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Clinical Profile of Suspected and Confirmed COVID-19 Pneumonia Patients Admitted in a Tertiary Care Hospital, Sylhet, Bangladesh

Bidith Ranjan Deb[1], Archana Dev[2], Momtaz Begum[3], Sadia Malik Chowdhury[4]

[1]Associate Professor, Department of Medicine, Jalalabad Ragib-Rabeya Medical College, Sylhet.
[2]Associate Professor, Department of Paediatrics, Jalalabad Ragib-Rabeya Medical College, Sylhet.
[3]Professor, Department of Medicine, Jalalabad Ragib-Rabeya Medical College, Sylhet.
[4]Registrar, Department of Medicine, Jalalabad Ragib-Rabeya Medical College, Sylhet.

ABSTRACT

Coronavirus disease 2019 (COVID-19), caused by Severe Acute Respiratory Syndrome Coronavirus-2 (SARS-COV-2) has been declared a pandemic by the World Health Organization (WHO) with increasing morbidity and mortality. This cross-sectional study on 408 patients with suspected and confirmed COVID-19 pneumonia was conducted at the isolation ward for COVID-19 patients at Jalalabad Ragib-Rabeya Medical College Hospital, Sylhet, from October 2020 to December 2020. Their RT-PCR test was done from the designated laboratory and 48 of them were confirmed to be COVID-19 patients. The detailed demographics and clinical outcomes of the suspected and confirmed patients were analyzed. The mean age was 59±25 in the confirmed group and 56±15 in the negative group. The majority of the confirmed and suspected COVID-19 patients were between the ages of 61 and 70 (27.1% and 25.8%, respectively). Most of the patients were male, both in the confirmed (58.3%) and in the suspected group (53.6%). Fever, cough, dyspnoea, fatigue, headache, anorexia, and sore throat were common in both the suspected and confirmed groups, but dyspnoea (66.7%, p=0.0001), headache (33.3%, p=0.018), vomiting (33.3%, p=0.001), and sore throat (16.7%, p=0.002) were more frequently reported in the confirmed patients group than in the suspected patients. Fewer patients had COPD in the COVID-19 positive group than in the negative group (8.3% vs 26.7%, p=0.009), but diabetes mellitus was more common in the confirmed group than the suspected group (66.7% vs 48.9%, p=0.030). There were no significant differences in a range of other comorbidities, including hypertension (66.7% vs 56.8%, p=0.308), cerebrovascular disease (10.42% vs 13.3%, P=0.73), and asthma (16.7% vs 14.4%, p=0.848) in the confirmed and suspected groups. On the patient's blood test, reduced WBC count was more common in the confirmed group than in the suspected group (16.7% vs 2.2%, p=0.000). C-reactive protein (CRP) levels were above normal in 48 (100%) of confirmed patients and 333 (92.2%) of suspected patients, which was not statistically significant (p=0.089). However, D-Dimer (100% vs 78.9%, p=0.000), Serum Ferritin (100% vs 78.9%, p=0.000), and Serum ALT (100% vs 51.1%, p=0.000) levels were significantly higher in the COVID-19 positive group. On CXR, bilateral consolidation was more common in the COVID-19 positive group than the COVID-19 negative group (83.3% vs 42.2%, p=0.000), whereas unilateral consolidation was more common in the suspected group than the confirmed group (38.9% vs 0%, p=0.000). On high resolution computed tomography (HRCT), ground glass opacities (GGO) were more common in confirmed patients than suspected patients (95% vs 55%, p=0.04). A higher proportion of patients with COVID-19 positive were referred to COVID dedicated hospitals than COVID negative patients (66.7% vs 5.6%, p=0.000). Sixteen (33.3%) of confirmed patients were discharged with advice. No death was observed in the confirmed group and 1.9% patients died in the suspected group. The maximum COVID-19 patients were aged over 60 and male. Typical presentations were fever, cough, dyspnoea, fatigue, anorexia, headache, vomiting, and sore throat, common in both confirmed and suspected groups. Hypertension and diabetes mellitus were the most common comorbidities. In confirmed COVID 19 patients, reduced WBC count and high CRP, Serum Ferritine, D-dimer, and Serum ALT were common laboratory findings, and bilateral consolidation on chest X-ray and ground glass opacities in HRCT were common radiological findings.

