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Original Research Article

Demographic profile of COVID-19 patients in the Northern part of Bangladesh

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ABSTRACT

Background: It is a new pandemic; the demographic profile of COVID-19 patients may be helpful for corona virus patients.
Methods: This was a cross-sectional study conducted at the department of cardiology at Rangpur medical college hospital, Rangpur, Bangladesh during July 2020 to December 2020. In total 37 confirmed COVID-19 patients were selected as the study population. Data were collected from patients or their attendants by using a pre-designed structured questionnaire, after having appropriate consent. The statistical package for the Social sciences (SPSS) version 22.0 was used for data analysis.
Results: In this study 70% participants were male whereas 30% were female and the ratio was 2.36:1. The mean±SD age of the participants was 56.57±15.96 years. The highest number of participants were from 51-60 years' age group which was 27.3%, 2.70%, 18.92%, 16.22%, 13.51%, and 21.62% participants were from 21-30, 31-40, 41-50, 61-70 and >70 years of age group respectively. The majority portion of participants were with normal body-weight (BMI: 18.5-24.9) which was in 57% and 43% were with overweight (BMI: 25.0-29.9). More than half of the patients were from Rangpur district which was 54%. The highest number of patients were with cough as a major symptom, which was 51.35%. The highest number of participants were with IHD (64.86%) as a major comorbidity.
Conclusions: As per the findings of this study, we can conclude that, middle aged population are mostly being affected by COVID-19 in Bangladesh. The affected number of males were higher than female.

Keywords: Demographic profile, Comorbidity, COVID-19 patients

INTRODUCTION

The novel coronavirus (COVID-19) is by far the most concerning outbreak of atypical pneumonia since the far less detrimental 2003 outbreak of severe acute respiratory syndrome (SARS).[1] The COVID-19 pandemic has been declared an international public health emergency by the WHO.[2] As of July 1st 2020, the COVID-19 pandemic has infected over ten million Population across the world, causing more than 5,00,000 deaths.[3] The unpredictable nature of this situation and uncertainty regarding COVID-19 can often trigger psychological distress and mental illness, including depression, anxiety, and traumatic stress.[4] Experts are still uncertain of the trajectory of the COVID-19 pandemic, the projected number of cases and deaths, or to what extent quarantine measures will disrupt daily life.[5] COVID-19 situation in Bangladesh is deteriorating habitually. The disease has reached all 64 administrative districts in Bangladesh by July 1st 2020, causing over 145,000 cases and 1,874 deaths thus far.[5] High density of population, poor hygiene practices and poor economic conditions make the majority of the Bangladeshi population particularly vulnerable to this virus (COVID-19). Severe acute respiratory illness with

fever and respiratory symptoms, such as cough and shortness of breath, comprise the main clinical presentations.[6] But unusual manifestations, such as patients without respiratory symptoms/only very mild symptoms rising worldwide.[7] Understanding regional features are always important. Number of studies elaborating local epidemiological and clinical features have been published.[8] But we have very few statistical data regarding the demographic information of COVID-19 patients. So, to fulfill a demographic profile of COVID-19 patients this study was conducted.

Objectives

General objective

The general objective of this study was to assess demographic profile of COVID-19 patients in the northern part of Bangladesh.

Specific objective

The specific objective of this study were collect information regarding the clinical symptoms and comorbidities of COVID-19 patients.

METHODS

This was a cross-sectional study which was conducted at the department of cardiology in Rangpur medical college hospital, Rangpur, Bangladesh during the period from July 2020 to December 2020. In total 37 RT-PCR confirmed COVID-19 patients attended the mentioned hospital from 3rd July to 16th September, 2020 were selected as the study population. Data were collected from patients or their attendants through physical and/or telephonic interview and hospital register by using a pre-designed structured questionnaire, after having appropriate consent. Proper consents were obtained from every patient or from legal guardian by reading out the written informed consent according the revised declaration of Helsinki. Only COVID-19 patients who live in the northern part of Bangladesh and who have taken treatment from at the mentioned hospital were included as the study participants. studies were reviewed for inclusion/exclusion criteria. The protocol was approved by the ethical committee of the mentioned hospital. Collected demographic data and clinical data. The statistical analysis was carried out using the statistical package for social sciences version 22.0 for windows. Qualitative variables such as fever, cough etc. were expressed as frequency and percentage. Quantitative variables like age, durations, etc. were expressed as mean±SD and median. Test of significance was performed by unpaired t-test for quantitative variable and Chi square test for qualitative variables compared separately in different clinical presentation. In addition, multivariate logistic regression analysis of possible risk factors was done to determine the association with mortality by calculating odds ratio with 95% confidence intervals. A $p<0.05$ was be considered as significant.

