Research Article

The Impact of COVID-19 Pandemic in Pakistan

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Abstract: Objective: COVID-19 is a public health international emergency. The objective is to gain the understanding on how this virus affects the human body and what were the risk factors affecting the morbidity and mortality.

Materials and Methods: The data was collected from Chaudhry Muhammad Akram research and teaching hospital. The data was collected from the patient notes and the Performa's were filled. The population for study were in the age range of 30 to 70 years and both males and females were included. The pregnant women were not included in this study. The notes of patients were taken from the year 2021.

Results: This retrospective study included hospitalized patients. The total patients included in this study were fifty. The symptoms studied were fatigue, fever, cough and shortness of breath. All the patients admitted complained of fatigue (100%). 21(42%) patients had fever. 23 patient (46%) complained of cough and 21(42%) had shortness of breath. The male admitted were 31 (62%) and females were 19. (38%) There were 3 patients (6%) admitted in the age ranging from 30-40 years, ten (20%) were 41-50 years, sixteen(32%) were 51-60 years old and twenty one(42%) were 61-70 years old. 40 (80%) patients completely recovered, 2 (4%)patients were referred to other hospital because of lack of required facilities. Twenty patients (40%) admitted had existing medical problem. Eight patients (16%) who were on ventilators had co morbidities like hypertension, diabetes, and obesity died. There were two women and six men who died.

Conclusion: Our study concluded having any comorbidity increased the risk of hospital fatality with COVID-19. The data suggested that more males were admitted as compared to females. The fatality was more in male compared to females. Male sex can be identified as a risk factor for death. Most of patients belonged to group 51-70 years age. The survival rate in our study was 80%.

Keywords: Coronavirus disease, COVID-19, SARS-CoV-2, Respiratory diseases, Diabetes, Hypertension.

INTRODUCTION

Corona virus infections have raised great health concerns worldwide. The purpose of this study was to understand how COVID-19 affected human health resulting in morbidity and mortality. This information may help to prevent and treat people from all sorts of backgrounds. Coronavirus disease 19 (COVID-19), is a worldwide calamity. It originated at Wuhan city of China in December 2019 and disseminated globally. The World Health Organization declared the coronavirus disease as a pandemic in 2020. Coronaviruses belongs to the family of enveloped RNA viruses with crown-like surface glycoprotein projections, hence named Coronaviruses. Coronavirus has four main sub-groups alpha, beta, gamma, and delta. The mammals (humans, bats, camels, rodents) are infected by alpha and beta coronaviruses and birds by gamma and delta coronaviruses [1]. The COVID infection usually starts with symptoms similar to common cold. It can be asymptomatic, mild, severe or fatal respiratory tract infection. The virus invade the respiratory mucosa first and then infect other cells resulting in production of cytokine storm with series of immune responses which may be responsible for the critical condition of the Covid patients. The COVID-19 causes inflammatory response in the lung resulting in lung damage [1]. COVID-19 is primarily considered a respiratory and vascular system disease. The exact mechanism of cardiac involvement is not known. Many factors are considered to be involved. The proinflammatory cytokines can result in vascular inflammation, myocarditis, and cardiac arrhythmias. The hypercoagulability in Covid-19 is also attributed to the cytokine-induced inflammatory response. Thrombocytopenia is not common in COVID-19. It may be due to virus suppression of platelets, formation of autoantibodies, and activation of coagulation cascade. Thrombocytopenia and neutrophilia indicates severe illness [2].

The human transmission occurs through direct or indirect contact with oral, nasal or eye mucosa of infected people. It is spread through respiratory droplets when infected person coughs, sneezes, or speaks [2]. Hence the importance of social distancing and masks for prevention. The virus is very contagious with the incubation period range of 2-14 days [3, 4]. The infected human presents with fever, dry cough, fatigue, malaise, and breathlessness. Severe illness may lead to pneumonia, severe acute respiratory syndrome (SARS), and death. Patients with COVID-19 has presented with gastrointestinal symptoms as well, diarrhoea, nausea and vomiting [5, 6]. COVID-19 infected patients can efficiently transmit the virus during the asymptomatic or pre-symptomatic phase [7].

