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Clinical Profile of COVID-19 Patients in Nangarhar University Teaching Hospital

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ABSTRACT

Background: The coronavirus COVID-19, causing severe acute respiratory syndrome and patients' mortality in considerable proportion, has affected 220 countries. There was no description of the clinical profiles such as demography (sex, age), and co-morbidities of COVID-19 patients in Eastern Region of Afghanistan, comprising Nangarhar, Nuristan, Kunar, and Laghman provinces. A vast majority of patients from these areas refer to Nangarhar University Teaching Hospital for health issues. Therefore, the researchers compiled a descriptive profile of the patients from this particular area.

Materials and Methods: It was a descriptive record based study of Medical Ward, Nangarhar University Teaching Hospital. The number of profiled patients was 50, with age over 18 years old. The patient's samples were sent to Nangarhar Public Health Hospital for confirmation in Real-Time Reverse Transcriptase Polymerase Chain Reaction Assay for SARS-CoV-2 examination.

Findings: Out of 50 COVID-19 affected patients, 68% were females and 32% were males. The mean age was (53±17). According to the clinical profiles, 8% had no symptoms and most common ones were fever (80%), cough (60%) and dyspnea (10%). The major comorbidities were respiratory disease (56%), hypertension (38%), Diabetes Mellitus (16%), Heart Failure (12%), obesity (10%) and chronic kidney disease (4%).

Conclusion: The study concluded that the event was more common in females and aged persons than males and young patients. Fever was obviously common among all the identified patients. COVID-19 was severe in patients with respiratory diseases and hypertension.

Key words: COVID-19; Demography; Clinical profiles; Comorbidities; Afghanistan

INTRODUCTION

In the middle of March 2003, the severe acute respiratory syndrome (SARS) was initially identified as a global threat. SARS was originally identified in Guangdong Province, China, in November 2002.The World Health Organization stated that the final human chain of SARS transmission during that pandemic has been broken (https://covid19.who.int). The SARS coronavirus (SARS CoV), the etiological agent, was thought to be an animal virus that recently broke through the species barrier to humans when ecological shifts or alterations in human behavior increased opportunities for human exposure to the virus and virus adaptation, allowing human-to-human transmission (Meena et al., 2020). On December 31, 2019, the China Health Authority informed the WHO of multiple instances of pneumonia with unknown causes in Wuhan City, Hubei Province, central China. Since the cases were first reported on December 8, 2019, majority of the patients had either worked at or resided close to the Huanan Seafood Wholesale Market. However, some earlier cases had no connection to this market. 2019-nCoV was the initial short name for the novel Coronavirus given by the WHO (https://covid19.who.int), it was discovered in a patient's throat swab sample. The pathogen was eventually given the name severe acute respiratory syndrome coronavirus 2 (SARSCoV-2) by the Coronavirus Study Group, and the illness was given the term coronavirus disease 2019 (COVID-19) by the World Health Organization. World Health Organization (WHO) has determined that the SARS-CoV-2 outbreak qualified as a Public Health Emergency of International Concern as well as the WHO named the corona virus disease-19 (COVID-19) a pandemic on April 25, 2021 (https://covid19.who.int). The corona virus is extremely contagious and spreads by airborne droplets, close contact, coughing, sneezing, and cuddling (Meena, et al, 2020). World Meter-real Time World Statistics, there were 164,886,821 confirmed cases of SARS-CoV-2 worldwide, 143,811,583 recovered cases, and 3,418,430 fatalities (https://covid19.who.int) as well as WHO (2021) stated that 31.6 million People call the South Asian nation of Afghanistan home, and 71.5% of them reside in rural areas (SAEED & Mir, 2020) . Mousavi et al. (2020) stated that the first COVID-19 case in Afghanistan was discovered on February 24, 2020, in a resident of Herat Province who had recently returned from Iran.

