Original Article

Gender Based Differences In Covid-19 Patients

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ABSTRACT

COVID-19 is caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) and has become a worldwide public health emergency. COVID-19 symptoms include cough, sputum production, fever, myalgia, irregular heartbeat, dyspnea, headache, diarrhea, and a painful throat. **Objective:** To evaluate the gender-based differences among COVID patients. **Methods:** A total of 150 people took part in the cross-sectional study. The information was gathered using a self-structured questionnaire and non-probability convenient sampling. The subjects' written informed consents were obtained prior to the start of the study. The analysis of the data was done by using SPSS version 25.0. **Results:** The findings revealed that hypertension was the most common comorbidity among COVID-19 patients, followed by diabetes mellitus, especially in females. Males were more likely to have renal problems and asthma. The severity of the disease and gender had a significant relationship (p=0.001), according to the analysis. **Conclusions:** There was a strong link between gender and disease severity.

INTRODUCTION

Coronavirus disease 2019 (COVID-19) is caused by a new encapsulated RNA beta coronavirus known as severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) has become a worldwide public health emergency [1]. COVID-19 manifestations range from asymptomatic disease to severe acute respiratory contamination [2-5]. The 2019-nCoV infection caused severe respiratory illness in clusters, similar to the coronavirus that causes SARS, and was connected to ICU admission and considerable mortality [4]. Fulminant pneumonia causes acute respiratory distress syndrome and multiple organ failure, resulting in extreme transience [6,7].

COVID-19 was declared a global pandemic by the World Health Organization (WHO) on March 12, 2020, and preventive measures were mandated to prevent the virus from spreading. It is a highly contagious viral disease that spreads from person to person through the nasal route in the form of droplets. Several limitations were enforced to slow the transmission of the infection and flatten the disease curve, including complete or partial city lockdowns, social distance (at least 6 feet apart), and mandatory mask-wearing in all public locations [8]. Cough, sputum production, fever, myalgia, irregular heartbeat, dyspnea, headache, diarrhea, and painful throat are the most common symptoms, according to Asian clinical trials [9,10].

Recognizing the clinical risk factors for severe COVID-19 infection is critical to successfully managing the new virus's increasing danger. COVID-19 results have consistently been linked to older age and comorbidities such as hypertension, respiratory disease, and cardiovascular disease, according to reports [11]. For several other pathogenic species, gender differences in susceptibility and severity of infection have been described in the past [12]. COVID-19 is also a more severe condition in men, with a greater fatality rate than in women [13]. Furthermore, women had distinct symptoms at the outset of the disease, clinical outcomes, and treatment patterns

[14]. Clinical studies on COVID-19 are one of the most pressing concerns for scientists throughout the world in the current pandemic emergency. The goal of this study was to evaluate the gender-based differences among COVID patients.

METHODS

A cross-sectional survey was carried out at Mayo Hospital, Lahore. A total of 150 people took part in the study. The information was gathered using a self-structured questionnaire and non-probability convenient sampling. The subjects' written informed consents were obtained prior to the start of the study. The ethical approval was taken. The analysis of the data was done by using SPSS version 25.0 and a significance was defined as a p-value of less than 0.05.

RESULTS

Our findings revealed that hypertension was the most common comorbidity among COVID-19 patients, followed by diabetes mellitus, especially in females. Males were more likely to have renal problems and asthma (4 and 3 respectively). Cardiac myopathy and COPD were reported in equal numbers by men and women (Figure 1).
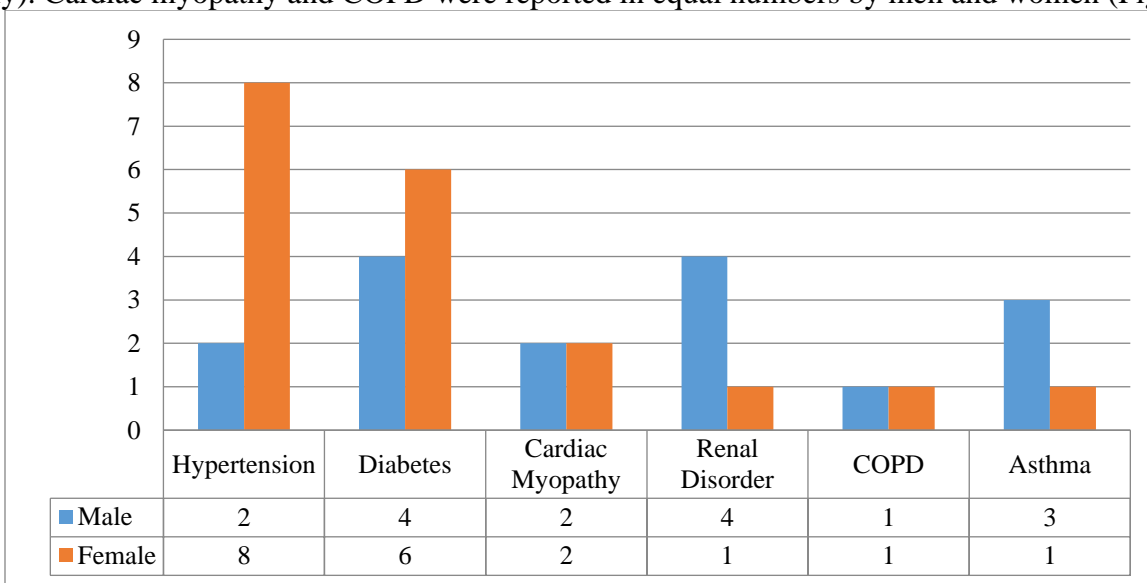

