



Cross-Sectional Study of Prevalence of COVID-19 in Alkharj, Saudi Arabia

Nehad J. Ahmed^{1*}

¹*Department of Clinical Pharmacy, College of Pharmacy, Prince Sattam Bin Abdulaziz University, Alkharj, Saudi Arabia.*

Author's contribution

The sole author designed, analysed, interpreted and prepared the manuscript.

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ABSTRACT

Aim: Forecasting the prevalence of the disease is important for health departments to strengthen surveillance systems and reallocate resources. The aim of this study is to assess the occurrence of COVID-19 in Alkharj, Saudi Arabia.

Methodology: This is a cross-sectional study that included data about the occurrence of COVID-19 cases in Alkharj, Saudi Arabia between the 12th of July, 2020 till 5th of August, 2020. Data were extracted from Saudi Ministry of Health official site and also from Saudi Ministry of Health page on Facebook.

Results: The rate of cases in Alkharj were low in comparison with other cities. The number of population in Saudi Arabia was 34,871,847 in 2020. Among of these people, More than 425,300 live in Alkharj. So Alkharj residents represent about 1.219 % of the total population in Saudi Arabia. COVID-19 cases in Alkharj represent only 0.576% of total cases in Saudi Arabia. In Alkharj, only 0.387 % of the population suffered from COVID-19 (out of 425,300 people there were 1646 COVID-19 patients)

Conclusion: This study showed a reduction in the number of COVID-19 cases but still it is essential to implement the preventive measures to reduce the number of COVID-19 cases.

*Corresponding author: E-mail: n.ahmed@psau.edu.sa, pharmdnehadjaser@yahoo.com;

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1. INTRODUCTION

Several pneumonia cases without a known cause emerged in Wuhan, China at the end of 2019 [1–3]. After that, more and more patients suffered from symptoms such as fever and cough [4].

The International Committee on Taxonomy of Viruses On 11 February 2020 renamed the virus that caused this infection as severe acute respiratory syndrome coronaviruse-2(SARS-CoV-2) [5]. The World Health Organization (WHO) named the widespread infection that was caused by this virus as coronavirus disease 2019 (COVID-19) [6]. Later, WHO has declared this viral infection outbreak a worldwide pandemic [7].

This infectious disease has a very dynamic structure and spreads rapidly. Ceylan reported that as of April 15, 2020, 123,010 deaths and approximately 2 million cases have been confirmed worldwide [8]. Generally, the epidemiological observation of established COVID-19 cases captures only a proportion of all infections because the clinical manifestations of infection with SARS-CoV-2 range from asymptomatic infection to severe disease [9].

On the 2nd of March, the examination of a Saudi citizen coming from Iran showed positive result for COVID-19 and was immediately isolated and reported as the first case in the Kingdom of Saudi Arabia by the Ministry of Health [10].

Forecasting the prevalence of the disease is important for health departments to strengthen surveillance systems and reallocate resources [8]. Therefore, the aim of this study is to assess the occurrence of COVID-19 in Alkharj, Saudi Arabia.

2. METHODOLOGY

This is a cross-sectional study that included data about the occurrence of COVID-19 cases in Alkharj, Saudi Arabia between the 12th of July, 2020 till 5th of August, 2020. Therefore, All COVID-19 cases in Alkharj in this period were included.

Data were extracted from Saudi Ministry of Health official site about COVID-19 (<https://covid19.moh.gov.sa>) [11] and also from Saudi Ministry of Health page on Facebook [12].

The data was collected and analyzed by Microsoft Excel 2016.

The descriptive data were represented as frequencies and percentages of confirmed COVID-19 cases in Alkharj and in Saudi Arabia. The data were represented in a table that represents the number of total cases of COVID-19 and the active cases and a figure that represents the pattern of distribution of COVID-19 cases.

3. RESULTS AND DISCUSSION

The total number of COVID-19 cases in Saudi Arabia till the 07-08-2020 was 285793 cases and the number of Active Cases were 33752. In Alkharj, there were 1646 COVID-19 cases and the number of active cases were 294.

This result showed that the rate of cases in Alkharj were low comparing other cities. The number of population in Saudi Arabia was 34,871,847 in 2020. Among these people, More than 425,300 live in Alkharj. So Alkharj residents represent about 1.219 % of the total population in Saudi Arabia. COVID-19 cases in Alkharj city represent only 0.576% of the total cases in Saudi Arabia.

Fig. 1 showed the number and percentages of daily cases of COVID-19. The rate of cases in Alkharj was less than 1 % in the majority of the days.

Only in 5 days out of twenty-five days, the rate was more than 1 %. In 12-07-2020 the rate was 2.52%, in 15-07-2020 the rate was 1.09%, in 19-07-2020 the rate was 2.12%, in 27-07-2020 the rate was 1.15% and in the 02-08-2020 the rate of cases in Alkharj was 2.21% of the total cases. Out of twenty-five days, the number of cases was 0 in 2 days, 26th July and 29th July.