Keywords: *COVID-19, Corona virus, Suspected case, Confirmed case.*

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INTRODUCTION

A new Corona virus infection, named Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-COV-2) in December 2019, caused acute respiratory syndrome in Wuhan, Hubei Province, China, and quickly spread around the world[1]. Despite extensive efforts to prevent onward rapid spread, 221 countries and territories with 79,232,555 confirmed cases and 1,754,493 deaths till 27 December 2020 have been reported worldwide[2]. On March 11, 2020, the WHO also designated COVID-19 as a pandemic[3].

According to an epidemiological investigation, the general population is susceptible to SARS-CoV-2, which has a possible route of transmission via droplet and contact[4]. Because symptoms overlap significantly with other respiratory infections like influenza, diagnosis remains difficult. The governments of different countries have developed and adopted various policies to contain this pandemic, and the most common were the wearing of masks, hand washing, social distancing, and lockdown.

COVID-19 is a progressive disease entity and the pathogenesis of the disease varies considerably[5]. At one end, several patients with COVID-19 remain asymptomatic and the only feature of COVID-19 is the presence of SARS-CoV-2 in the nasal swab or other body fluid or tissue[6]. A second group of patients develop subjective symptoms like malaise, weakness, fever, loss of appetite, and change of taste with nominal respiratory distress[4]. Finally, some patients develop serious respiratory symptoms such as pneumonia and ultimately develop multiple organ failure[7].

The molecular and cellular mechanisms underlying these diversities are yet to be explored, and it is assumed that distorted immunity such as low responsiveness to interferon at the early stage and cytokine storm at the late stage of the disease may play cardinal roles in the pathogenesis of COVID-19[8]. However, all the hypotheses, theories, and observations should be confirmed by scientific evidence as COVID-19 may be a more complex disease with involvement of multiple organs and tissues[1].

Cohort studies of hospitalized patients have shown that about a quarter of patients with severe COVID-19 die, and the risk factors such as age, obesity, male sex, and comorbidities are associated with adverse outcomes[9].

Guan et al. published a report on 1099 patients with laboratory confirmed COVID-19 from 552 hospitals in 30 provinces, autonomous regions, and municipalities in mainland China through January 29, 2020. The most common symptoms reported were cough (67.8%) and fever (43.8%); diarrhoea (3.8%) was uncommon. A severe form of the disease was reported in the elderly and in patients with co-morbidities. Overall reported cases of death in this study were 15 (1.4%)[4].

Bangladesh, a country of 170 million people, detected its first case of COVID-19 on March 8, 2020, and the first fatality was recorded on March 18, 2020[1]. The number of COVID-19 patients with morbidity and mortality has been increasing since then. Despite some preventive measures, COVID-19 has reached all administrative districts in Bangladesh. Between 8th March and 6th December, there were 509,148 cases and 7452 deaths, and the case fatality rate was 1.46%. Bangladesh was the top-27th country in the world and accounts for 0.64% of the global COVID-19 disease burden in the world. As of 27th December, 2020, 68% of reported cases were from Dhaka division, 12.3% from Chattogram and the lowest, 1.5%, from Mymensingh division, while from Sylhet, it is 2.9%. And 54.7% of the reported deaths were from Dhaka division, 18.8% from Chattogram division, and the lowest, 2.2% from Mymensingh division, and in Sylhet, the death rate is 3.9%[10]. High population density, poor personal hygiene practices, and poor economic conditions make the majority of the Bangladeshi population particularly vulnerable to this virus.

So, in Bangladesh, we need a strategy for the containment of SARS-COV-2 and management of COVID-19 on the basis of several realities of our country: social position, economic strategy, and healthcare delivery system. Our real life situation also indicates that we need to develop a comparatively cheaper and more effective therapy for the management of COVID-19 patients[1].

In this study, we intend to compare the epidemiological, clinical, laboratory and radiological characteristics and outcomes between patients with

Address of Correspondence: *Dr. Bidith Ranjan Deb, Associate Professor, Department of Medicine, Jalalabad Ragib-Rabeya Medical College, Sylhet. Mobile: 01819675416, Email: bidithdeb@gmail.com*

confirmed COVID-19 infections and those suspected of having COVID-19 infections by analyzing the cases admitted in the isolation ward of COVID-19 of Jalalabad Ragib-Rabeya Medical College Hospital, Sylhet.