RESULTS

In this study among all the participants, 70% were male and the rest 30% were female (Figure 1). So, male participants were dominating in number and the male-female ratio was 2.36:1. The mean (±SD) age of the participants was 56.57±15.96 years. The highest number of participants of this study were from 51-60 years' age group which was 27.3%. Then 2.70%, 18.92%, 16.22%, 13.51%, 21.62% participants were from 21-30, 31-40, 41-50, 61-70 and >70 years' age groups respectively (Table 1). According to the BMI status of the participants, we observed, majority portion participants were with normal body-weight (BMI: 18.5-24.9) which was in 57% and the rest 43% were with overweight (BMI: 25.0-29.9) (Figure 2). Among 8 district of Rangpur division our study population were found from 7 districts. The highest number, more than half of the patients were from Rangpur district which was 20 in number (54%) (Figure 3). On the other hand, the last one district, Panchagorh was free from COVID-19 patient during the period of this study. In this study, in analyzing the clinical symptoms of the participants, we observed, the highest number of patients were with cough which was among 51.35%. Besides this, shortness of breath, hypoxemia/oxygen use, lower limb swelling and bleeding were found among 43.24%, 29.73%, 13.51% and 8.11% patients respectively (Table 2). In this study, in analyzing the comorbidities among the participants we observed, the highest number of participants were with IHD which was in 64.86%. Besides this HTN, DM, COPD and CKD were found among 48.65%, 40.54%, 29.73% and 13.51% patients respectively (Table 3). In this study, not a single case of death was occurred.

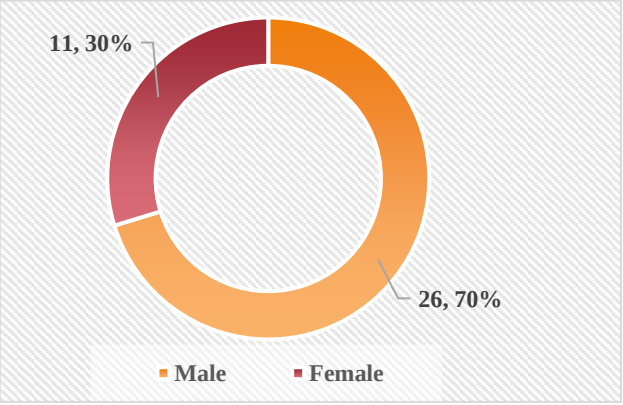

Figure 1: Gender distribution of participants, (N=37).

Table 1: Age distribution of participants, (N=37).

Age (years)	N	Percentage (%)
21-30	1	2.70
31-40	7	18.92
41-50	6	16.22
51-60	10	27.03
61-70	5	13.51
>70	8	21.62

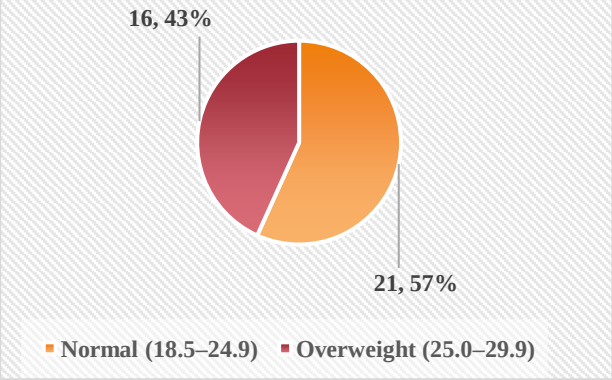

Figure 2: BMI distribution of the participants, (N=37).

