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Clinical Characteristics of COVID-19 Patients with Digestive Symptoms in a Tertiary Level Hospital

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Abstract

Background: The pandemic caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection has greatly challenged public health worldwide. A growing number of studies have reported gastrointestinal (GI) symptoms. The study aimed to estimate the various digestive symptoms frequently reported in Covid-19 patients among the adult population of Bangladesh. **Methods:** In this descriptive, cross-sectional study, we enrolled confirmed patients with COVID-19 who were admitted to the COVID unit of Shaheed Suhrawardy Medical college hospital, Dhaka from July 2020 to December 2020. All patients were COVID confirmed by real-time polymerase chain reaction (RT-PCR) and were analyzed for clinical characteristics, laboratory findings and imaging study. **Results:** The study population consisted of 121 COVID-19-positive patients, among them, 57.85% were male and 42.15% female. The majority (43%) of the study population were in the age group of 31 - 40 years. The male to female ratio was 1.4:1. Nearly 94.2% of the sample population were married, among them 92.9% were male and 96.1% were female. Out of 121 Covid-19 patients, 30.65% had a contact history, 17.4% had a history of traveling or residing in an area reporting COVID-19 and 11.6% of family members were affected by Covid-19. Most of the patients had a fever (95%), cough (88.4%) and dyspnoea (43.8%), pneumonia (37.4%) and severe pneumonia (36.4%). In this study, 40% patients reported a digestive symptom including diarrhea 47.9%, vomiting 55.5%, loss of appetite 16.5%, abdominal pain 29.8%, abdominal bloating 24.8%, reflux 0%, jaundice 3.3%. Regarding co-morbidities, the majority had bronchial

asthma (50%) followed by hypertension 46%, diabetes 38%, obesity 23%, and CKD 14% and heart disease 3%. Among 121 COVID-19 patients, 98% had recovered from the disease and 2% of patients expired. **Conclusion:** Gastrointestinal symptoms are common among patients with COVID-19 and this group of patients had a long time of hospital stay from onset to admission, and higher liver enzyme levels. During the management of COVID-19 patients, clinicians need to be alert regarding suspicion of the GI features among COVID-19, so that they can diagnose early and treat effectively and immediately.

Keywords

COVID-19, Gastrointestinal Symptoms, Diarrhoea, Prognosis, Fecal-Oral-Transmission

1. Introduction

COVID-19 is a severe acute respiratory infection caused by corona virus 2 (SARS-CoV-2) and declared a pandemic by World Health Organization (WHO) on 11th March 2020 [1]. The most common clinical manifestation is respiratory infection ranging from mild influenza-like illness to severe pneumonia leading to acute respiratory distress syndrome (ARDS) [2]. Although SARS-COV-2 is known primarily target to the lung, it has also tropism to the gastrointestinal mucosa [3]. Covid-19 virus enters and replicates into cells by binding to its angiotensin-converting enzyme 2 (ACE2) receptor. In lung, ACE2 receptor is expressed in type 2 alveolar cells, but in the gastrointestinal tract, ACE2 has been found in epithelial cells throughout the gastrointestinal tract GI tract and cholangiocytes. Thus, SARS-CoV-2 may cause digestive symptoms either by direct viral invasion in target cells and/or immune-mediated tissue and end-organ injury [4]. Different studies from several countries in the world have reported different gastrointestinal manifestations, such as anorexia, nausea, abdominal pain, and diarrhea. Covid-19 infected patients with GI symptoms have a poor prognosis. Patients with covid-19 positive with truly GI symptoms have delayed diagnosis [5] [6] [7]. For this reason, GI symptoms have special significance in the corona virus patients.

So, the study prospectively estimated clinical characteristics and outcomes of COVID-19 patients with digestive symptoms admitted to the COVID ward of a tertiary level hospital, Dhaka, Bangladesh.

