

Clinical Characteristics of Children with Corona Virus Disease: Study in a Tertiary Care Hospital, Dhaka, Bangladesh

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Abstract Background: Coronavirus disease 2019 (COVID-19) caused by SARS-CoV-2 has spread around the world, and reports of children with COVID-19 are increasing. So for early diagnosis clinical profiles of pediatric COVID-19 patients are important. **Methods:** A retrospective was done analyzing clinical data from March 15th to 20th July in Dhaka shishu (children) hospital – A tertiary care hospital in Bangladesh. Only admitted patients were included. **Results:** Among 196 COVID 19 confirmed cases 116 (59.18%) male and 80 (40.82%) female patients were admitted in Medicine Units 160 and in Surgery units 36 patients. Regarding age distribution, 0-30 days aged 26 patients, 1-12 month aged 57 patients, 1-5 years aged patients, 5-10 years aged 42 patients, more than 10 years and less than 18 years aged 14 patients. Most patients came with fever 110 patients, Upper respiratory tract infection (URTS) 74 patients, Lower respiratory tract infection (LRTS) 68 patients, Myalgia 63 patients, Diarrhoea 41 patients, Headache 33 patients, Rash 27 patients, Conjunctivitis 5 patients and 36 patients came with different surgical emergencies. **Conclusions:** Symptomatic diagnosis of COVID 19 is difficult in children. So all children should be addressed properly. COVID-19 in children is often not serious, with favorable outcomes.

Keywords: clinical characteristics, children, corona virus disease

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1. Introduction

World Health Organization (WHO), Termed coronavirus disease 2019 (COVID-19) caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). SARS-CoV2 is the seventh member of the enveloped RNA human coronavirus (HCoV) family, which also includes HCoV-229E, -OC43, -NL63, -HKU1, SARS-CoV, and Middle East respiratory syndrome corona virus (MERS-CoV) [1]. COVID-19 was first detected in humans towards the end of 2019 and the first cases were traced back to Wuhan city (Hubei province) in China [2]. The World Health Organization (WHO) on March 11, 2020, has declared the novel coronavirus (COVID-19) outbreak a global pandemic [3]. Although all humans are susceptible to SARS-CoV-2, it does appear that COVID-19 occurs less and is less severe in children than

in adults [4,5]. Reports of pediatric vulnerability are increasing nonetheless [6-10]. 1st case detected in Bangladesh 8th March. 1st Case detected in Dhaka shishu hospital at 15th March. In Bangladesh, COVID-19 infections are being reported from Directorate General of Health Service on daily basis. So far, we have around Total infected cases 2,07,453 and recovered 54.74%. Total death 2668 deaths, death rate 1.29% among them aged 0-10years, 18 (0.67%) and aged 11 years-20 years, 29 (1.09%) on 20th July, 2020 [11,12]. In Italy Children younger than 18 years of age who had Covid-19 composed only 1% of the total number of patients; 11% of these children were hospitalized, and none died [13]. The Centers for Disease Control and Prevention (CDC) reported 2572 confirmed cases of COVID-19 in individuals younger than 18 years in the USA as of April 2, 2020, representing only 1.7% of the total number of recorded cases (n=149 760) [14]. The Australian Health Protection Agency has reported that children accounted

for only 4% of confirmed COVID-19 cases in Australia [15]. In Bangladesh death rate of children is higher than many other countries. So it is important to identify the various presentation of COVID 19 in children. Existing papers from China contain very few clinical data on children with COVID-19. Similarly, recent epidemiological reports from Europe and North America contain little clinically relevant information [16]. More medical case information is required to early diagnosis and to determine the level of support required by children is essential for pediatric service planning during the ongoing COVID-19 pandemic.

2. Methods

This study was a retrospective observational study. This study involved children younger than 18 years of age with Covid-19 confirmed by reverse transcriptase–polymerase chain reaction testing of nasal or nasopharyngeal swabs on suspected Covid-19 cases who were assessed between March 15th to 20th July in Dhaka Shisu (children) hospital. Only confirmed Covid-19 inpatients data were collected from authority with proper approval. Patient data included age, sex, clinical presentation such as fever, Upper respiratory tract infection (URTS), lower respiratory tract infection (LRTS), Myalgia, Diarrhoea, Headache, Rash 27, Conjunctivitis and symptoms suggesting different surgical emergencies. Statistical analysis was done by entering all data in the Microsoft Excel Worksheet and analyzed using proportions and percentage of the cases found.

3. Results

Among admitted patients, total 196 COVID 19 confirmed cases found. Most of them were male 116 and female 80. Figure 1 shows gender distribution.