As shown in Fig. 1, the number of cases was declining continuously in Alkharj similar to other cities. The rate of confirmed case in general was less than the national average. In Alkharj, only 0.387 % of the population had COVID-19 (out of 425,300 people there were 1646 COVID-19 patients).

Al-Tawfiq reported that according to the available data as of April 16, 2020 the number of assured cases/million in Saudi Arabia is 168 [13], but after that the case increased intensely. The

Table 1. The total number of COVID-19 cases in Al-kharj

Variable	Number of COVID-19 cases
Total cases in Saudi Arabia	285793
Active cases in Saudi Arabia	33752
Total cases in Alkharj	1646
Active cases in Alkharj	294

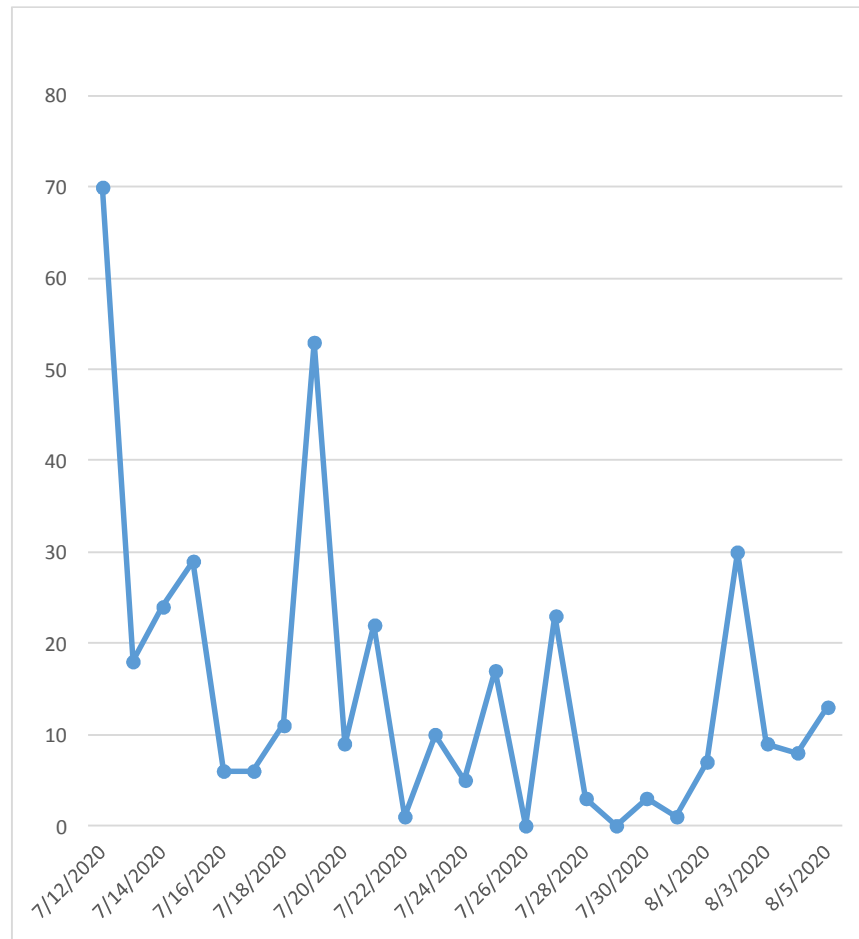


Fig. 1. The distribution of Covid-19 cases

present study showed that the rate of disease prevalence was increased in Saudi Arabia; out of 34,871,847 people, there were 285793 confirmed case till the 7th of August (0.82% of the population had 285793).

Elhassan and Gaafar reported that the swift precautionary, regulations and the preventive measures that were adopted by the Saudi authority has ameliorated the exponential rise of the spreading of COVID-19, reduced the death rate and decreased the critical COVID-19 cases [14].

Saudi Ministry of Health published Coronavirus Disease 19 Guideline on January 10th 2020 and reported that there is no available treatment for COVID-19, so it is recommended to follow the treatment guidelines of Middle East respiratory syndrome coronavirus until more information is available. The Guideline also reported that it is necessary to transfer a confirmed COVID-19 case to a designated hospital and that the main approach to manage the infection in people is the treatment of symptoms and the intensive supportive care [15]. Hence, it is essential to

implement the preventive measures to control the disease.

4. CONCLUSION

This study showed a reduction in the number of COVID-19 cases as reported by MOH News that "the number of active cases continues to decline" [16]. but still it is essential to implement the preventive measures to decrease the disease prevalence and to control it. It is important also for anyone develops fever or suffer from shortness of breath to check for the disease.

CONSENT

It is not applicable.

ETHICAL APPROVAL

As per international standard or university standard written ethical approval has been collected and preserved by the authors.

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COMPETING INTERESTS

Author has declared that no competing interests exist.

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