2. Materials and Methods

This study was a descriptive cross-sectional study. It was held in collaboration with the Department of Gastroenterology at the Covid Department of Shaheed Suhrawardy Medical College Hospital in Dhaka, Bangladesh from July to December 2020. All participants were enrolled based on inclusion and exclusion criteria. Inclusion criteria were patients with Covid-19 positive (RT-PCR Posi-

tive) with age more than or equal to 18 years irrespective of sex and who were willing to participate in the study. The prevalence of COVID-19 in the general population in Bangladesh from April to October 2020 was 6.4% [8]. Considering the prevalence, the author calculated the sample size by Guilford and frucher equation and the calculated sample was 92. But, 121 patients were enrolled in this study due to the availability of the admitted patients in the COVID ward. An objective questionnaire based on National Covid Guideline (Version-7) and WHO Guideline was designed in English for this study (**Appendix-I**). The English version of the questionnaire was translated into the native language of Bengali by the expert. Some major items such as socio-demographic characteristics, general symptoms, history of traveling, diagnosis, vital signs, risk factors of co-morbidity, investigation, imaging and treatment information were included in the questionnaire section as per our National Covid Guideline. The purposive sampling technique was used for data collection. Data were collected by trained personnel and medical officers who were appropriately trained prior to data collection and supervised by the authors. After self-introduction with the patient, the author explained the purpose of their visit and ensured informed consent before collecting the data. The authors randomly rechecked the data to verify the quality of the data. Finally, the data were analysed using Statistical Packages for Social Sciences (SPSS-17) (SPSS Inc., Chicago, IL, USA). The results were presented in tables, figures, and diagrams.

3. Results

One hundred twenty-one covid-19 patients were enrolled in this study. The socio-demographic findings are stated in Table 1. Among the study population, 57.85% were male and 42.15% were female. The majority (43%) of the respondent belonged to the age group of 31-40 years. The male to female ratio was 1.4:1. Regarding the occupation of the respondents, the majority were government employees (43%) followed by 16.5% Businessmen, 14% non-government employees and the rest 26% constituted other occupations. With respect to the educational background, about 17.4% university education completed, 21.5% college completed, 28.9% secondary education completed, about 18.2% primary education completed and 14% of the respondents were illiterate. Most of the study populations are Muslims (85.1%) and the rest are Hindu (13.2%) and Christian (1.7%). Regarding income, 24.8% of the respondents reported earning a monthly income of below Tk. 10,000.

Out of 121 COVID-19 patients, 11 (9.2%) were smoker, 30 (25.2%) were Ex-smoker, 73 (60.3%) were betel nut chewer, 8 (6.6%) were alcohol consumer etc. From the dietary habit of the respondents, it is found that 96.7% were non-vegetarian and 3.3% vegetarian. All the respondents were used to the sanitary latrine (Table 2).

Out of 121 COVID-19 patients, 37 (30.6%) had a contact history of the Covid patient, 21 (17.4%) had a history of traveling or residing in an area reporting

Table 1. Socio-Demographic detail of the respondents (n = 121).

	Male (n = 70)	Female (n = 51)	Total
Age			
21 - 30	7 (10.0)	7 (13.7)	14 (11.6)
31 - 40	25 (35.7)	27 (52.9)	52 (43.0)
41 - 50	19 (27.1)	7 (13.7)	26 (21.5)
51 - 60	12 (17.1)	6 (11.8)	18 (14.9)
>60	7 (10.0)	4 (7.8)	11 (9.1)
Marital status			
Married	65 (92.9)	49 (96.1)	114 (94.2)
Unmarried	5 (7.1)	2 (3.9)	7 (5.8)
Education			
Illiterate	11 (15.7)	6 (11.8)	17 (14.0)
Primary school	12 (17.1)	10 (19.6)	22 (18.2)
High School	20 (28.6)	15 (29.4)	35 (28.9)
College	14 (20.0)	12 (23.5)	26 (21.5)
University	13 (18.6)	8 (15.7)	21 (17.4)
Occupation			
Government employee	25 (35.7)	27 (52.9)	52 (43.0)
Non-government employee	11 (15.7)	6 (11.8)	17 (14.0)
Student	1 (1.4)	0 (0.0)	1 (0.8)
Business	19 (27.1)	1 (2.0)	20 (16.5)
Agriculture worker	3 (4.3)	0 (0.0)	3 (2.5)
Industrial worker	4 (5.7)	1 (2.0)	5 (4.1)
Driver	1 (1.4)	0 (0.0)	1 (0.8)
Daily laborer	2 (2.9)	2 (3.9)	4 (3.3)
Homemaker	0 (0.0)	12 (23.5)	12 (9.9)
Others	4 (5.7)	2 (3.9)	6 (5.0)
Religion			
Muslim	60 (85.7)	43 (84.3)	103 (85.1)
Hindu	10 (14.3)	6 (11.8)	16 (13.2)
Christian	0 (0.0)	2 (3.9)	2 (1.7)
Monthly family income			
<10,000	14 (20.0)	16 (31.4)	30 (24.8)
>10,000	56 (80.0)	35 (68.6)	91 (75.2)

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Table 2. Personal habit of the patients.

