ORIGINAL ARTICLE

Prevalence of COVID-19 Infection among outpatients attending a Nigerian tertiary hospital

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Abstract

Introduction: Three years after its declaration as a pandemic, countries and regions are still gathering data on the epidemiology of Severe Acute Respiratory Syndrome Coronavirus-2 (SARS-CoV-2) infection. Following the relaxation of many restrictions earlier imposed to curb spread and the observation of some sort of seasonal surge in infection rates, it is still not clear whether the disease should remain a pandemic.

Methods: This descriptive cross-sectional study was conducted at a Nigerian tertiary hospital. Ninety-two adult male and female patients presenting with common symptoms associated with COVID-19 disease were enrolled at the Outpatient Department of the facility. Ethical approval was duly sought and obtained from The Ethics and Health Research Committee of the hospital. Informed consent was obtained from each study participant. The COVID-19 testing was determined using Panbio COVID-19 Ag Rapid Test Device from Abbott (United States). Results are presented as numbers and frequencies.

Results: Among outpatients presenting with symptoms such as fever and midnight sweats, body aches and pain, difficulty in breathing as well as cough and catarrh, the prevalence of COVID-19 was observed to be 15.2%. On the knowledge of the respondents regarding COVID-19, majority (80.6%) had a prior knowledge while 19.4% lacked knowledge of COVID-19.

Conclusion: This study observed 15.2% prevalence for COVID-19 infection among outpatients in a Nigerian tertiary hospital. There still exists persons (19.4%) who lack knowledge of the disease.

Key words: COVID-19, Coronavirus disease, pandemic, epidemiology.

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Introduction

Severe Acute Respiratory Syndrome Coronavirus-2 (SARS-CoV-2) known to cause coronavirus disease emerged in 2019 and was later named by the World Health Organization as coronavirus disease (COVID-19) in February 2020. Its rapid spread in many countries across the globe resulted in millions of cases as well as a heavy death toll. Thus, the disease was subsequently declared a pandemic by WHO in march 2020 (1,2) Although Africa contributed to the millions of confirmed cases, associated mortality was low. This observation was attributed to different factors including; viral variants, under-reporting and missed diagnosis as well as the tropical weather in the region (3,4)

The high replication rate of SARS-CoV-2, its emerging variants as well as the high proportion of asymptomatic patients have led to constant growth in the active cases rate and increased healthcare services demands across the globe (5-9) Coronavirus disease is a highly contagious disease that carries higher risks of morbidity and mortality particularly among persons with underlying health conditions (10-13). However, the spread of COVID-19 appears to vary widely concerning the geographical area and patient characteristics. African counties have reported comparatively lower numbers of confirmed COVID-19 cases than other parts of the world, which is hypothesized to stem from the high temperature and genetic characteristics of African people.

Three years after its declaration as a pandemic, countries and regions are still gathering data on the epidemiology of the infection. This is particularly necessary for further characterization of the disease. Following the relaxation of many restrictions earlier imposed to curb spread and the observation of some sort of seasonal surge in infection rates, it is still not clear whether the disease should remain a pandemic. These and the concern for adequate preparedness against possible future infection waves have necessitated the continuation of COVID-19 testing. While this line of thought is being followed up in developed countries, the constraints of poor policy implementation and inadequate healthcare coverage continue to plague our local setting. To this end, the present study considered the current prevalence of COVID-19 among outpatients at Alex Ekwueme Federal University Teaching Hospital Abakaliki, Ebonyi State.

Materials and methods

This descriptive cross-sectional study was carried out at Alex Ekwueme Federal University Teaching Hospital Abakaliki, a Tertiary hospital located in Ebonyi State Nigeria. Ninety-two adult male and female patients presenting with common symptoms associated with COVID-19 disease were enrolled at the Outpatient Department of the facility. Persons with confirmed diagnosis of the disease and those previously vaccinated were excluded from the study. Ethical

approval was duly sought and obtained from The Ethics and Health Research Committee of the hospital. Informed consent was obtained from each study participant.