On March 22, 2020, it was reported that a 40-year-old man had died in Balkh Province's Chimtal District as a result of COVID-19. According to Tolonews (2020), two fresh instances in the Kabul Province had their status as foreign diplomats confirmed (https://www.worldometers.info).Total confirmed cases in Afghanistan to far are 64,122, recovered cases are 55,118, and deaths are 2,762 (SAEED & Mir, 2020). Since the presence of COVID-19 has been confirmed in more than 220 nations, it is clear that SARS-CoV-2 is spreading swiftly over the world and is expected to cause significant illness and mortality if the spread is not immediately halted. This could potentially have significant worldwide socioeconomic repercussions and put a heavy burden on health care resources (Bollinger & Ray, 2021). The SARS-CoV-2 is caused by COVID-19, according to (Stuart, 2021), also they claimed that when a virus's genes are altered, or mutated, other viruses emerge. According to Ray, RNA viruses like the coronavirus have a tendency to alter over time. It is neither novel nor surprising for viruses to evolve, including the coronavirus responsible for the COVID-19 pandemic.

Ray, (2020) claims that since it was first identified in China, the SARS-CoV-2 coronavirus has changed into a number of other species. He states that in southeastern England, a single coronavirus mutant was discovered. That variety, now known as B.1.1.7, quickly became the most common coronavirus in the UK with regard to new COVID-19 cases in December. It has taken over as the main coronavirus strain in a number of countries.

In areas like California, Brazil, and other places, several varieties have emerged. B.1.351, a coronavirus variant first discovered in South Africa, has the potential to reinfect patients who have already recovered from other coronavirus variants. Additionally, several of the coronavirus vaccines that are being developed may only be somewhat effective. However, several immunizations currently being tested appear to provide defense against life-threatening illness in patients infected with B.1.351 (Coleman et al., 2021). The Covid variant known as B.1.617, which is allegedly more contagious in India, is allegedly being decoded by researchers from all over the world, according to (Joshi, 2021). Soni et al, (2020) stated that the COVID-19 is a very contagious condition. Its initial symptoms are similar to those of SARS and include fever, coughing, and tiredness. The same patient also displays additional symptoms such as fatigue, nasal congestion, myalgia, a sore throat, and diarrhea.

A systematic review was conducted on 19,584 COVID-19 patients (median age, 52 years; 47.5 percent female; 29.4 percent Hispanic) who passed away or were sent home during the study period. In the group, 31.1 % had diabetes, 50.4 % had hypertension, 14.3 % had heart failure, 18 % had coronary artery disease, and 5.6 % had end-stage renal disease (Baradaran, 2020). Hossain et al, (2020) conducted at a private hospital in Dhaka, Bangladesh, the main symptoms of the patients they enrolled were fever (88 percent), cough (81 percent), dyspnea (58 percent), and exhaustion (50 percent). Diabetes (54%) and Hypertension (48%) affected about half of the patients (47 percent).

There are currently no documented effective treatments for this virus, according to (Meena et al., 2020). However, the COVID-19 patients in Afghanistan's Eastern Zone's demographics, clinical features, and co-morbid diseases have not yet been identified. We therefore sought to explain these traits in COVID -19 confirmed individuals for this particular site.

MATERIALS AND METHODS

With the second coronavirus wave, in Afghanistan, preventive measures were seriously taken in late 2020. Afghan Ministry of Public Health took many steps to prevent coronavirus spreading, including commissioning Focal Points in hospitals so that suspected COVID-19 patients can be excluded from the OPDs and IPDs. Internal Medicine Ward of Nangarhar University Teaching Hospital was commissioned as a Focal Point for the Eastern Region by Nangarhar Public Health Department.

This Focal Point, first, registered suspected COVID-19 patients according to the format the researchers had arranged, consisting Patient’s introduction, contact number, demographics (age, sex), clinical profiles (fever, cough, and dyspnea) and comorbidities (respiratory diseases, chronic kidney disease, chronic liver disease, Diabetes Mellitus, Hypertension and obesity). After registering, the sample would be taken from the throat of patient, and sent to the public health hospital lab for confirmation. After 48 hours, the result of Polymerase Chain Reaction (PCR) were detected. Then, the patients’ demographics, clinical profile, and comorbidities were evaluated and the confirmed patients were to be transferred to reference COVID-19 hospital.

