

Original Article

An Experience of 436 COVID-19 Patients in Bangladesh

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Abstract:

SARS-CoV-2 corona virus infection (COVID-19) is a public health emergency of international concern causing many deaths. The aim of this study was to assess demography, clinical presentation, blood group, disease severity and outcome of COVID-19 infected patients in Bangladesh. This is a cross sectional, observational study of 436 COVID-19 infected patients, confirmed by RT-PCR assay's on nasopharyngeal swab specimens, presented at Faridpur Medical College Hospital and Kurmitola General Hospital during the month of May to September, 2020. Data were collected in a preformed data sheet and analyzed for variables included demography, source of infection, spreading within family, clinical features, blood group, disease severity and outcome. Study showed mean age 41.27±16.65 years with slight male predominance (1.87:1), most were service holder (47%), source of infection was unknown (40%), from infected family members (35%) and working place (23%). In 44% cases, family members of infected index cases were unaffected. Common co-morbidities were Diabetes Mellitus (19.7%) and Hypertension (19%). Blood group of most (41.29%) was B positive. Disease spectrum ranged from asymptomatic (15%), mild (53%), moderate (19%) and severe (13%) disease. Common presenting symptoms were fever (72.2%), cough (42.9%), dyspnoea (29.6%), myalgia (22.9%), anorexia (17.9%), fatigue (17.4%), diarrhea (13.5%), headache (12.4%) and anosmia (12.4%). Majority (75.2%) had nonspecific (fever, mayalgia, fatigue) symptoms and in 16.28% cases it was the only presentation. Respiratory (61.9%) and GI (28.4%) symptoms presented either concomitantly or with nonspecific symptoms (55%). Majority (95%) of patients recovered and only 5% died.

Key words: Corona virus, COVID-19.

Introduction:

Bangladesh is in the midst of corona virus disease (COVID-19) as a part of global pandemic, first detected in Wuhan, Hubei province, China, on

December 31, 2019¹. IEDCR (Institute of Epidemiology Disease Control and Research) declared the first three cases in Bangladesh on 8th March, 2020².

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Now Bangladesh is the second most affected country in South Asia, after India³. Total 378,266 cases were detected till 11th October, 2020 with 5,524 deaths⁴. Almost 2.2% of the world's population live in Bangladesh⁵. COVID-19 is a highly contagious disease transmitted by respiratory droplets. Disease severity and death (1.41%)⁶ due to COVID-19 seems to be lower in a densely populated country like Bangladesh where 1,237.51 people live per square kilometer⁷. Here we present the demography, clinical presentation, severity, outcome of COVID-19 infected patients presented at Faridpur Medical College Hospital and Kurmitola General Hospital during the month of May to September, 2020.

Materials and Methods:

This is an observational, cross sectional study of 436 patients with COVID-19 who were confirmed through reverse transcriptase polymerase chain reaction (rtPCR) assays performed on nasopharyngeal swab specimens. Data were manually extracted from hospital records and also over telephone and recorded in a preformed data sheet. Age, sex distribution, occupation, source of infection, spreading in family members, blood group, associated co-morbidity, clinical presentation, disease outcome as recovery and death were assessed through SPSS version 20 analysis.

Results:

The lowest age of corona detection was of three months of age with a maximum of 100 years with a mean age of 41.27±16.65 years. Majority of patients, 128 (29.4%) belongs to 31-40 years age group followed by 90 (20.6%) in 41-50 years age group. Children (<10 years) and above 70 years people are less commonly infected (Figure 1).

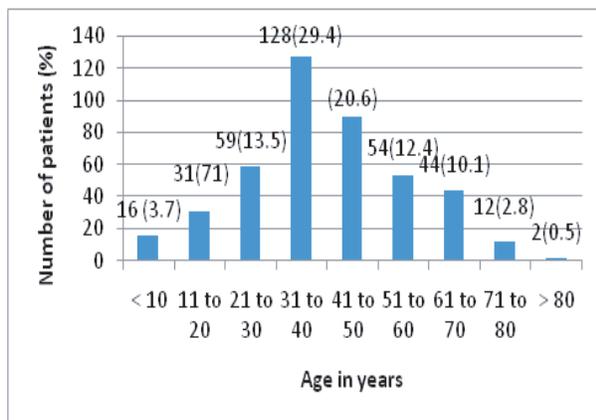


Figure 1: Distribution of patients according to age of the patients (n=436).