MATERIALS AND METHODS

This cross-sectional study was conducted at the isolation ward for COVID-19 patients of Jalalabad Ragib-Rabeya Medical College Hospital, Sylhet from October 2020 to December 2020. A total of 408 patients with suspected and confirmed COVID-19 pneumonia were enrolled in the study by the consecutive sampling method. The diagnosis standard of suspected and confirmed cases was detected according to the case definition of the "National Guidelines on Clinical Management of Coronavirus Disease 2019 (COVID-19)", Bangladesh[11]. A nasal swab was obtained from all patients and sent to the laboratories of the Microbiology Department of Sylhet M.A.G. Osmani Medical College for RT-PCR for COVID-19 disease. After obtaining appropriate consent, data were collected from patients or their attendants using a structured questionnaire. The epidemiological features, symptoms and signs at admission, comorbidity, laboratory findings, chest CT findings, and clinical outcomes of the suspected and confirmed cases were analyzed. Statistical analysis was performed using the Statistical Package for Social Sciences Version 20 for Windows (SPSS Inc, Chicago, Illinois, USA). Qualitative data was expressed as frequency and percentage. Quantitative data was expressed as median, mean, and standard deviation. A Chi-square (χ^2) test was performed with a p-value of <0.05 was considered to be significant.

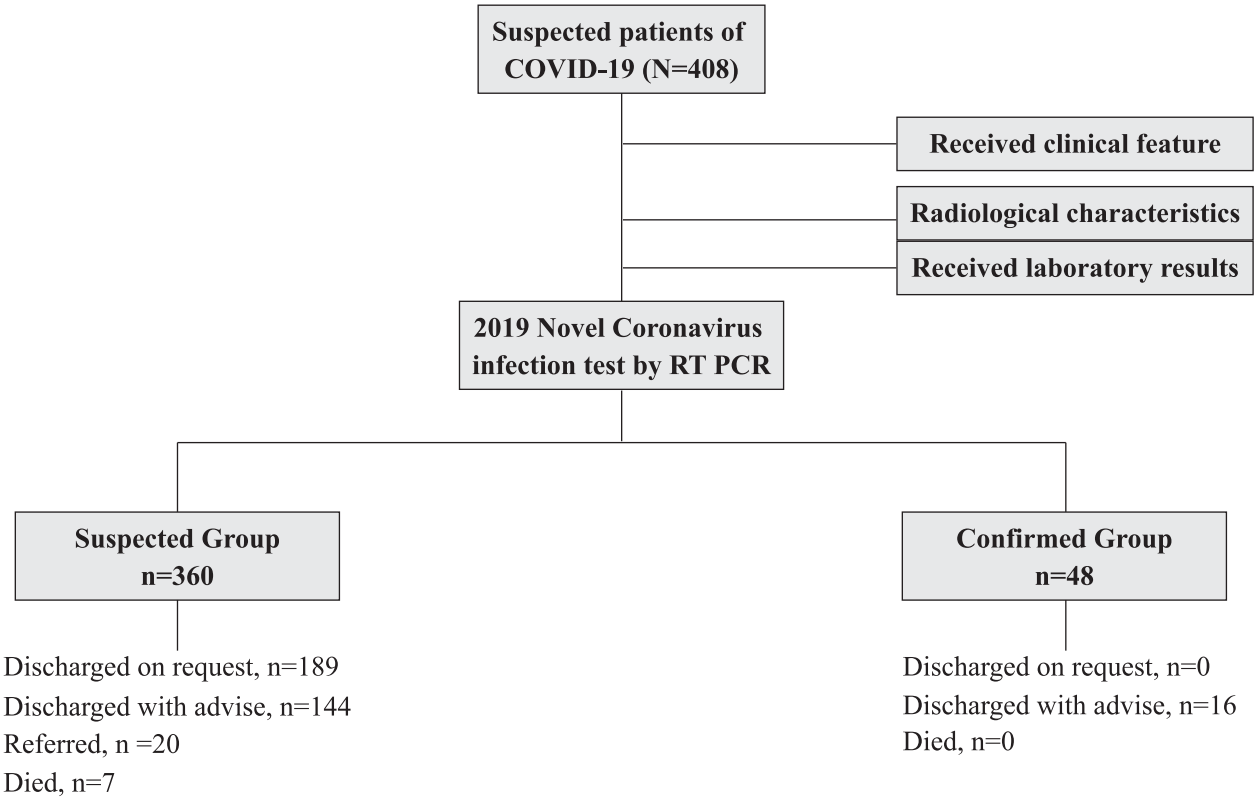

