Original Article

Clinical Characteristics of the Patients with COVID-19 Death in a Tertiary Care Hospital

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ABSTRACT

Introduction: *Corona virus disease-2019 (COVID-19) has killed millions of people around the globe. Several thousands of people have died of the disease in Bangladesh. This highly contagious disease is continuing to infect the people of the world.* ***Methods and Materials:*** *To review the demographic and clinical features of patients who died of COVID-19 at Bangabandhu Sheikh Mujib Medical College Hospital, Faridpur, Bangladesh during 2021-2022. This retrospective observational study evaluated the demographic features and clinical characteristics of 69 patients with COVID death. Patients of 18 years or more with COVID-19, confirmed by positive Reverse Transcriptase (RT-PCR) reports of nasopharyngeal swabs who died during hospital stay were enrolled in this study. Various demographic and clinical features of the patients were analyzed using Statistical Package for Social Sciences version 29.* ***Results:*** *The mean age of the respondents was 63.45 (±13.80) years. Of 69 patients, 50 (72.5%) were male and 19 (27.5%) were female. Of the respondents, 36 (52.2%) patients had high socioeconomic status. According to occupation, the most patients were businessmen (25, 36.2%), followed by housewives (16, 23.2%) and service holders (13, 18.8%). Common comorbidities were diabetes (38, 55.1%), hypertension (35, 50.7%), smoking (17, 24.6%),*

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ischemic heart disease (15, 22.1%) and stroke (7, 10.1%). Commonly observed symptoms were breathlessness, fever, cough, fatigue, anorexia, loss of taste and loss of smell. Among the patients, 60 (87.0%) had severe and 9 (13.0%) had critical disease. ***Conclusion:*** *Higher age group, male sex, higher socioeconomic status, sedentary lifestyle, and different comorbidities, such as diabetes, hypertension, smoking, ischemic heart disease and stroke were more frequently observed in the patients with COVID-19 death.*

Key words: *COVID-19, Critical, Death, Severe.*

INTRODUCTION

The global pandemic COVID-19 is caused by the novel coronavirus "severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2)". This highly contagious disease first emerged in Wuhan, China, in December 2019 [1]. It has a typical incubation period of 4 to 5 days after exposure [2]. Although SARS-CoV-2 has several routes of transmission, it mainly transmits through respiratory droplets [3]. The spectrum of illness can range from asymptomatic infection to severe pneumonia with acute respiratory distress syndrome (ARDS) and death [4]. Respiratory tract is the principal organ to be affected by COVID-19. However, various other organ systems can be affected by COVID-19 [5-14]. Older age, presence of diabetes mellitus, malignancy, history of pulmonary tuberculosis, breathlessness at the time of admission, high quick Sequential Organ Failure Assessment score and reduced oxygen saturation at the time of admission are associated with increased risk of death from COVID-19 [15].

METHODS AND MATERIALS

This study enrolled 69 RT-PCR confirmed COVID-19 patients who died in a tertiary care hospital of Bangladesh, named Bangabandhu Sheikh Mujib Medical College Hospital, Faridpur. Data were recorded from direct interviews with the relatives of the patients and hospital records. Different comorbid conditions and risk factors for COVID-19 death were studied among patients. Data analysis was performed using Statistical Package for Social Sciences version 29.

RESULTS

The average age of patients was 63.45 years with a standard deviation of 13.80. The largest age group was 65-74 years (25, 36.2%), followed by 55-64 years (17, 24.6%) ***Table 1.***

Table I: Distribution of patients (n=69) according to age group

Age group	Frequency (no, %)
25-34	3 (4.3%)
35-44	2 (2.9%)
45-54	9 (13.0%)
55-64	17 (24.6%)
65-74	25 (36.2%)
75-84	9 (13.0%)
85-94	2 (2.9%)
95-104	2 (2.9%)

The majority of the patients were males (50, 72.5%). Number of female patients were 19 (27.5%). Of the patients, 48 (69.6%) were admitted from rural areas and 21 (30.4%) from urban areas. Maximum patients (36; 52.2%) had high socio-economic status, 22 (31.9%) patients had middle and 11 (15.9%) patients had low economic status.