Personal habit	Male (n = 70)	Female (n = 51)	Total
Betel nut chewer	43 (61.4)	30 (58.8)	73 (60.3)
Alcohol consumer	6 (8.6)	2 (3.9)	8 (6.6)
Tobacco user	3 (4.3)	0 (0.0)	3 (2.5)
Smoker	11 (15.9)	0 (0.0)	11 (9.2)
Ex-Smoker	30 (43.5)	0 (0.0)	30 (25.2)
Vegetarian	2 (2.9)	2 (3.9)	4 (3.3)
Non-vegetarian	68 (97.1)	49 (96.1)	117 (96.7)
Use of sanitary latrine	70 (100.0)	51 (100.0)	121 (100.0)

COVID-19 and 14 (11.6%) family members were affected by Covid-19 (Table 3).

Regarding severity, among 121 patients, most (57.8%) of the patients were clinically moderate, 29.8% mild, 9.9% severe and 2.5% critical (Table 4).

COVID-19 patients had a wide range of symptoms-ranging from mild symptoms to severe illness. Regarding symptoms of one hundred twenty-one admitted patients to the COVID unit of Shaheed Suhrawardy Medical college hospital, most of the patients had a fever (95%) and cough (88.4%) and 43.8% of patients had shortness of breath (dyspnoea), 34.7% had pneumonia and 36.4% had severe pneumonia, 43% had chest pain, 32.2% had confusion, 74.4% had a headache, 38% had fatigue and 47.1% had altered sense of smell (Table 5).

Regarding gastrointestinal symptoms, we found that 40% reported a digestive symptom (Figure 1), including diarrhea (58 [47.9%]), anorexia (20 [16.5%]), nausea (38 [31.4%]), vomiting (55 [45.5%]), abdominal pain (36 [29.8%]), abdominal bloating (30 [24.8%]), reflux (0%), jaundice (4 [3.3%]), altered sense of taste (54 [44.6%]) and sore throat (82 [67.8%]) (Table 6).

Among 121 patients, most (50%) of the patients had bronchial asthma followed by hypertension 46%, diabetes 38%, heart disease 3%, obesity 23%, and CKD 14%. Twenty male COVID patients are a smoker (28%) (Table 7).

Among 121 COVID-19 patients, 98% had recovered from the disease and 2% of patients expired (Table 8).

4. Discussion

In Bangladesh, the first COVID-19 case was declared in Dhaka City on 8 March, 2020 [9]. According to the latest findings of a Chinese expert group, the Covid-19 virus could be transmitted through the digestive system [10]. So, the study was conducted to find out the clinical characteristics and outcome of COVID-19 patients with digestive symptoms admitted to the Covid ward of a tertiary level hospital, Dhaka.

In this study, 57.85% were male and 42.15% were female. The majority (43%)

Table 3. Contact history of the respondent.

Personal habit	Male (n = 70)	Female (n = 51)	Total
Any contact of COVID-19 patient in last 14 days	17 (24.3)	20 (39.2)	37 (30.6)
Any history of travelling of residing in an area reporting COVID-19	11 (15.7)	10 (19.6)	21 (17.4)
Family member affected	7 (10.0)	7 (13.7)	14 (11.6)

Table 4. Severity of COVID-19.

Severity	Male (n = 70)	Female (n = 51)	Total
Mild	18 (25.7)	18 (35.3)	36 (29.8)
Moderate	39 (55.7)	31 (60.8)	70 (57.8)
Severe	10 (14.3)	2 (3.9)	12 (9.9)
Critical	3 (4.3)	0 (0.0)	3 (2.5)

Table 5. Manifestation of COVID-19 patients.