The COVID-19 testing was determined using Panbio COVID-19 Ag Rapid Test Device from Abbott (United States). It is a qualitative lateral flow immunoassay for the simultaneous detection of IgM and IgG antibodies to SARS-CoV-2 in nasal specimens. Results are presented as frequencies in a table and figures.

Results

The participants of this study were 92 adults with mean age of 43.24 ± 15.59. More females (54.3%) than males (45.7%) were observed among these participants. Table 1 shows associated symptoms of COVID-19 among the respondents. Aches and pains as well as malaise were the most common symptoms observed at a frequency of 28.3% each. These were closely followed by fever and midnight sweats at 25.0%. The least observed symptoms were diarrhea and sore throat at 2.2% frequency each.

As shown in Figure 1, basic knowledge of the respondents regarding the causative agent of COVID-19 as well as preventive measures against spread of the infection was ascertained. Majority (80.6%) of the study participants were observed to be knowledgeable while 19.4% lacked knowledge of COVID-19. The result in Figure 2 shows the prevalence of COVID-19. From the result, the prevalence of COVID-19 was 15.2%, while the inconclusive result was 2.2%.

Table 1. Symptoms of COVID-19 among the Respondents

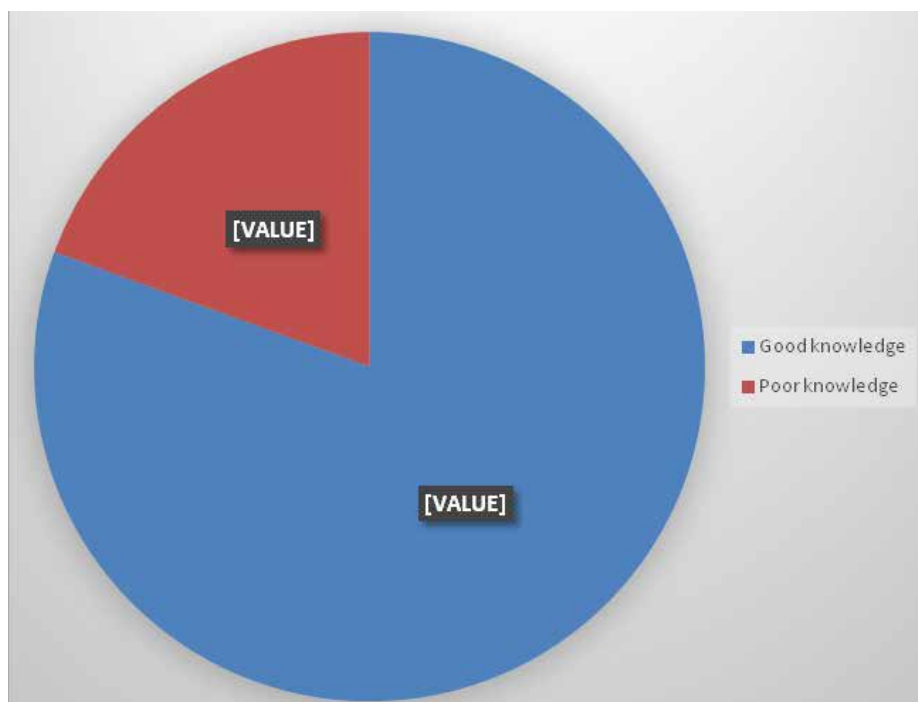| Symptoms	Frequency	Percentage
Fever and midnight sweats	23	25.0
Difficulty in breathing	5	5.4
Cough and catarrh	5	5.4
Sore throat	2	2.2
Diarrhea	2	2.2
Aches and pains	26	28.3
Loss of taste and smell	3	3.2
Malaise	26	28.3