Of the patients, 25 (36.2%) were businessmen, 16 (23.2%) were housewives, 13 (18.8%) were service holders, and 15 (21.7%) had other occupations.

The presence of comorbidities, especially diabetes, hypertension, history of smoking, ischemic heart disease (IHD) and stroke was noteworthy. Other comorbidities were asthma, chronic obstructive pulmonary disease (COPD), chronic kidney disease (CKD), malignancy and chronic liver disease (CLD) ***Table 2***.

Table II: Distribution of patients (n=69) according to comorbidities

Comorbidities	Frequency (No., %)
Diabetes	38 (55.1%)
Hypertension	35 (50.7%)
Smoking	17 (24.6%)
IHD	15 (22.1%)
Stroke	7 (10.1%)
Asthma	4 (5.8%)
COPD	4 (5.8%)
CKD	4 (5.9%)
Malignancy	2 (2.9%)
CLD	2 (2.9%)

The most common symptom was breathlessness (63, 91.3%), followed by fever (58, 84.1%), cough (57, 82.6%), fatigue (30, 43.5%), anorexia (22, 31.9%), loss of taste (15, 21.7%) and loss of smell (9, 13.0%). Other features were headache (8, 11.6%), myalgias (8, 11.6%), diarrhea (6, 8.8%), sore throat (5, 7.2%), nausea (5, 7.2%), nasal congestion (4, 5.8%), vomiting (3, 4.3%), deep vein thrombosis (DVT) (0, 0.0%), pulmonary embolism (0, 0.0%) and others (4, 5.8%) ***Table 3***.

Table III: Distribution of patients (n=69) according to clinical features

Features	Frequency (No., %)
Breathlessness	63 (91.3%)
Fever	58 (84.1%)
Cough	57 (82.6%)
Fatigue	30 (43.5%)
Anorexia	22 (31.9%)
Loss of taste	15 (21.7%)
Loss of smell	9 (13.0%)
Headache	8 (11.6%)
Myalgias	8 (11.6%)
Diarrhea	6 (8.8%)
Sore throat	5 (7.2%)
Nausea	5 (7.2%)
Nasal congestion	4 (5.8%)
Vomiting	3 (4.3%)
DVT	0 (0.0%)
Pulmonary embolism	0 (0.0%)
Others	4 (5.8%)

Out of 69 patients, 60 (87.0%) patients had severe disease and 9 (13.0%) patients developed critical COVID-19.

DISCUSSION

This study reviewed 69 COVID-19 deaths. The average age of the patients was 63.45 years, with males outnumbering females. Among the deaths, most patients had higher socio-economic status. Of the patients, maximum were businessmen. The most frequently observed comorbidities among the patients were diabetes, hypertension, history of smoking, ischemic heart disease and stroke. Therefore, higher age, male sex, high socioeconomic status, occupations with sedentary lifestyle, history of smoking, and presence of comorbidities, especially diabetes, hypertension, ischemic heart disease and stroke may be the predictors of death from COVID-19.

Breathlessness, fever, cough, fatigue, anorexia, loss of taste were the common presenting features of the patients who died of COVID-19. A study in Italy revealed important causes of death as refractory hypoxia, massive pulmonary thrombosis and multiple organ failure [16]. Another study in USA reported that mortality was increased among the patients on mechanical ventilation. Male sex, older age, obesity, geographic region and the presence of chronic kidney disease or preexisting cardiovascular disease were associated with an increased odds of mechanical ventilation [17].

CONCLUSION

This study evaluated demographic features, clinical presentation and comorbidities of the patients who died of COVID-19 at hospital. Higher age group, male sex and higher socioeconomic status were more commonly observed in the patients. Sedentary lifestyle, history of smoking, and different comorbidities, such as diabetes, hypertension, ischemic heart disease and stroke were also more frequently found in the patients with COVID-19 death. Patients presenting with these features and comorbidities should alert the physician about the high risk of mortality and these results can help to rationalize early appropriate therapy.

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