Out of 436 patients, 284 (65%) were male and 152 (35%) were female with a male to female ratio of 1.87:1. Regarding occupation, 206 (47%) patients were service holder, 79 (18%) were housewives followed by 60 (14%) were businessman. Total 174 (40%) patients didn't know how they became infected, 151(35%) patients got infection from their family members and 102 (23%) from their working place (Figure 2).

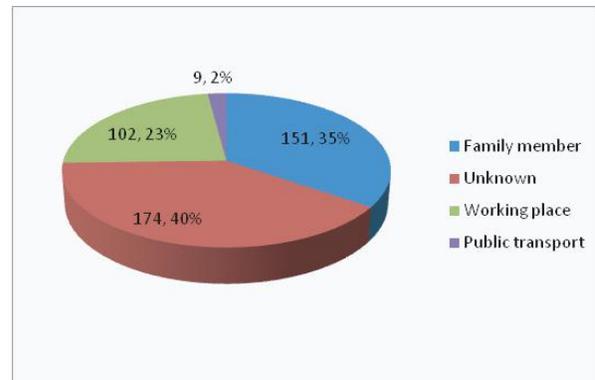


Figure 2: Distribution of patients according to source of infection (n=436).

Regarding spreading of COVID-19 among family members, this study revealed that family members were unaffected in 193 (44%) infected index cases. One hundred and sixty six (38%) patients has got up to 5 affected family members & 68 (16%) patients had more than 5 affected family members (Figure 3).

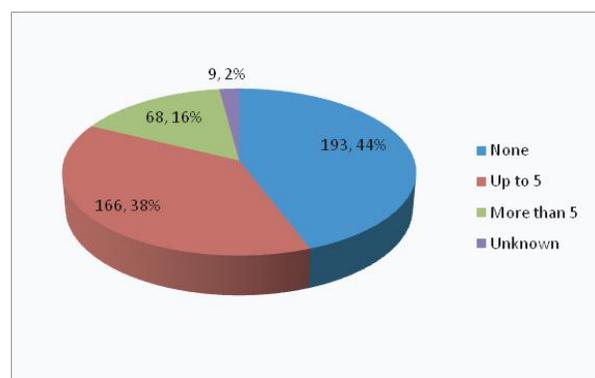


Figure 3: Distribution of patients according to number of affected family members (n=436).

Among 436 patients, 264 (61%) patients knew their blood group, patients with B positive blood group were most commonly (109 patients, 41.29%) infected with COVID-19 followed by A positive (70 patients, 26.5%) and O positive (61 patients, 23.1%) (Table I).

Table I: Distribution of patients according to blood group.

Blood group	No. patients (%) (n=436)
Not known	172 (39)
Known	264 (61) (n=264)
- A negative	1 (0.38)
- A positive	70 (26.5)
- AB negative	2 (0.76)
- AB positive	16 (6.06)
- B negative	2 (0.76)
- B positive	109 (41.29)
- O negative	3 (1.14)
- O positive	61 (23.1)

Different co-morbid conditions were also studied among patients. Diabetes mellitus was found in 86 (19.7%) patients, Hypertension in 83 (19%) patients, Bronchial asthma in 20 (4.6%) patients, Ischemic heart disease in 19 (4.4%) and chronic kidney disease (2.5%) (Table II)

Table II: Distribution of patients according to presence of co-morbidities (n=436).

Co-morbidities	N/O patients (%)
Diabetes mellitus	86 (19.7)
Hypertension	83 (19.0)
Bronchial asthma	20 (4.6)
Ischemic heart disease	19 (4.4)
Chronic kidney disease	11 (2.5)
Chronic obstructive airway disease	5 (1.15)
Hypothyroid	4 (0.92)
Cirrhosis of liver	3 (0.69)
Carcinoma oesophagus	1 (0.23)
Chronic pancreatitis	1 (0.23)
Parkinson's disease	1 (0.23)
Corrosive induced esophageal stricture and Gastric outlet obstruction	1 (0.23)
Lymphoma	1 (0.23)
Old stroke	1(0.23)
Thyrotoxicosis	1(0.23)

Regarding clinical presentation, 15% (67/436) patients were asymptomatic and 75.2% (328/436) had nonspecific symptoms. Respiratory and

Gastrointestinal (GI) symptoms were present in 61.9% (270/436) and 28.4% (124/436) cases respectively. Total 16.28% (71/436) presented with only nonspecific symptoms without any typical respiratory and GI symptoms. Respiratory symptoms are usually associated with nonspecific symptoms (55%, 240/436) and GI symptoms (24.1%, 105/436). Presentation with only respiratory symptoms was 4.59% (20/436) and only GI symptoms in 0.46% (2/436). The most common systemic symptoms were fever (72.2%) followed by myalgia (22.9%), fatigue (17.4%) & headache (12.4%). Insomnia, diplopia, acute psychosis and intense pruritus were noted at presentation of COVID-19 (Table III).