Figure-1: *Flow chart of patients' selection for the study.*

RESULTS

A total of 408 patients presenting to this hospital with acute respiratory illness or otherwise suspected of having COVID-19 infection were tested for SARS-CoV-2 and included in this analysis. Among them, 48 (11.8%) tested RT-PCR positive and 360 (88.2%) tested RT-PCR negative for SARS-CoV-2. The median age of COVID-19 positive patients was 49 years versus 55.5 years in COVID-19 negative patients, and the mean age was 59±25 years in the COVID-19 confirmed group and 56±15 years in the suspected group. Of the 48 confirmed patients, the age groups 61-70 years and older than 70 years each represented 27.1%, while 93 (25.8%) of the 360 suspected patients were from the age group 61-70 years, followed by 86 (23.88%) patients were from the age group 51-60 years (Figure 2).

The majority of patients in both the confirmed and suspected groups were male (58.3% and 53.6%, respectively). Thirty-six (75%) of confirmed patients and 252 (70%) of suspected patients came from urban areas. Sixteen (33.3%) were current smokers in the COVID-19 positive group versus 124 (34.4%) in the COVID-19 negative group (Table-I).

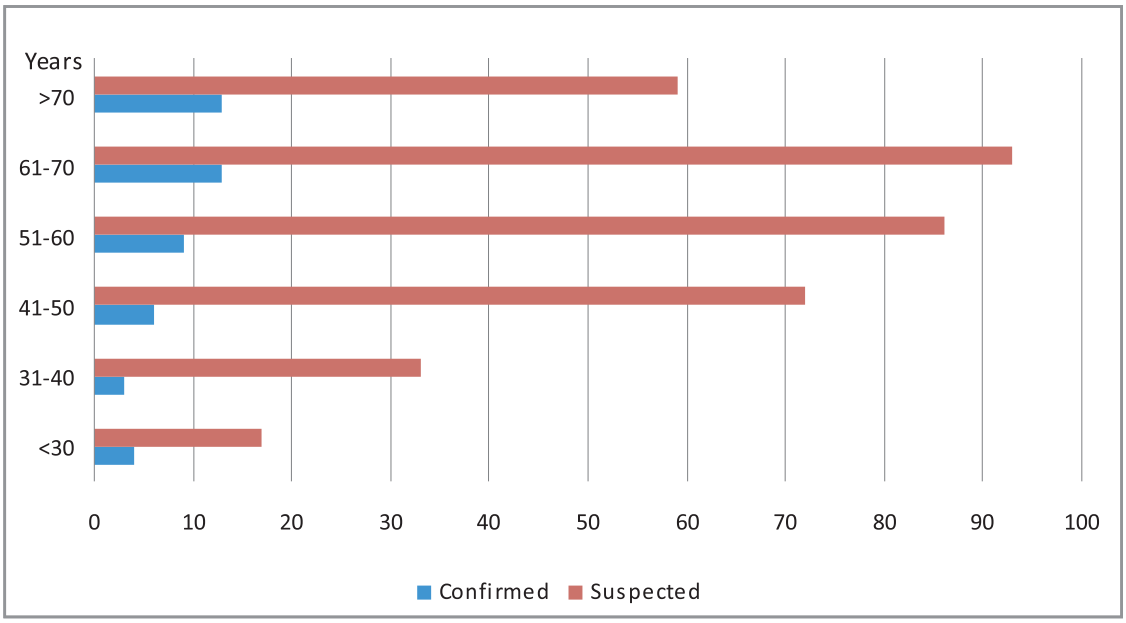

Figure-2: *Distribution of suspected and confirmed cases of COVID-19 according to age, N=408*

Table-I: *Demographic characteristics of suspected and confirmed cases of COVID-19, N=408*