General symptoms	Male (n = 70)	Female (n = 51)	Total
Fever	67 (95.7)	48 (94.1)	115 (95.0)
Cough	63 (90.0)	44 (86.3)	107 (88.4)
Dyspnoea	33 (47.1)	20 (39.2)	53 (43.8)
Altered sense of smell	35 (50.0)	22 (43.1)	57 (47.1)
Fatigue	29 (41.4)	17 (33.3)	46 (38.0)
Headache	52 (74.3)	38 (74.5)	90 (74.4)
Confusion	25 (35.7)	14 (27.5)	39 (32.2)
Nasal Congestion	7 (10.0)	3 (5.9)	10 (8.3)
Conjunctivitis	14 (20.0)	15 (29.4)	29 (24.0)
Dizziness	14 (20.0)	14 (27.5)	28 (23.1)
Chest pain	30 (42.9)	22 (43.1)	52 (43.0)
Pneumonia	28 (40.0)	14 (27.5)	42 (34.7)
Severe pneumonia	27 (38.6)	17 (33.3)	44 (36.4)
Sepsis	0	0	0
Septic Shock	0	0	0
Multi-organ failure	0	0	0

Table 6. Gastrointestinal manifestation of COVID-19 patients.

General symptoms	Male (n = 70)	Female (n = 51)	Total
Diarrhoea	36 (51.4)	22 (43.1)	58 (47.9)
Nausea	21 (30.0)	17 (33.3)	38 (31.4)
Vomiting	31 (44.3)	24 (47.1)	55 (45.5)
Anorexia	9 (12.9)	11 (21.6)	20 (16.5)
Abdominal pain	21 (30.0)	15 (29.4)	36 (29.8)
Abdominal bloating	19 (27.1)	11 (21.6)	30 (24.8)
Reflux (GERD)	0	0	0
Jaundice	2 (2.9)	2 (3.9)	4 (3.3)
Altered sense of taste	32 (45.7)	22 (43.1)	54 (44.6)
Sore throat	49 (70.0)	33 (64.7)	82 (67.8)

Table 7. Co-morbidity of COVID-19 patients.

Co-morbidity	Male (n = 70)	Female (n = 51)	Total
DM	29 (41.4)	17 (33.3)	46 (38.0)
HTN	35 (50.0)	21 (41.2)	56 (46.3)
Bronchial asthma	38 (55.1)	22 (44.0)	60 (50.4)
Chronic heart disease	2 (2.9)	2 (3.9)	4 (3.3)
CVD	0	1 (2.0)	1 (0.8)
COPD	0	0	0
CKD	10 (14.3)	7 (13.7)	17 (14.0)
CLD	0	0	0
Smoking	20 (28.6)	0 (0.0)	20 (28.6)
Obesity	13 (18.6)	15 (29.4)	28 (23.1)
Chemotherapy/surgery	0	0	0
HIV	0	0	0
TB	0	0	0
Malnutrition	9 (12.9)	6 (12.0)	15 (12.5)
Dengue	0	0	0

Table 8. Outcome of the COVID-19 patients.

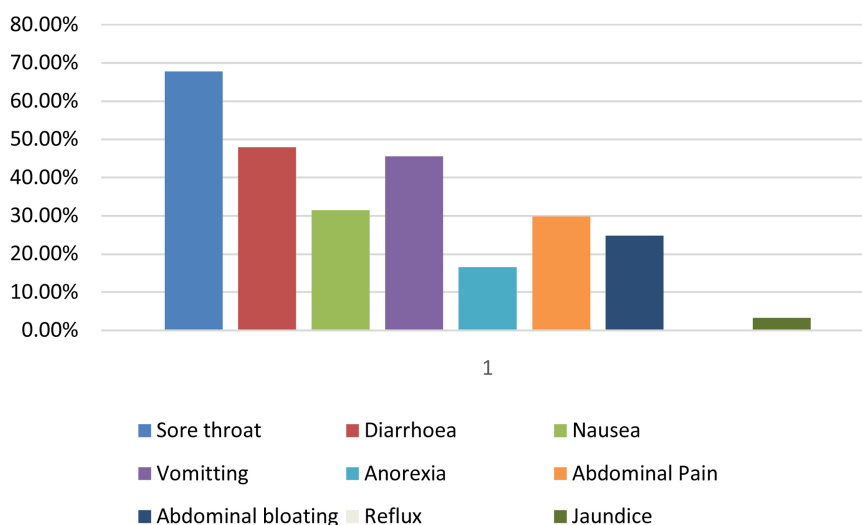|	Male (n = 70)	Female (n = 51)	Total
Recovered	68 (97.1)	51 (100.0)	119 (98.3)
Death	2 (2.9)	0	2 (1.7)

Figure 1. Digestive signs of the participants.

of the study population belonged to the age group of 31-40 years. The male to female ratio was 1.4:1. Hossain I, *et al.* from Bangladesh published an article where they also found 43% of respondents in the age range of 21 to 40 years, a female: male ratio of 1:2.33 [11]. In China, Guan WJ *et al.* reported median age: 47 years and 41.9% female [12]. Gupta N *et al.* from India also found a mean age of 40.3 years, 66.7% male [13]. However, in America, Richardson S *et al.* reported median age of 63 years and in Europe, Colaneri M *et al.* reported median age of 67.5 years but the same male preponderance [14] [15]. So, the findings of this study are consistent with the other Asian studies.