Table III: Distribution of patients according to systemic symptoms (n=436).

Systemic symptoms	N/O patients (%)
Fever	315 (72.2)
Myalgia	100 (22.9)
Fatigue	76 (17.4)
Headache	54 (12.4)
Unconsciousness	3 (0.7)
Burning eye	2 (0.46)
Insomnia	2 (0.46)
Anuria	1 (0.23)
Diplopia	1 (0.23)
Pruritus	1 (0.23)
Psychosis	1 (0.23)

The most common respiratory symptom was cough, present in 187 patients (42.9%) followed by dyspnoea (129 patients, 29.6%) and anosmia (54 patients, 12.4%) (Table IV).

Table IV: Distribution of patients according to respiratory symptoms (n=436).

Respiratory symptoms	N/O patients (%)
Anosmia	54 (12.4)
Chest pain	15 (3.4)
Nasal congestion/rhinorrhoea	25 (5.7)
Cough	187 (42.9)
Sore throat	29 (6.7)
Dyspnoea	129 (29.6)
Haemoptysis	5 (1.1)

Out of 436 patients, 78 patients (17.9%) had anorexia. Diarrhoea was the next common symptom (59 patients, 13.5%) followed by vomiting (16 patients, 3.7%) and abdominal pain (10 patients, 2.3%) (Table V).

Table V: Distribution of patients according to gastrointestinal symptoms (n=436).

GI Symptoms	N/O Patients (%)
Anorexia	78 (17.9)
Nausea	16 (3.7)
Vomiting	16 (3.7)
Diarrhoea	59 (13.5)
Abdominal pain	10 (2.3)
Jaundice	2 (0.46)
Constipation	1 (0.23)

According to severity, 67 (15%) patients were asymptomatic, 231 (53%) patients had mild disease, 83 (19%) had moderate disease and 55 (13%) had severe disease (Fig-4).

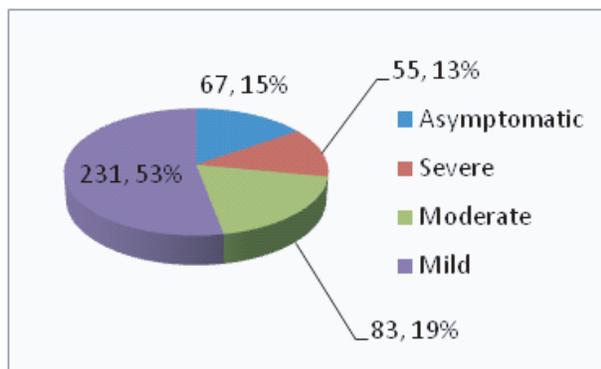


Figure 4: Distribution of patients according to severity of illness (n=436).

Out of 436 patients, 414 patients (95%) recovered and 22 patients (5%) died (Fig-5)

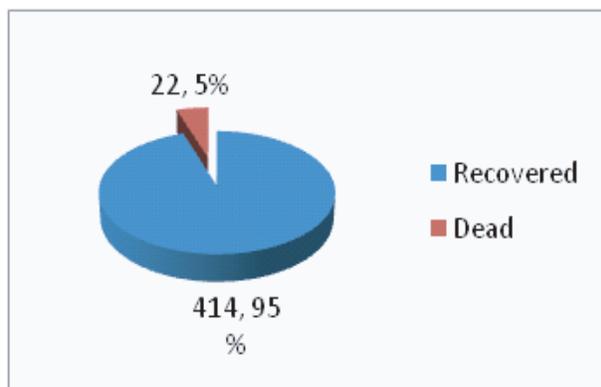


Figure 5: Distribution of patients according to outcome (n=436).

Discussion:

This was an observational study of 436 COVID-19 patients where middle aged people (mean 41.27±16.65 years) were most commonly infected with lowest of three months of age. Children and above 70 years were less commonly infected. In United States (October 6,2020) the median age of COVID-19 infection was 48 years, age incidence in children is 9 years and younger is 1.4% and 70-79 years (8%), 80 years and older 8.7%⁸. One explanation of less incidence of COVID-19 in elderly people may be that only 5.2% people of Bangladesh are more than 65 years of age⁹. In this study we found slight male predominance with male female ratio of 1.87:1, whereas incidence was similar among male and female in other studies⁸.