Demographics		**Suspected COVID-19 n (%)**	**Confirmed COVID-19 n (%)**
Age (years)	Median	55.5 (16-95)	49 (13-85)
	Mean±SD	56±15	59±25
Gender	Male	193 (53.6)	28 (58.3)
	Female	167 (46.4)	20 (41.7)
Residence	Urban	252 (70)	36 (75)
	Rural	108 (30)	12 (25)
Current smoking	Yes	124 (34.4)	16 (33.3)
	No	236 (65.6)	32 (66.7)

The common onset of symptoms such as fever, cough, dysponea, fatigue, headache, anorexia, sore throat were similar between the two groups, but dysponea (66.7% vs 37.8%, p=0.0001), headache (33.3% vs 17.8%, p=0.018), vomiting (33.3% vs 13.3%, p=0.0001), and sore throat (16.7% vs 4.4%, p=0.002) were more frequently reported in confirmed patients than in suspected patients, which were statistically signnificant (Table-II).

Fewer patients had chronic obstructive pulmonary disease (COPD) in the COVID-19 positive group than in the negative group (8.3% vs 26.7%, p=0.009). But diabetes mellitus was more common in the confirmed group than the suspected group (66.7% vs 48.9%, p=0.030). There was no significant difference in a range of other comorbidities, including hypertension, cerebrocascular disease, cardiovascular disease, and asthma (Table-III).

Table-II: *Clinical manifestations of suspected and confirmed cases of covid-19, N=408*

Clinical manifestations	Suspected n (%)	Confirmed n (%)	p-value
Fever	340 (94.4)	44 (91.7)	0.658
Cough	264 (73.3)	32 (66.7)	0.423
Dyspnoea	136 (37.8)	32 (66.7)	0.0001
Fatigue	96 (26.7)	16 (33.3)	0.423
Anorexia	96 (26.7)	12 (25)	0.942
Anosmia	64 (17.8)	8 (16.7)	1
Headache	64 (17.8)	16 (33.3)	0.018
Chest pain	64 (17.8)	4 (8.3)	0.148
Confusion	40 (11.1)	4 (8.3)	0.737
Vomiting	48 (13.3)	6 (33.3)	0.0001
Diarrhoea	28 (7.8)	2 (4.2)	0.544
Sore throat	16 (4.4)	8 (16.7)	0.002
Altered sense of taste	36 (10)	8 (16.7)	0.249
Others	60 (16.7)	12 (25)	0.222

*One respondent considered more than one response.

Table-III: *Co-morbidities associated with suspected and confirmed cases of COVID-19, N=408*

Co-morbidities	Total N (%)	Suspected n (%)	Confirmed n (%)	p-value
Hypertension	240 (58.8)	208 (56.8)	32 (66.7)	0.308
Diabetes mellitus	208 (50.9)	176 (48.9)	32 (66.7)	0.030
COPD	100 (24.5)	96 (26.7)	4 (8.3)	0.009
Cerebrovascular disease	60 (14.7)	52 (14.4)	8 (16.7)	0.848
Asthma	60 (14.7)	52 (14.4)	8 (16.7)	0.848
Cardiovascular disease	53 (12.9)	48 (13.3)	5 (10.4)	0.736
Obesity	44 (10.7)	40 (11.1)	4 (8.3)	0.737
CKD	44 (10.7)	36 (10.0)	8 (16.7)	0.249
Others	69 (16.9)	64 (17.8)	5 (10.4)	0.283

*One respondent considered more than one response.

Regarding the patient's blood reports, patients with reduced WBC count were more common in the confirmed group than in the suspected group (16.7% vs 2.2%, p=0.000). However, there was no significant difference in reduced lymphocyte count between the two groups (83.3% vs 86.7%, p=0.683). C-reactive protein (CRP) was above the normal range in 48 (100%) of confirmed patients and 332 (92.2%) of suspected patients, but this was not statistically significant (p=0.089). But D-Dimer (100% vs 82.2%, p=0.002) and ferritin (100% vs 78.9%, p=0.000) level were significantly higher in the COVID-19 positive group. Regarding liver function tests, elevation of alanine aminotransferase (ALT) was detected in 100% of the confirmed patients and 51.1% of the suspected patients (p=0.0001). Variable degrees of renal function impairment as represented by elevation of serum creatinine were detected in 12 (25%) of the confirmed patients and 48 (13.3%) of the suspected patients. There were no significant differences in the random blood sugar and serum electrolytes between the two groups (p>0.05) (Table-IV).