MATERIALS AND METHODS

It was a retrospective study conducted at Chaudhry Muhammad Akram teaching & research Hospital (Superior Universi-

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ty). The data was collected from the notes in 2021. The proforma were filled from the notes. The proforma included questions of age, sex, symptoms, underlying medical issues and outcome. The notes were viewed by following hospital protocols for Covid-19. This hospital is a tehsil (sub district of Lahore city).

Those who were not considered in this research were population of age below 30 years and over 70 years. Pregnant women were also not included in this research.

RESULTS

This was a retrospective study in a teaching hospital in Lahore (Raiwind) Pakistan. The study was based on fifty patients admitted in a period of three months. All the patients who were admitted complained of fatigue. The other common complaints at presentation were cough 23 patients (46%), fever in 21(42%) and shortness of breath21 (42%) (Fig. **1**). The number of males 31 (62%) admitted exceeded females 19(38%) (Fig. **2**). The report showed mostly patients admitted belonged to the age range of 50-70 years. The minimum numbers of patients admitted were of the age group of 30-40.

They were only 3 patients (6%) in this age group. Ten patients (20%) were 41-50 year old. The sixteen (32%) patients fell into age group of 51-60 yrs. The remainder twenty one (42%) was in the age group of 61-70 years (Fig. **3**). The overall outcome was good. 40 (80%) patients completely recovered. Twenty patients (40%) admitted had existing medical problem whereas the rest of patients did not have any underlying morbidity. The eight patients (16%) who went on ventilators had co morbidities like hypertension, diabetes, and obesity. All the patients who were put on ventilators expired (Fig. **4**). The number of men who died with Covid-19 in this study was three times more as compared to women. The men who expired were six compared to two women (Fig. **5**).

DISCUSSION

COVID-19 cases were initially reported from Islamabad and Karachi in Pakistan in February 2020 [8]. COVID-19 was initially difficult to contain, because the general population considered it hoax or propaganda. The people were not reporting symptom resulted in life threatening situations. Therefore timely necessary measures were not taken to curtail the problem. The understanding of the virus itself, its prevention
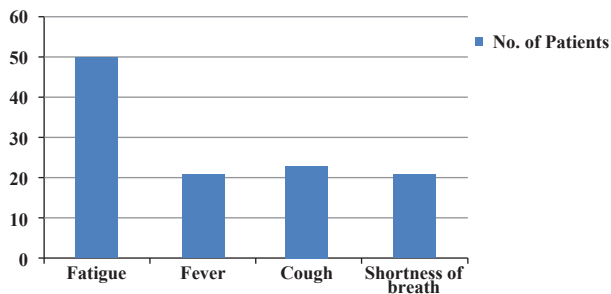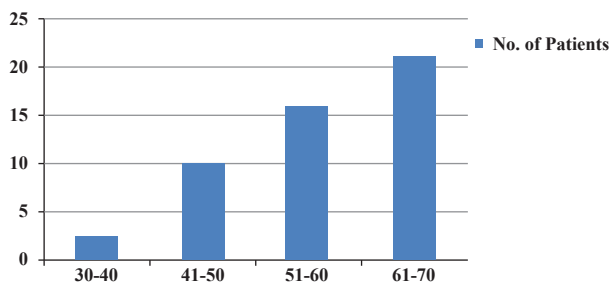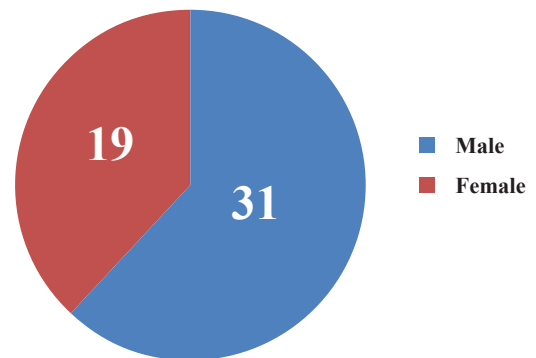

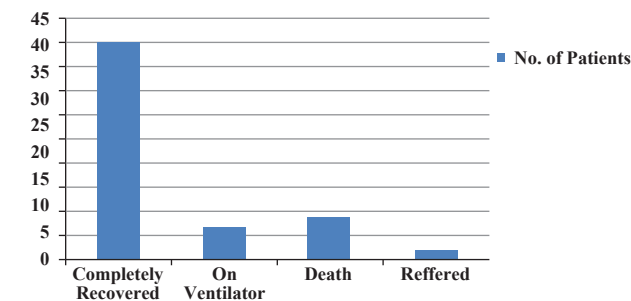Fig. (1). Symptoms.