Most (47%) infected patients were service holder, 40% patients didn't know how they became infected, 35% patients got infection from their family members and 23% from their working place. Family members were uninfected in 44% infected index cases. Total 38% patients has got up to 5 affected family members & 16% patients had more than 5 affected family members which indicate lack of awareness and appropriate precautions regarding COVID-19 infection which may be a reflection of our poor socioeconomic status.

Commonest symptoms were fever (72.2%), cough (42.9%), dyspnoea (29.6%), myalgia (22.9%), fatigue (17.4%), anorexia (17.9%), diarrhea (13.5%), headache (12.4%) and anosmia (12.4%). This is consistent with that of clinical features found in Wuhan, China, where fever, cough, and shortness of breath were the commonest symptoms¹⁰. In this study characteristically sore throat (6.7%), nasal congestion, rhinorrhoea (5.7%), nausea, vomiting (3.7%), abdominal pain (2.3%) were less common. Among neurological symptoms headache (12.4%) was the commonest but insomnia, diplopia and acute psychosis were also noted. Fever was less commonly reported in European patients (45.4%)¹¹ and headache (70.3%), loss of smell (70.2%), nasal obstruction (67.8%), rhinorrhoea (60.1%), sore throat (52.9%) were more commonly noted¹¹ than Bangladeshi SARS-CoV-2 infected patients. Other common symptoms were cough (63.2%), asthenia (63.3%), myalgia (62.5%) were also similar to our study¹¹.

Cheung et al conducted a systematic review and meta-analysis where GI symptoms were reported in 17.6% COVID-19 infected patients¹². In this study we found GI symptoms in 28.4% (124/436) cases usually in association with respiratory and nonspecific symptoms. Common GI symptoms were anorexia (17.9%) and diarrhea (13.5%). Nausea, vomiting (3.7%) and abdominal pain (2.3%) were less common. Isolated GI

symptoms were only in 0.46% (2/436) cases. In another study diarrhea (19.3%), nausea/vomiting (11.5%), abdominal pain (7.6%) were common GI manifestations⁸.

In this study 75.2% (328/436) cases had nonspecific symptoms (fever, myalgia, fatigue, headache) and in 16.28% (71/436) cases it was the only presenting feature of COVID-19 without any typical respiratory and GI symptoms.

In this study, blood group of most patients was B positive (41.29%) followed by A positive (26.5%) and O positive (23.1%). As most of our patients are with mild cases, blood group does not correlate with the severity of the disease. The common co-morbid conditions were diabetes mellitus (19.7%), hypertension (19%), bronchial asthma (4.6%), ischemic heart disease (4.4%) and chronic kidney disease (2.5%) which is similar to other studies where hypertension (49.7%), obesity (48.3%), chronic lung disease (34.6%), diabetes mellitus (28.3%), cardiovascular disease (27.8%) were commonly present¹³.

Presentations of COVID-19 varied from asymptomatic to mild symptoms to severe illness and death. Total 15% patients were asymptomatic. Infectiousness of asymptomatic individuals relative to symptomatic individuals is 100% and in other studies 35% asymptomatic SARS-CoV-2 infection rate was noted¹⁴. Most cases were mild (53%) but 19% & 13% patients had moderate and severe disease respectively. In another study at presentation, approximately 40% "mild" cases, 40% "moderate", 15% severe and 5% critical cases were noted¹⁵. Wu and McGoogan reported that, 81% were mild¹⁶.

In this study 95% COVID-19 infected patients recovered and 5% died. But death rate in Bangladesh has been reported as 1.41%¹⁷. Higher death rate in our study may be due to biasness, as majority of our patients were hospitalized. So, it may not reflect the total population death rate in Bangladesh.

Conclusion:

COVID-19 can affect all age groups but mostly among 4th and 5th decade. Source of infection were not known in large number of patients but infection from family member and working place is very important. At least one family members were affected in more than half of the patients, so personal protection is very important to prevent spread of infection. Almost one third patients may not have fever. Besides respiratory symptoms, anorexia, diarrhoea & anosmia are important feature which presents in more than two third and more than half of the patients respectively. In this study, more than one third of severe cases died; it denotes high fatality among severe COVID-19.

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