The study design was descriptive, ran from 1.12.2020 to 30.3.2021 over 50 confirmed COVID-19 patients. It was conducted in Internal Medicine Ward of Nangarhar University Teaching Hospital. The study included the patients with age 18 years and older. Ethical approval of the study has been gotten from the hospital research board.

RESULTS

This study was conducted on 50 COVID-19 affected patients came to Nangarhar university teaching hospital for different reasons. Females were more commonly affected (68%) than males (32%). The mean age at presentation was 51±67 years. The most common symptoms were fever (80%), cough (60%) dyspnea (10%), sore throat (10%),

myalgia (8%), and diarrhea (6%). The major comorbidities were respiratory disease (56%), systemic hypertension (38%), diabetes mellitus (16%), Heart Failure (12%), obesity (10%), chronic kidney disease (4%), chronic liver diseases (2%). Eleven patients (22%) had no co-morbidities as shown in **Fig. 1.**

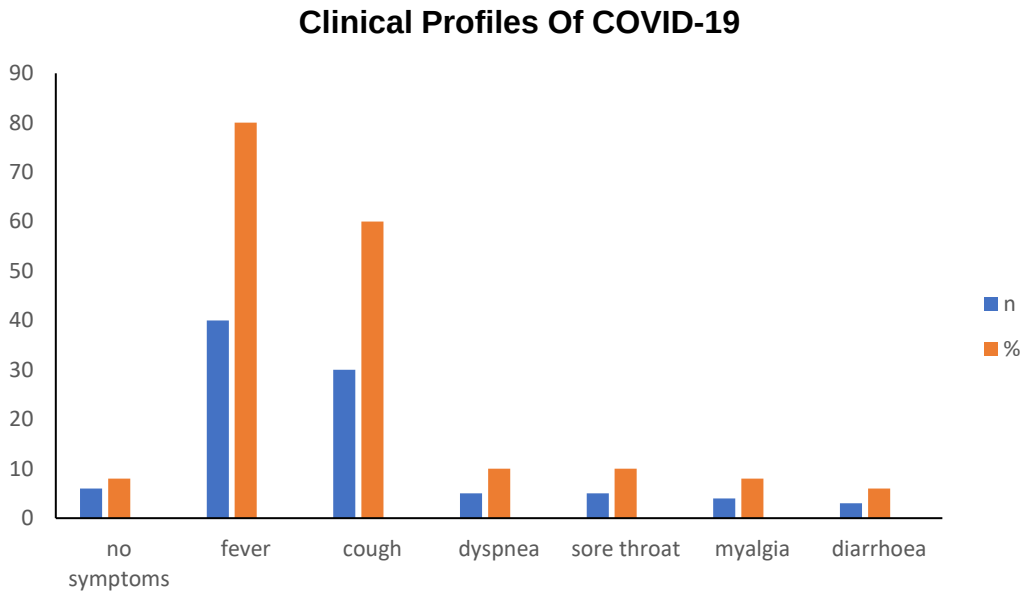

Fig. 1. Clinical Profiles of COVID-19 in Nangarhar university teaching hospital for different reasons

Table 1. Ages, sex and co-morbidities distribution

Age distribution	Female			Male		
	N (%)	Comorbid (+)	Comorbid (-)	N (%)	Comorbid (+)	Comorbid (-)
60≤	14(28%)	12(24%)	2(4%)	10(20%)	9(18%)	1(2%)
40-59	10(20%)	8(16%)	2(4%)	2 (4%)	1(2%)	1(2%)
18-39	10(20%)	9(18%)	1(2%)	4(8%)	4(8%)	0(0%)
Total	34(68%)	29(58%)	5(10%)	16(32%)	10(20%)	2(4%)