Table-IV: *Laboratory findings of suspected and confirmed cases of COVID-19 infection, N=408*

Laboratory findings		**Total N (%)**	**Suspected n (%)**	**Confirmed n (%)**	**p-value**
TC of WBC	Normal	248 (60.8)	220 (61.1)	28 (58.3)	0.831
	Increased TC	144 (35.3)	132 (36.7)	12 (25)	0.153
	Decreased TC	16 (3.9)	8 (2.2)	8 (16.7)	0.000
Lymphocyte count	Normal	56 (13.7)	48 (13.3)	8 (16.7)	0.683
	Decreased	352 (86.3)	312 (86.7)	40 (83.3)	0.683
CRP	Increased	380 (93.1)	332 (92.2)	48 (100)	0.089
D-Dimer	Increased	344 (84.3)	296 (82.2)	48 (100)	0.002
Ferritin	Increased	332 (81.4)	284 (78.9)	48 (100)	0.000
Serum creatinine	Normal	348 (85.3)	312 (86.7)	36 (75)	0.053
	Increased	60 (14.7)	48 (13.3)	12 (25)	0.053
Serum ALT	Normal	176 (43.1)	176 (48.9)	0 (0)	0.000
	Increased	232 (56.9)	184 (51.1)	48 (100)	0.000
RBS	Normal	204 (50)	184 (51.1)	20 (41.7)	0.282
	Increased	204 (50)	176 (48.9)	28 (58.3)	0.323
Serum electrolyte	Normal	240 (58.8)	212 (58.9)	28 (58.3)	0.941
	Electrolytic imbalance	168 (41.2)	148 (41.1)	20 (41.7)	1
CXR	Pneumonitis	76 (18.6)	68 (18.9)	8 (16.7)	0.861
	Unilateral consolidation	140 (34.3)	140 (38.9)	0 (0)	0.000
	Bilateral consolidation	192 (47.1)	152 (42.2)	40 (83.3)	0.000
HRCT	GGO	168 (41.2)	130 (36.1)	38 (79.1)	0.04
	Consolidation	97 (23.8)	95 (26.4)	2 (4.2	0.001
	Others*	11 (2.7)	11 (3.1)	0 (0)	0.359
	Not done	132 (32.3)	124 (34.4)	8 (16.7)	

*Others include plural thickening, fibrosis, and pneumonitis.

In terms of CXR, the suspected group has a higher rate of unilateral consolidation than the confirmed group (38.9% vs 0%, p=0.0001). But bilateral consolidation was more common in the COVID-19 positive group than in the COVID-19 negative group (83.3% vs 42.2%, p=0.000) (Table-IV).

On chest CT scan, ground glass opacity (GGO) was found to be more common in confirmed COVID-19 cases than in the COVID-19 negative group (95% vs 55.08%, p=0.040) (Table-IV).

A higher proportion of patients with COVID-19 were referred to COVID dedicated hospitals than COVID-19 suspected patients (66.67% vs 5.6%, p=0.000). Sixteen (33.3%) of confirmed patients were discharged with advice. There was no death in the confirmed group and only 7 (1.9%) patients died in the suspected group (Table-V).

Table-V: *Outcome of suspected and confirmed cases of COVID-19 infection, N=408*

Outcome	Total N (%)	Suspected n (%)	Confirmed n (%)	p-value
Discharged with advice	160 (39.2)	144 (40)	16 (33.3)	0.464
Discharged on request	189 (46.3)	189 (52.5)	0 (0)	0.000
Referred	52 (12.7)	20 (5.6)	32 (66.7)	0.000
Death	7 (1.7)	7 (1.9)	0 (0)	0.701

*Others include plural thickening, fibrosis, and pneumonitis.

DISCUSSION

COVID-19 has caused widespread panic among the general public, as well as among physicians and policymakers, owing to its high infective potential and the fact that a significant number of patients have progressed to intractable pneumonia with significant fatalities[1]. Because the symptoms of COVID-19 are similar to those of other common viral respiratory infections, such as influenza, this is particularly challanging to diagnose. The aim of this study was to compare the epidemiological, clinical, laboratory, and radiological characteristics and outcomes of suspected and confirmed cases of COVID-19 in our hospital and to help improve differential diagnosis and reduce misdiagnosis in the future.