Fig. (2). Gender.
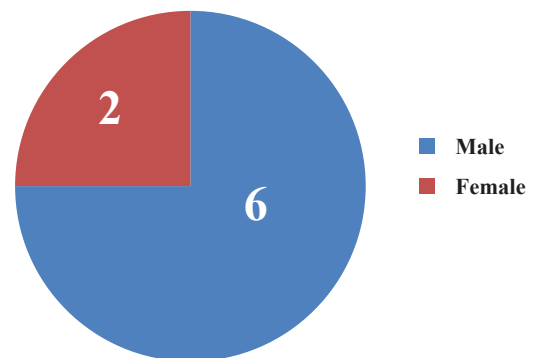

Fig. (3). Age.

Fig. (4). Outcome.

Fig. (5). Death Ratio.

and treatment, is continuously being studied and strategies implemented and changed at the same time. The face masks, were not encouraged initially in the United State but later it became an effective preventative measure by 2020 [9].

COVID-19 had a devastating and unusual impact on global health. The world was on the lockdown. The researchers in medical science with time started getting better understanding of the disease and its expansion. Most of the recommendations were challenging to keep up as it limited people interactions socially as well had crippling effect on world economy. Many studies revealed that people infected with COVID-19 generally overestimated their risk of dying [10, 11]. Many countries are having second or third wave of outbreaks of this illness due to the emergence of mutant variants of the virus.

In a case surveillance done in United States it was reported that Corona disease was twelve times higher in pre-existing medical conditions than without any underlying issues [12]. According to our study twenty patients (40%) admitted had underlying medical condition like hypertension, diabetes, obesity, cardiovascular and lung disease indicating this illness affects more people with pre-existing medical condition. Our findings were consistent with previous researches concluding males were hospitalized at a higher rate compared to females. It was also comparable with researches showing that the morbidity and mortality with this infection were related to increasing age and underlying medical issues [13-15]. The male mortality rate (12%) were higher compared to females (4%) which has also been reported in other studies [16, 17]. In our study the common symptoms were cough and fever that has been reported in other studies as well [17, 18]. Eight patients (16%) who were on ventilators had co-morbidities like hypertension, diabetes, and obesity. All these patients were received in deteriorating conditions and eventually died. The criteria for patient discharge in our hospital based on fever free for 72 hr, no respiratory symptoms, and improvement on chest CT imaging.

Our study has some limitations. This was a research done in a single-centre with a small group of patients without a control group. The control groups' importance is to see the effectiveness. The patients who expired presented in appalling conditions. The comorbidity, age and sex are the predictors of the mortality [19]. The advancing age was one of the risk factor for this infection. Most of patients belonged to age groups 51-70 yrs. The study concluded having any comorbidity increased the risk of hospital fatality with COVID-19. Males are at more risks as compared to females. The fatality were more in males, indicating sex can be identified as a risk factor for poor prognosis [20]. However, the survival rate in our study was 80% indicating the risk of death is overestimated as reported in some other studies as well [10, 11, 21, 22].

We need to have policies for prevention of COVID-19 infection. This can be by taking special measures in the form of vaccination, distant socializing, and washing of hands with alcohol rub or soap and water, using disinfectants, limiting the transmission of virus spread by airborne route by wearing face masks in public places [23]. It is important to protect elderly and those with underlying health issues [24]. In order to understand the evolving epidemiology of COVID-19 the ongoing monitoring of hospitalization rates is important in planning and prioritization of health care resources. The surveillance at all levels of government, and its continued modernization, is important for monitoring COVID-19 trends. This will help in identifying people at risk for infection and poor prognosis.

CONCLUSION

This clinical research is relevant regarding the clinical manifestation of COVID-19. The independent predictors such as age, gender, and comorbidity observed in this study can provide valuable insight into the management of COVID-19 symptoms [25]. This could help in better understanding of disease progression.

AUTHORS' CONTRIBUTION

Shabnum Sibtain has made substantial contributions to conception and design, or acquisition of data, or analysis and interpretation of data.

Aaleen Azeez has involved in literature search and graph preparations.

ETHICAL APPROVAL

Exempted because it is a retrospective analysis of DE identified data.

CONFLICT OF INTEREST

Declared none.

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