Out of 121 Covid-19 patients, 30.65% had a contact history, 17.4% had a history of traveling or residing in an area reporting COVID-19 and 11.6% of family members were affected by Covid-19. In India, Gupta N *et al.* reported that 52.4% of patients had a history of contact with a lab-confirmed COVID-19 patient and more than half (61.9%) of the patients had a travel history outside India. so, it was found that a large group of the population had positive contact history, that's why isolation and quarantine are needed for reduction of covid transmission.

COVID-19 infected patients had a wide range of symptoms-ranging from mild symptoms to severe illness. The earliest reports from China by Guan WJ *et al.* described, fever, dry cough, breathing difficulties (dyspnoea), headache and pneumonia as the typical clinical symptoms of COVID-19. Regarding symptoms of one hundred twenty-one admitted patients to the COVID unit of Shaheed Suhrawardy Medical college hospital, most of the patients had a fever (95%) and cough (88.4%) and 43.8% of patients had shortness of breath, 34.7% had pneumonia and 36.4% had severe pneumonia, 43% had chest pain, 32.2% had confusion, 74.4% had a headache, 38% had fatigue and 47.1% had altered sense of smell. SGM Mowla *et al.* from Bangladesh also reported fever (69%), cough (54%), breathlessness (41%) and fatigue (40%) [16]. So, the findings of this study

are consistent with the other studies.

Gastrointestinal (GI) manifestations are being increasingly reported as common symptoms in COVID-19 patients [17] [18] [19] [20]. Gastrointestinal symptoms include loss of appetite, nausea, vomiting, diarrhea, abdominal pain, and deranged liver function tests [21]. In this study, 40% of covid-19 patients reported digestive symptoms, including diarrhea 47.9%, vomiting 45.5%, altered sense of taste 44.6%, sore throat 67.8%, anorexia 16.5%, nausea 31.4%, abdominal pain 29.8%, abdominal bloating 24.8% and jaundice 3.3%,. Tian Y, et reported the globally gastrointestinal symptoms of COVID-19 included anorexia 39.9% - 50.2%, diarrhoea 2% - 49.5%, vomiting 3.6% - 66.7%, nausea 1% - 29.4%, abdominal pain 2.2% - 6.0% and gastrointestinal bleeding 4% - 13.7%.

Amin MT *et al*. conducted an online self-reported retrospective study in Bangladesh, on the recovered patients from the COVID-19 infection and they found that fever, exhaustion, cough, loss of taste, sore throat, body ache, and hair loss were prevalent among more than 50% of the participants [22]. Muhammad Aziz *et al*. reported a systemic review and they found the prevalence of ageusia/dysgeusia was 49.8% across these 5 studies [23]. So, the clinical characteristics and digestive symptoms of this study are compatible with the other studies from home and abroad.

Ghimire, S. *et al*. conducted a Systemic Review and Meta-analysis on Diarrhea with Increased Severity of Disease in COVID-19. They reported that 15.47% of patients had at least one GI symptom, nausea/vomiting was 7.53% and diarrhea was 11.52%. Ina meta-analysis, they reported that patients with diarrhea as one of the presenting symptoms were more likely to have severe disease. They concluded that GI symptoms are common in COVID-19 and the presence of diarrhea as a presenting symptom is associated with increased disease severity and likely worse prognosis. So, early recognition of patients is needed for prompt management of this at-risk population [24].

Co-morbidities are the major risk factors for covid infection. Symptomatic patients in the risk group (like DM, HTN, IHD, Prior Asthma/COPD/ILD patients, known CKD, CLD, known Malignancy, Obesity (BMI > 25) should be admitted to the covid ward. In this study, most of the patients had bronchial asthma (50%) followed by hypertension 46%, diabetes 38%, obesity 23%, CKD 14%, and heart disease 3%. Yang J, *et al*. reported the most prevalent co-morbidities, hypertension (21.1%) and diabetes (9.7%), followed by cardiovascular disease (8.4%) and respiratory system disease (1.5%) [25]. As the study was conducted in a covid unit, we got more co-morbidities compared to others studies.

