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Prevalence of the COVD-19 in Nangarhar Corona Center According to Season in 2020- 2022

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ABSTRACT

In late 2019, a novel coronavirus emerged and spread quickly from its origin in China across the globe. The CDC-recommended terminology for the virus is SARS-CoV-2 and the illness caused by this virus is called "Coronavirus Disease 2019" or COVID- 19. COVID- 19 was declared a pandemic by the WHO on March 11, 2020. The virus spread to Afghanistan and infected thousands of individuals. The study's aim is to describe the incidence of COVID-19 in the Nangarhar Corona Center, in Afghanistan, according to season between 2020 and 2022. A descriptive retrospective investigation using interview approach and an accidental sampling technique was used to collect data for this study from the inpatient medical records of patients who were identified as having SARS-CoV-2 infection following admission to the Corona Center in Nangarhar province, Afghanistan, between 2020 and 2022. The variables were age, gender of the patient, and season of the year. The data was processed using Microsoft excel and SPSS version 16. In this study, patients who met the inclusion criteria provided 32327 samples. According to age, 12112 female and 20209 male patients were reported.. There were 14337 negative cases and 17990 positive cases out of them. 5271 (29.2%) of the positive instances were found in winter, whereas 4527 (25.1%) were found in fall, 4334 (24.3%) in summer and 3857 (21.4%) in spring. The primary target of the Corona virus is the human respiratory system. The findings of this study indicated that the majority of COVID-19 patients were of 58- 67 years, and the most positive cases 5271 (29.2%) were found in winter, whereas 4527 (25.1%) were found in summer, 4334 (24%) in fall and 3857 (21.4%) in spring. Additionally, our study found that, overall, there was a negative influence of COVID-19 on Afghan population social life. Immediate action is required on the part of the general public in the shape of focused mass psychological support initiatives in order to improve the mental health of those impacted by the COVID-19 problems.

Key words: Coronavirus, Disease, Health, Nangarhar, Patients, Season

INTRODUCTION

The novel coronavirus 2019 (COVID-19), sometimes referred to as the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), is a newly emerging infectious virus that spreads coronavirus disease (Huang et al., 2020). The COVID-19 rapidly changed and spread around the world in 2020, turning into a pandemic (Munster et al., 2020). Because of its comparably high transmissibility and morbidity, the world health organization (WHO) has declared that the COVID-19 epidemic is a public health emergency of worldwide significance and should be regarded as a pandemic (Jee, 2020). Prior to this, coronavirus was primarily isolated from animals and seldom from humans (Wang et al., 2020). The first coronavirus infection was identified in a patient in December 2019 in Wuhan, the provincial capital of China's Hubei province (Zhang et al., 2020). According to Hassan et al. (2020) and Li et al. (2020), the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is a member of the Coronaviridae family and is the cause of this disease outbreak. The WHO received reports of about 24,000,000 confirmed illnesses and 800,000 fatalities worldwide until August 27, 2020, despite strict morbidity constraints imposed by nations. The coronavirus primarily targets the human respiratory system (Liu et al., 2021). The broad family of Coronaviridae is responsible for a wide range of human illnesses, from the common cold to more serious conditions like Middle East Respiratory Syndrome and Severe Acute Respiratory Syndrome, among others (Babarinsa et al., 2021). Males have contracted COVID-19 at a higher rate than females, according to the global COVID-19 data research. Additionally, because COVID-19 is more likely to affect people with compromised immune systems, the elderly are more at risk and are more likely to require hospitalization for COVID-19-related problems (Semenzato et al., 2021). This study's purpose

is to describe the prevalence of COVID-19 in the inpatient ward of Corona Center in Nangarhar province from 2020 to 2022 in order to detect COVID-19 cases according to season.

MATERIALS AND METHODS

Site and Patients

A descriptive retrospective investigation an accidental sampling technique was used to collect data for this study from the inpatient medical records of patients who were identified as having SARS-CoV-2 infection following admission to the corona center in Nangarhar province Afghanistan, between 2020 and 2022. The availability of data from the RT-PCR examination led to the selection of the inpatient medical record. Based on negative RT-PCR results after admission, incomplete medical records and suspicious patients were eliminated from the study. All hospitalized ICU patients who had been admitted served as the inclusion criterion for assessing risk variables. The hospital's ethical review board granted study approval.

Data Collection and Analysis

Fever and/or respiratory symptoms, a characteristic lesion (GGOs or consolidation) on the chest x ray, a normal or low white blood cell count and a low lymphocyte count were all considered to be related clinical manifestations. The criteria for COVID-19 suspicion were met by patients with at least 3 or 2 clinical symptoms and a history of specific COVID-19 exposure. All of the data was entered into a Performa that had been pre-designed. Additionally, information on the laboratory test was taken from the hospital file. Continuous and categorical variables were used to classify the variables. Microsoft Excel and SPSS statistical software version 16 were used to process the data.

RESULTS

Prevalence of COVID-19 according to season

In this study, 32327 samples were obtained from the patients who met the inclusion criteria. Total recorded male patients were 20209 and female patients were 12118. Of them 17990 cases were positive and 14337 cases were negative. Among the positive cases 5271 (29.2%) were found in winter, whereas 4527 (25.1%) were found in summer, 4334 (24%) in fall and 3857 (21.4%) in spring (Table 1). It is worth to mention that all the patients were from Afghanistan. According to cases, positive cases were (55.66%) and negative cases were (44.34%

Table 1. Total, covid-19 positive cases according to season		
winter	5271	29.2%
summer	4527	25.1%
fall	4335	24.3%
spring	3857	21.4%
total	17990	100%

Patient Age and Characteristics

Age differences of patients infected by COVID-19 are summarized in Table 2. Among the tested patients (32327), majority aged between 58-67 years old (22.3%), and the second covid-19 positive cases were between the ages of 48-57(17.8%). We also found that positive cases were low in young age and death cases detected in old age (78<) as shown in Table 2

Table 2. Characteristic of patients according to age differences

Age (years)	tested cases	Percentage (%)
16-27	4687	14.5
28-37	3319	10.2
38 -47	4903	15.1
48-57	5765	17.8
58- 67	7211	22.3
68-77	4266	13.1
78<	2176	7
Total	**32327**	**100**

DISCUSSION

Although SARS-2 continues to cause disease through out of the year, we identified season spike in covid-19 cases from 2020 to 2023, across all years of the pandemic in Nangarhar, Laghman, Kunar, and Nuristan province. Our result indicates seasonal spike in winter (29,2%) and decrease in spring (21%), if we compare our research to the other countries, the cases are variable. Few countries like Syria, Nepal and Myanmar showed an increase in covid-19 cases during the winter while some countries like Yemen, Tajikistan, Bangladesh, Uzbekistan and India observed an increase in COVID19 cases in summer and also cases increased in Pakistan in summer and winter seasons. We compare our result to Pakistan and Cambodia, it is same to these countries because in these countries also cases increased in summer and winter period and decrease from august to October. According to the age and gender our study is same with the Pakistan and Cambodia, because in these two countries also in the age of 58-67 cases are numerous.

CONCLUSION

The results of this research showed that the majority of the patients with COVID-19 were in age range of 58-67 years and was dominated by winter season.

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