	Hypertension	Diabetes	Cardiac Myopathy	Renal Disorder	COPD	Asthma
Male	2	4	2	4	1	3
Female	8	6	2	1	1	1

Figure 1: Comorbidities According to Gender

According to the findings, 8 males were asymptomatic while only 1 female was asymptomatic; 38 males had minor symptoms while only 22 females did. On the other hand, 31 males had moderate symptoms and 53 females had moderate symptoms (Figure 2).
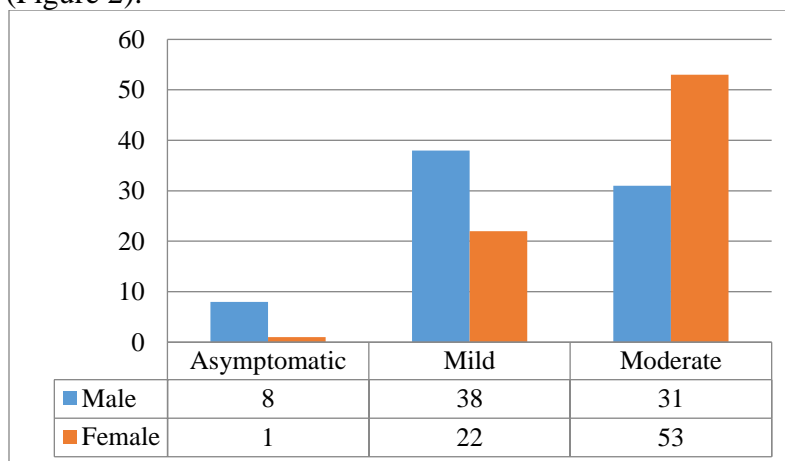

	Asymptomatic	Mild	Moderate
Male	8	38	31
Female	1	22	53

Figure 2: Disease Severity According to Gender

The severity of the disease and gender had a significant relationship (p=0.001), according to the analysis (Table 1).

Gender	Disease Severity				P-value
	Asymptomatic	Mild	Moderate	Total	
Male	8	38	31	77	
Female	1	22	53	76	0.001
Total	9	60	84	153	

Table 1: Association between Disease Severity and Gender

DISCUSSION

Hypertension, diabetes, renal disease, cardiac myopathy, asthma, and COPD were among the comorbidities reported by study participants, according to the findings of our study. While hypertension, diabetes, cardiovascular illness, lung disease, and kidney disease are clinical risk factors for a severe or deadly results connected to COVID-19, according to Zohu *et al.* in 2020 [15]. However, meta-analyses were undertaken by Yang *et al.,* and Li *et al.,* concluded that there was no evidence of a link between diabetes and the severe COVID-19-related consequences. [16,17]. Furthermore, Wang et al., found no link between CKD and the worsening of sickness in COVID-19 patients in their study [5]. In our study, the disease severity varied between genders. Similarly, a study conducted in 2020 concluded that the mortality rate among men from coronavirus is a far higher rate than among women [13]. Many studies have recently reported the gender biasness of COVID-19. Males have been observed to experience higher severity and complications for COVID-19 infection as compared to females [17,18]. Although databases show almost equal number of affected males and females but the complications, severity and mortality is observed more in males. Agewise no differences were observed among both the genders. Elderly patients of both gender were equally affected. Complications were higher in the elder age group in both genders [20]. These differences may be due to immunological responses, hormonal differences and life style such as smoking, drinking and exposure to viruses [20].

CONCLUSIONS

The study concluded that hypertension, diabetes, renal disease, cardiac myopathy, asthma, and COPD were among the comorbidities mentioned by the study participants. There was also a link between gender and the severity of the condition.

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