In this study, among 121 COVID-19 patients, 98% had recovered from the disease and 2% of patients expired. During the study period, from July to December 2020, WHO reported the Case Fatality Rate in Bangladesh, which is 1.36% on 2 June, 2020 [26]. So, the finding of this study is consistent with the report.

The study has some limitations. The study is limited to small sample size.

Sometimes, proper history taking with physical examinations was not done meticulously due to the pandemic situation (social distance was one of the major concerns). A further large-scale study with a large sample size is needed to explore the outcome of the COVID-19 patient with digestive symptoms.

5. Conclusion

This study depicted the initial data regarding the clinical characteristics of covid-19 patients with digestive symptoms in a tertiary level hospital in Bangladesh. Gastrointestinal symptoms are common among patients with COVID-19 and this group of patients has a long time of hospital stay from onset to admission, and higher liver enzyme levels. During the management of COVID-19 patients, clinicians need to be alert regarding the GI features amongst COVID-19 patients, so that they can treat them effectively and immediately. However, further large-scale studies are needed to confirm these findings.

Acknowledgements

Conflicts of Interest

There is no conflict of interest.

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Appendix I

English version of the questionnaire:

BANGLADESH MEDICAL RESEARCH COUNCIL

MOHAKHALI, DHAKA - 1212, Bangladesh

Tel: 871395, Fax: 880-2-888820

Project Proforma (PP) - 02

Health, Population and Nutrition Sector Development Programme (HPNSDP)

"Clinical Characteristics of COVID-19 Patients with Digestive Symptoms in a tertiary level hospital".

Principal Investigator: **Dr. Dilip Kumar Ghosh**

DATA COLLECTION SHEET

SECTION-1: BASELINE INFORMATION

ID No…………………

Date:……………………..

1) Name:……………………………………………………….……………

2) Father's Name:...

3) National ID No. …………………………………………………………

4) Age (in complete year): ………………………………………………….

5) Date of Birth:

6) Address with Contact No.:

Village/ward:…………………….Upazilla/Thana:…………………………..

District:……………………… Mobile no:…………………………………..

7) Sex: 1 = Male 2 = Female

8) Marital Status: 1 = Married 2 = Unmarried

3 = Divorced 4 = Widower 5 = Others, if any………………

9) Occupation

a) Government employee

b) Non-government employee

c) Student

d) Business

e) Agriculture worker

f) Industrial worker

g) Rickshaw puller

h) Driver

i) Daily laborer

j) Homemaker/housewife

k) Retired

l) Others (Specify)…………………………………………

10) Religion:

a) Islam

b) Hindu

c) Christian

d) Buddhist

e) Others

11) Height (Cm):…………………………………………………………

12) Weight (Kg):………………………………………………

13) BMI……………………………………………………………

14) Waist-to-hip ratio : ……………………………………………..

15) Betel nut chewer i. Yes ii. No

16) Alcohol Taker i. Yes ii. No

17) Tobacco User i. Yes ii. No

18) Dietary Habit i. Vegetarian ii. Non-vegetarian

19) Smoking Status:

a) Smoker

b) Ex-Smoker

c) Non-Smoker

20) Level of Education:

a) Illiterate

b) Primary school

c) High School

d) College

e) University

21) Monthly Family income (on an average)………………………

a) <10,000 ☐

b) 10,000> ☐

22) Total Family members:…………………………………………………

23) Use of Sanitary Latrine:

a) Yes

b) No

24) Date of Symptom onset ------------/-----------/2020

25) Date of Sample Collection ---------/-----------/2020

26) Date of admission ----------/-----------/2020

27) Any contact of COVID-19 patient in last 14 days i) Yes ii) No

28) Any history of travelling or residing in an area reporting COVID-19 i) Yes ii) No