In the present study, we found 408 patients fulfilling the suspect criteria for COVID-19[11] and, out of these, 48 patients (11.8%) were confirmed to be positive by RT-PCR. This finding is much less than that found by Xie et al.[12] and Chi et al.[13] from China, which were respectively 20% and 25%. It is possible that some patients categorized as COVID-19 negative may have had COVID-19 as even testing with very accurate RT-PCR assays for SARS-COV-2 has suboptimal sensitivity for upper respiratory tract infection[14]. The false negative result of the PCR assay may be caused by the small amount of virus in the early stage of the disease, delayed submission of the PCR sample, unqualified sampling, or the false negative rate of the reagent itself[12]. Repeated testing and sampling were shown to improve the sensitivity of RT-PCR[14]. There was no significant difference in age and gender between the two groups.

The median age of confirmed COVID-19 patients was 49 years and the mean age was 59±25 years, with the majority of patients (27.08%) from the age group (61-70) years and older than 70 years, which is consistent with the study done by Xie et al.[12] and Chi et al.[13] but not with the study done in Dhaka by Mowla et al.[15] and Hossain et al.[16], who found younger age groups were more affected than older age groups. Most of the respondents in the COVID-19 confirmed group were male (58.3%), which is consistent with other studies[12,13,15,16]. The IEDCR data also showed that 71% of patients were male and 29% were female[17]. Being the sole bread-earner, the males of a family in Bangladesh are more likely to go outside and contact the disease. According to Philip Goulder's theory, the immune response throughout life to vaccines and infections is typically more aggressive and more effective in females compared to males, and one reason is that females have two X-chromosomes compared to one in males, and a number of critical immune genes are located on the X-chromosome. In particular, the protein by which viruses such as coronavirus are sensed is encoded on the X-chromosome. As a result, their protein is expressed at twice the dose on many immune cells in females compared to males, and the

immune response to coronavirus is therefore amplified in females.

In our study sample, 75% of confirmed patients and 70% of suspected patients came from urban areas, which is similar to the study by Hossain et al[16].

The clinical features of confirmed and suspected patients were similar. The majority had fever, cough, dyspnoea, fatigue, headache, vomiting, anorexia, sorethorat, anosmia, diarrhoea, and altered sense of taste. This is consistent with the findings of other studies conducted in China and Bangladesh[12,13,15,16]. But in our study, dyspnoea (66.7%), headache (33.3%), vomiting (33.3%), and sore throat (16.7%) were more frequently reported in confirmed patients than in suspected patients.

The common co-morbidities that are found in both suspected and confirmed patients are hypertension, diabetes mellitus (DM), COPD, cerebrovascular disease, asthma, cardiovascular disease, obesity, and chronic kidney disease. Among the confirmed patients, DM (66.7%) and hypertension (66.7%) were found to be the two most common comorbidities, which is similar to other studies from China and Bangladesh[12,13,15,16]. Another study by Guan et al[18] also unveils that the most prevalent comorbidity was hypertension (16.9%), followed by diabetes (8.2%). In our study, COPD is another important risk factor, which is more common in the suspected group (26.7%). The symptoms of COVID-19 mimic the symptoms of an acute exacerbation of chronic lung diseases like COPD and asthma. This poses a challenge for early recognition and diagnosis of COVID-19 infection, particularly at a pulmonary center or department[19]. Overall, there is a lack of data on COVID-19 infection in COPD patients. However, Lippi and Henry[20] in a meta analysis of 1592 COVID-19 patients reported that COPD was significantly associated with severe COVID-19.

In laboratory tests, patients with a reduced WBC count were more common in the COVID-19 positive group than in the COVID-19 negative group (16.7% vs 2.2%, p=0.000). The reduced lymphocyte count did not differ significantly between the two groups (83.3% vs 86.7%, p=0.0683). Our finding was consistent with the study done by Chi et al.[13] from China. But our study is not similar to another study from China done by Xie et al.[12], who found leucocyte count and lymphocyte count were nearly normal in both groups.