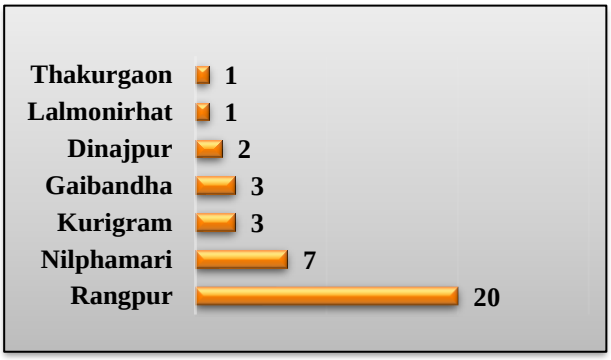

Figure 3: Living zone or district of the participants, (N=37).

Table 2: Symptoms distribution of participants, (N=37).

Symptoms	N	Percentage (%)
Cough	19	51.35
Shortness of breath	16	43.24
Hypoxemia/oxygen use	11	29.73
Lower limb swelling	5	13.51
Bleeding	3	8.11

Table 3: Comorbidities distribution among participants, (N=37).

Comorbidities	N	Percentage (%)
IHD	24	64.86
HTN	18	48.65
DM	15	40.54
COPD	11	29.73
CKD	5	13.51

DISCUSSION

The aim of this study was to fulfill a demographic profile of COVID-19 patients of the northern part of Bangladesh. In total 37 RT-PCR (reverse transcription polymerase chain reaction) confirmed COVID-19 patients attended the mentioned hospital between July 3 and September 16, 2020 were selected as the study population. Data were collected from patients or their attendants through direct and/or telephonic interview and hospital register by using a pre-designed structured questionnaire, after having appropriate consent. First COVID-19 cases were declared by Bangladesh in Dhaka city on 8 March 2020 highest number of cases have been detected in Dhaka and thus it is considered as the core of the disease transmission in Bangladesh.[9,10] Another study has shown that most of the confirmed cases (about 48.9%) of Bangladesh reported that they lived in or had come to Dhaka within 14 days before the onset of illness or had been in close contact with any Dhaka resident.[11] In our study, among all the participants, 70% were male and the rest 30% were female (Figure 1). So, male participants were dominating in number and the male-female ratio was 2.36:1. The mean (±SD) age of the participants was 56.57±15.96 years. The highest number of participants of this study were from 51-60 years' age group which was 27.3%. Then 2.70%, 18.92%, 16.22%, 13.51%, 21.62% participants were from 21-30, 31-40, 41-50, 61-70 and >70 years' age groups respectively (Table 1). According to the BMI status of the participants of this study, we observed, majority portion participants were with normal body-weight (BMI: 18.5-24.9) which was in 57% and the rest 43% were with overweight (BMI: 25.0-29.9) (Figure 2). Many of these findings matched that of Asia, e.g., China (median age: 47 years; 41.9% female), India (mean age 40.3 years, 66.7% male) and other reports from Bangladesh (43% were in the age range of 21 to 40 years, female: male ratio 1:2.33).[6,12,13] But studies from America (median age, 63 years) and Europe (Median age, 67.5 years) showed higher age of patients but same male preponderance.[14,15] In this study, in analyzing the clinical symptoms of the participants, we observed, the highest number of patients were with cough which was among 51.35%. Besides this, shortness of breath, hypoxemia/oxygen use, lower limb swelling and bleeding were found among 43.24%, 29.73%, 13.51% and 8.11% patients respectively (Table 2). The earliest reports from China described fever, dry cough, breathing difficulties (dyspnoea), headache and pneumonia as the typical clinical symptoms of COVID-19.[8]

Limitations

This was a single centered study with a small sample size So, the findings of this study may not reflect the exact scenario of the whole country.

CONCLUSION

As per the findings of this study, we can conclude that, middle aged population are mostly being affected by COVID-19 in Bangladesh. The affected number of male populations are higher than that of female. Body weight or BMI is not associated with the possibilities of being affected by COVID-19. Cough shortness of breath and hypoxemia may be considered as the most potential clinical symptoms and IHD, HTN, DM and COPD may be

considered as the most potential comorbidities to be considered for a COVID-19 patient. Among 8 districts of the northern division of Bangladesh more than 50% COVID-19 patients were found in Rangpur area as a single district.

Recommendations

For getting more reliable information, we suggest for conducting more studies in several places with larger sample size.

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Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethics Committee

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