Table 2. Comorbidities of COVIDE-19

Comorbidities	Female		Male	
	Present	Absent	Present	Absent
Respiratory Diseases	18 (36%)	16 (34%)	11 (22%)	5 (10%)
Hypertension	12 (24%)	22 (44%)	6 (12%)	10 (20%)
Diabetes	7 (14%)	27 (52%)	1 (2%)	15 (30%)
Heart Failure	4 (8%)	30 (60%)	3 (6%)	13 (26%)
Obesity	3 (6%)	31 (62%)	2 (4%)	14 (18%)
Chronic Kidney Disease	1 (2%)	33 (66%)	1 (2%)	15 (30%)
No co-morbidities	9 (18%)		2 (4%)	
Multiple factors	10 (20%)		6 (12%)	

DISCUSSION

Our aims were to describe the demography, clinical profile and comorbidities of COVID-19 patients in the Eastern Region of Afghanistan. In our study, the mean age of population was 51±67 years, which is quite similar with the findings of other studies: 53 years (Hossain, 2020), 47.5 years (Budhiraja et al., 2020), 51years (Baradaran, 2020). We found that females were more commonly affected than males (68% vs 32%). While in most international studies males were predominantly affected by COVID 19. The result of a meta-analysis conducted on 33 studies found that the men were more affected (55%) than women (Barek at al., 2020). Hossain (2020), also observed greater percentage of male (65%) than female (35%) affected with COVID-19. She reported "Similar male preponderance in other studies, 73% of the first reported study of China or 63% of a study in DMCH, Bangladesh". The clients of Nangarhar University Teaching Hospital are mostly females; therefore, the females were more predominant in this study. We found that fever was obvious symptom (80%) followed by cough (60%) dyspnea (10%), sore throat (10%), myalgia (8%), and diarrhea (6%), which is in agreement with other international studies. In a study conducted in Dhaka fever (88%) with respiratory symptoms like cough (81%) & dyspnea (58%) topped the list, followed by fatigue (50%) (Hossain, 2020). Chen N et al. found that "Patients had clinical manifestations of fever (82 [83%] patients), cough (81 [82%] patients), and shortness of breath (31 [31%] patients), muscle ache (11 [11%] patients), confusion (nine [9%] patients), headache (eight [8%] patients), sore throat (five [5%] patients), rhinorrhea (four [4%] patients), chest pain (two [2%] patients), diarrhea (two [2%] patients), and nausea and vomiting (one [1%] patient)". (Ratti Ram, 2020). Patients with respiratory diseases (56%) and hypertension (38%) were more affected in this study. An Indian Experience said that the major co-morbidities in covid-19 patients were hypertension (23.7%), diabetes without (15.4%), and with complications (9.6%) (Budhiraja et al., 2020). A large US study of 5,700 hospitalized patients revealed an overall hypertension rate of 56%, similar to hypertension rates reported from China and Italy (50% and 49%, respectively) (Kulkarni et al., 2020). Our study was conducted in winter months, in this season the occurrence of respiratory diseases is more common and as we know the viral infections course is worse in the respiratory diseases affected people, therefore in under study individuals the chronic respiratory diseases were more prevalent. There was no fund for this research. Lab Examinations were free of charge by the government and examinations were not interfered with.

CONCLUSION

Our investigation showed that the event was more witnessed in females and aged than male and young patients. Fever was obvious. Comorbidities due to COVID-19 was common in patients with respiratory diseases and hypertension. We must give emphasis on early diagnosis, early isolation and early management of all COVID-19 patients to reduce transmission and mortality, thus to save mankind from this invisible enemy. As the obvious symptoms of COVID-19 were fever, cough & myalgia, therefore, the patients with such symptoms should be paid special attention to confirm this disease in time. Aged, hypertensive, and patients with chronic respiratory disease are more prone to covid-19, so these patients should be in the first line for preventive measures and screening. The government should also provide sufficient facilities for diagnosis of COVID-19 and private sector should be permitted play active role in early diagnosis and prevention of disease progression.

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Conflict of Interest

No, conflict of interest among all authors

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