuhan china to grip rapidly the world communities at a global level including, china, Italy, UK, the USA, Spain, and Pakistan, etc. The rising crisis of the COVID-19 highlights the miserable condition of the national health system of Pakistan and the developed world as well, and an effective preparation can be required to meet such type of dilemma in the future at the global level. The initiatives must be applied and adequate GDP to be invested on the pulmonary department and private hospital to be seized in order to invest the human capital of medical experts in the best interest of humanity and avoidance of the misuse of service delivery in the public health institutions. More effective measures must be taken timely to protect the people at risk, for instance, the oneness of voice against the COVID-19 outbreak, derive international support, designing dynamic economic measures, promoting biomedical research, and national integration can be fruitful to face the dilemma in the fate of the nation. Pakistan cannot combat developed nations to go against COVID-19 measures, testing facilities, and hospital and quarantine facilities are inadequate to meet the existing and future targets that can result in to be difficult to impede the spread of viruses and treatment of the COVID-19 patients. hence situation requires to multiply the testing facilities, innovative strategy making and implementing the recommendations (staying at homes, social distancing, lockdown, using sanitizers, screening facility), and promoting COVID-19 vaccination scheme in order to overcome the COVID-19 timely except any further disaster and lose human civilization and it is now based on the nations' determination and starting mobility of evolutionary to revolutionary to surpass the COVID-19 pandemic.

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