C-reactive protein (CRP) in this study was above the normal range in 100% and 92.2% of confirmed and suspected groups, respectively, which is consistent with the studies done by Xie et al.[12] and Mardani et al[21]. D-dimer was significantly increased (100% vs 78.9%, p=0.000) in the confirmed group than in suspected groups in our study which is consistent with the study done by Long et al[22]. In our study, serum alanine amino transferase (S. ALT) levels were higher in the confirmed group than in the suspected group (100% vs 51.1%, p=0.000), which is consistent with the findings of Mardani et al.[21] from Iran.

A chest CT scan was found to be more sensitive than RT-PCR in confirming the diagnosis of COVID-19, reaching 98%[23]. A chest X-ray was found to have limited value in the initial diagnosis of COVID-19 with a sensitivity of about 69%[24]. Patients with COVID-19 had typical radiological findings on chest imaging, including multifocal and bilateral ground glass opacities and consolidation with peripheral and basal predominance. In our study, unilateral consolidation was more common in the suspected group (38.9% vs 0%, p=0.000) and bilateral consolidation was more common in confirmed COVID patients (42.2% vs 83.3%, p=0.000). We have done high resolution computed tomography (HRCT) of the chest of 276 (67.6%) of 408 patients. Ground glass opacities (GGO) were more common in confirmed COVID-19 cases by HRCT than in the COVID-19 negative group (95% vs 55%, p=0.040). This finding is consistent with the study done by Chi et al.[13] from China.

Regarding the outcome of our study, about 66.7% of confirmed COVID-19 patients were transferred to ICU-based and COVID-dedicated hospitals, and only 5.6% of suspected patients were referred. There was no death of a COVID-19 positive patient in our study. About 33.3% of positive patients were given discharge with advice. Our results are not consistent with the study done by Mowla et al.[15] who stated that 78% of COVID-19 positive patients were discharged with advice, 9% were referred, and 10% died. Another study done by Hossain et al.[16] found 91% were discharged with advice and 9% of the patients died.

The higher transfer rate in our study may be due to critical patients being transferred to COVID dedicated ICU for high-flow oxygen and non-invasive ventilation, which were not available in the study hospital during the study time, and another reason was to follow the government policy to treat COVID-19 positive patients in COVID dedicated hospital.

As breathlessness was one of the significant symptoms of COVID-19 patients, the fact that patients with breathlessness should seek medical help immediately

and proper oxygen therapy remains the cornerstone of COVID-19 case management. Physicians should also pay particular attention to identifying treatable etiologies of dyspnoea, including exacerbations of underlying pulmonary and cardiovascular disease, and treat the exacerbation as they would have done prior to the pandemic. It is also important to keep high blood pressure and diabetes controlled along with the continuation of ongoing treatment of heart, lung, renal, liver, or other comorbidities as well as other findings that are associated with severe disease and mortality. Taking all these factors together, the main message of this study indicates that if early diagnosis, proper monitoring, and timely intervention of COVID-19 patients can be optimized in Bangladesh, it may be possible to contain the major bulk of COVID-19 patients with a comparatively cheaper therapeutic regimen and with minimum fatality.

LIMITATIONS

The study has several limitations, including sample size and data were not representative of all socio-economic classes in the country. Asymptomatic patients, patients with mild symptoms at home, and severe cases in ICU were left out. We were unable to provide data about recovery and the psychological status of the included patients because the maximum confirmed cases had to be transferred to a COVID-dedicated hospital for specific isolation and treatment. We strongly believe that a large cohort study with a bigger sample size and effective control groups using different drug regimens should be conducted in the near future in this country. However, our data may help get a more comprehensive understanding of the epidemiological, clinical, laboratory, and imaging features of COVID-19 infection.

CONCLUSION

This is preliminary data, but it appears that the majority of confirmed COVID-19 patients were over 60 years old, and the majority of them were men. Patients with a confirmed COVID-19 diagnosis had similar clinical characteristics to those with a negative diagnosis, though dyspnea, headache, vomiting, and sore throat were more commonly reported in confirmed instances. The most common comorbidities were found to be hypertension and diabetes mellitus. Confirmed COVID-19 patients had low WBC counts and elevated C-reactive protein, Serum ferritin, D-dimer and Serum ALT levels in their blood. Radiological findings included bilateral consolidation and ground glass opacities. Overall outcome was satisfactory. However much attention should be given to the patients to provide the maximum care. Moreover, identifying asymptomatic patients are also crucial for the health system as well as for the country to reduce the transmission of SARS-COV-2.

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