Figure 1. Pie Chart Showing Previous Knowledge of COVID-19 among the Respondents
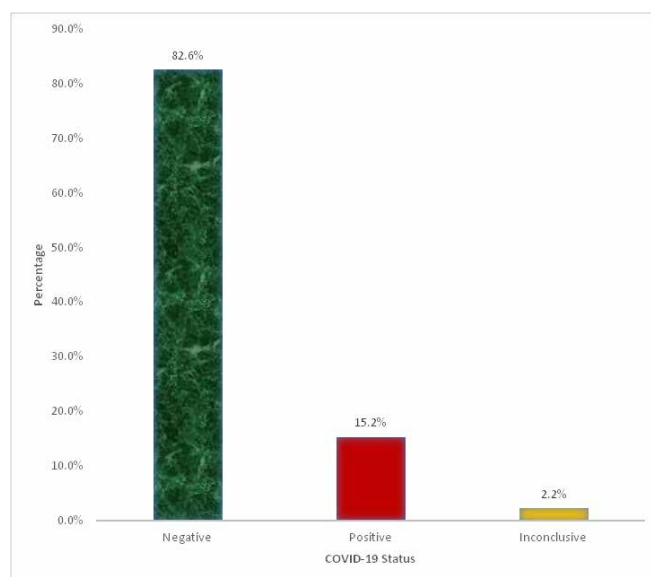

Figure 2. Bar chart showing the prevalence of COVID-19 of the respondents

Discussion

This study on the prevalence of COVID-19 infection among outpatients attending a Nigerian tertiary hospital was carried out at Alex Ekwueme Federal University Teaching Hospital Abakaliki. The study participants were adults with mean age of 43.24±15.59, while a slightly higher percentage of females (54.3%) were recorded compared to males (45.7%). Beyond the demographics of the study participants, symptoms of their ailments were observed to include fever and midnight sweats, general body aches and pains, difficulty in breathing, cough and catarrh, sore throat, diarrhea, loss of taste and smell as well as malaise. Aches and pains as well as malaise were the most common symptoms observed at a frequency of 28.3% each. These were closely followed by fever and midnight sweats at 25.0%. At the other end of the spectrum, diarrhea and sore throat were observed at 2.2% frequency each. The global situation at the onset of the pandemic, when such symptoms were viewed with panic, required affected persons to quarantine(14,15). Nigerian report since then, however, has revealed a relatively low prevalence. Available data indicates that after the first quarter of this year, positive rate from tested cases is 4.67% (266,675 confirmed cases out of 5,708,974 tested samples)(16).

Majority of these participants (80.6%) had good knowledge while 19.4% lacked knowledge of COVID-19. The emergency with which global response was raised towards combating the COVID-19 pandemic covered largely enlightenment campaigns of all sorts. Moreso, the impact of associated restrictions on daily living was quite enormous as it extended to socio-economic hardship particularly in the immediate period of its initial wave. It is thus of concern that despite such magnitude of global upheaval, there are still persons with poor knowledge of the infection. At a time when global effort is being directed towards controlling infection surge, lack of awareness poses the danger of infection sustenance. This also extends to the area of vaccine acceptance as persons lacking in knowledge may be less receptive towards vaccination. The Nigerian situation requires more progress for effective disease control(17).

Among these outpatients presenting with symptoms associated with coronavirus disease, 15.2% were positive while 2.2% inconclusive results were recorded. Since the study focused on screening, it suffered the limitation of not being able to perform further confirmatory tests. However, the results were appropriately conveyed to the medical authorities and further testing recommended. This prevalence of 15.2% was observed among persons with no history of prior testing or vaccination but presented with symptoms related to the disease. As at the second quarter of this year, Ebonyi State ranks 24th in the country contributing 2,064 of the 266,675 confirmed cases(16). There is need to sustain and improve on control measures against the spread of coronavirus disease. In conclusion, this study observed 15.2% prevalence for COVID-19 infection among outpatients in a Nigerian tertiary hospital. There still exists persons (19.4%) who lack knowledge of the disease.

Conflict of Interest

The authors declare no conflict of interest.

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