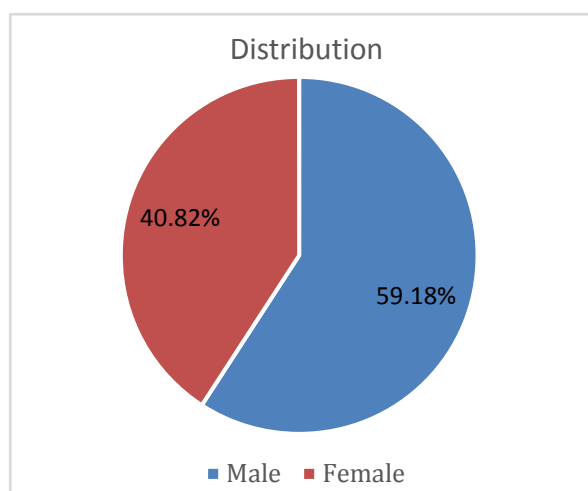


Figure 1.

According to department of admission among 196 patients in Medicine Units 160 and in Surgery units 36 patients were admitted. Following figure shows the distribution of patients in Medicine and Surgery Units.

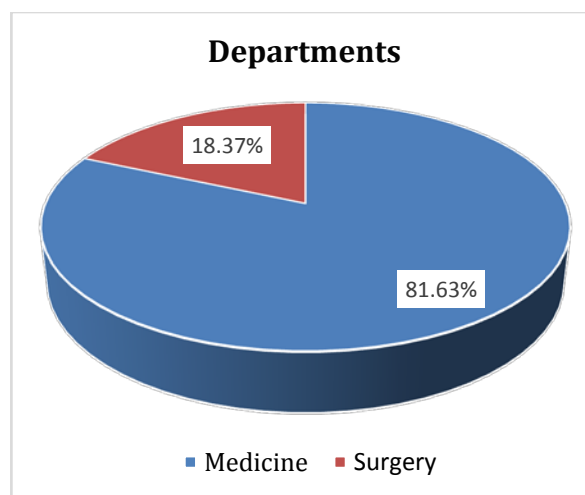


Figure 2.

According to age distribution, 0-30 days aged 26 patients, 1-12 month aged 57 patients, 1-5 years aged patients, 5-10 years aged 42 patients, more than 10 years and less than 18 years aged 14 patients were admitted. Following tables shows the age distribution with percentages.

Table 1.

Age Distribution	Number of patients	Percentages
0-30 Days	26	13.27%
1-12 Months	57	29.08%
1-5 Years	57	29.08%
5-10 Years	42	21.43%
>10-<18 Years	14	7.14%

Among 196 COVID 19 patients, most patients came with fever 110 patients, Upper respiratory tract infection (URTS) 74 patients, Lower respiratory tract infection (LRTS) 68 patients, Myalgia 63 patients, Diarrhoea 41 patients, Headache 33 patients, Rash 27 patients, Conjunctivitis 5 patients and 36 patients came with different surgical emergencies. Following table shows the clinical features with percentages.

Table 2.

Clinical features	Number of patients	Percentages %
Fever	110	56.12%
URTS	74	37.76%
LRTS	68	34.69%
Myalgia	63	32.14%
Diarrhoea	41	20.92%
Surgical emergencies	36	18.37%
Headache	33	16.84%
Rash	27	13.78%
Conjunctivitis	5	2.55%

4. Discussion

In this study 196 COVID 19 confirmed patients admitted. Among them most of them were male

116 (59.18%) and female 80(40.82%) where male and female ratio is 1.45:1. Lara s et al showed 52% male in a study. [17] Florian Götzinger et al in a multinational, multicentre cohort study found 1.15 male per female. [18] Among 196 patients in Medicine Units 160 and in Surgery units 36 patients were admitted. Other studies showed many patients needed surgical interventions with COVID 19 but little known comparison studies are available. In this study most patients aged 1 month to 5 years. Children under the age of 3 years are the most frequently affected [19,20,21,22]. Wei Xia et al found median age of 2 years and 1.5 months. [23] In a study Niccoldparri et al found the median age of the children was 3.3 years [24]. In this study, most patients came with fever 110 (56.12%) patients, Upper respiratory tract infection (URTS) 74 patients, Lower respiratory tract infection (LRTS) 68 patients, Myalgia 63 patients, Diarrhoea 41 patients, Headache 33 patients, Rash 27 patients, Conjunctivitis 5 patients and 36 patients came with different surgical emergencies. Following table shows the clinical features with percentages. Xia et al. report the presence of fever, which was defined as axillary temperature over 37.3°C in 12 cases (12/20, 60%), cough in 13 cases (13/20, 65%), diarrhea in three cases (3/20, 15%), nasal discharge in three cases (3/20, 15%), sore throat in one case (1/20, 5%), and fatigue in one case (1/20, 5%) [25]. In other studies similar symptoms such as fever [26,27] rhinitis, [26,27] pharyngitis [26,27] and headache [26,28,29], pneumonia [26,29,30] and in up to 57% of cases, gastrointestinal symptoms. [31,32] and conjunctivitis [33]. In this study surgical cases were included but there clinical features were not described. In this study only admitted patients were discussed so actual clinical features may not showed up.

5. Conclusion

In children clinical features were not typical like adult in case of corona viral diseases. To diagnose corona virus diseases in this corona pandemic especially in Bangladesh this clinical features should be considered.

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