29) Family members affected: i) Yes ii) No if Yes , number ----------

30) Diagnosis (clinical syndrome) :

a) Asymptomatic i) Yes ii) No

b) Mild i) Yes ii) No

c) Moderate i) Yes ii) No

d) Severe i) Yes ii) No

e) Critical i) Yes ii) No

31) Signs

a) Cyanosis i) Yes ii) No

b) Crackles i) Yes ii) No

c) Wheeze i) Yes ii) No

d) Bronchial breath sound i) Yes ii) No

i) spO$_2$………… %

ii) GCS ………………. %

32) Vital Signs during admission:

a) Temperature (axillary)…………….. ˚F

b) Heart rate …………………../ min

c) BP ……………/…………….. mmHg

d) Resp. rate …………………/min

33) RT-PCR Test i) Positive ii) Negative

34) General Symptoms

Fever	1.	Present	2.	Absent
Cough	1.	Present	2.	Absent
Dyspnoea	1.	Present	2.	Absent
Altered sense of smell	1.	Present	2.	Absent
Altered sense of taste	1.	Present	2.	Absent
Fatigue	1.	Present	2.	Absent
Sore throat	1.	Present	2.	Absent
Diarrhoea	1.	Present	2.	Absent
Nausea	1.	Present	2.	Absent
Vomitting	1.	Present	2.	Absent
Anorexia	1.	Present	2.	Absent
Abdominal Pain	1.	Present	2.	Absent
Abdominal Bloating	1.	Present	2.	Absent
Reflux (GERD)	1.	Present	2.	Absent
Jaundice	1.	Present	2.	Absent
Headache	1.	Present	2.	Absent
Confusion	1.	Present	2.	Absent
Nasal Congestion	1.	Present	2.	Absent
Conjunctivities	1.	Present	2.	Absent
Dizziness	1.	Present	2.	Absent
Chest Pain	1.	Present	2.	Absent
Others:				
Pneumonia	1.	Present	2.	Absent
Severe Pneumonia	1.	Present	2.	Absent
Sepsis	1.	Present	2.	Absent
Septic Shock	1.	Present	2.	Absent
Muliorgan failure	1.	Present	2.	Absent

35) Risk factors of Co-Morbidities

DM	1.	Present	2.	Absent
HTN	1.	Present	2.	Absent
Bronchial Asthma	1.	Present	2.	Absent
Chronic Heart Disease	1.	Present	2.	Absent
CVD	1.	Present	2.	Absent
COPD	1.	Present	2.	Absent
CKD	1.	Present	2.	Absent
CLD	1.	Present	2.	Absent
Smoking	1.	Present	2.	Absent
Obesity	1.	Present	2.	Absent
Chemotherapy Surgery	1.	Present	2.	Absent
HIV	1.	Present	2.	Absent
TB	1.	Present	2.	Absent
Malnutrition	1.	Present	2.	Absent
Dengue	1.	Present	2.	Absent

36) Investigation

CBC	1st Day	2nd Day	3rd Day	4th Day	5th Day	6th Day	7th Day
1) Hb %							
2) TC.WBC							
3) Neu %							
4) Lymph %							
5) Platelet							

37) Others

1) RBS

2) HbA1c

3) Serum Billirubin

4) ALT

5) AST

6) CRP titre

7) D-dimer

8) Procalcitonin

9) Serum Creatinine

10) Serum Electrolyte:
Na^+ ....
K^+ ---------
Cl^- ----------
HCO_3^- -------

38) Imaging

a) Chest X-Ray PA View (Pneumonitis) i) Present ii) Absent

b) CT Chest: Yes/No. Report: ………… i) Yes ii) No

39) Treatment

A) Drug

a) Paracetamol i) Yes ii) No

b) HCQ i) Yes ii) No

c) Azithromycin i) Yes ii) No

d) Enoxaparin i) Yes ii) No

B) 1) Oxygen therapy i) Yes ii) No

2) IV fluid i) Yes ii) No

3) Bl pressure support required i) Yes ii) No

4) Mechanical ventilation required i) Yes ii) No

5) Dialysis required i) Yes ii) No

6) Steroid i) Yes ii) No

O_2 therapy duration: --------- hrs/days

Mechanical vent duration ---------- hrs/days

40) Repeat PCR: i)Yes ii) No

1st Date ……..../………./2020	Result:
2nd Date ……..../………/2020	Result:

41) Date of discharge ----------/----------/2020

42) Date of end of isolation -------/--------/2020

43) Outcome:

a) Recovered

b) Referred to higher centre

c) Left by own

d) Death

44) Contact tracing (to be done by local health authority) informed: i) Yes ii) No

Signature of data collector