


## ORIGINAL ARTICLE

# The effect of the “stay-at-home” policy on requests for dermatology outpatient clinic visits after the COVID-19 outbreak

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## Abstract

The Coronavirus Disease 2019 (COVID-19) emerged late in Turkey but it showed a rapid progression later. We aimed to investigate the changes in the number of patients who requested a dermatology outpatient clinic visit due to the increased social and medical burden caused by COVID-19 in Turkey during the first days of the pandemic. We also examined the most common dermatologic diseases diagnosed during the COVID-19 outbreak. A statistically significant negative correlation was found between the number of COVID-19 patients in the country and the number of patients requesting a dermatology outpatient clinic visit in the secondary and tertiary care hospitals during self-quarantine. In the first 10 days after the COVID-19 outbreak, acne (28.2%), urticaria (12.8%), scabies (12.8%), irritant contact dermatitis (10.3%), and xerosis cutis (10.2%) were the most common diseases seen in the dermatology clinic at the secondary care hospital, while acne (23.3%), warts (5.4%), seborrheic dermatitis (4.5%), urticaria (3.8%), and psoriasis (3.32%) were the most common diseases seen in the dermatology clinic at the tertiary care hospital. This is our first study on the frequency and nature of outpatient dermatology visits during this novel coronavirus pandemic. Understanding the trends and impacts of dermatologic diseases on patients and health systems during this pandemic will allow for better preparation of dermatologists in the future.

## KEYWORDS

COVID-19, dermatology, outpatient, pandemic

## 1 | INTRODUCTION

The 2019 SARS-CoV-2 pandemic, which caused Coronavirus Disease 2019 (COVID-19), originated in Wuhan, China and spread across the world.<sup>1,2</sup> Although COVID-19 emerged late in Turkey, it showed a rapid progression.<sup>3</sup> Numerous preventive precautions were put into immediate practice in Turkey, including an international travel ban, transition to a distance education system, social distancing, gathering and public transport restrictions, and the

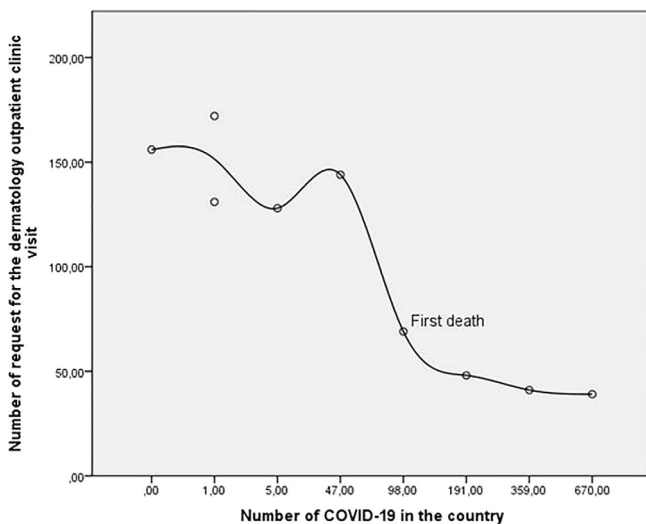
campaign that encourages everyone to “stay-at-home.”<sup>4</sup> As a result of the “stay-at-home” policy, there has been a decrease in the number of patient requests for dermatology outpatient clinic visits. In this study, we aimed to investigate the changes in the number of patients who requested a dermatology outpatient clinic visit due to the increased social and medical burden caused by COVID-19 in Turkey during the first days of the pandemic. We also examined the most common dermatologic diseases diagnosed during the COVID-19 outbreak.

**TABLE 1** Number of requests for dermatology outpatient clinic visits and number of COVID-19 cases in the country

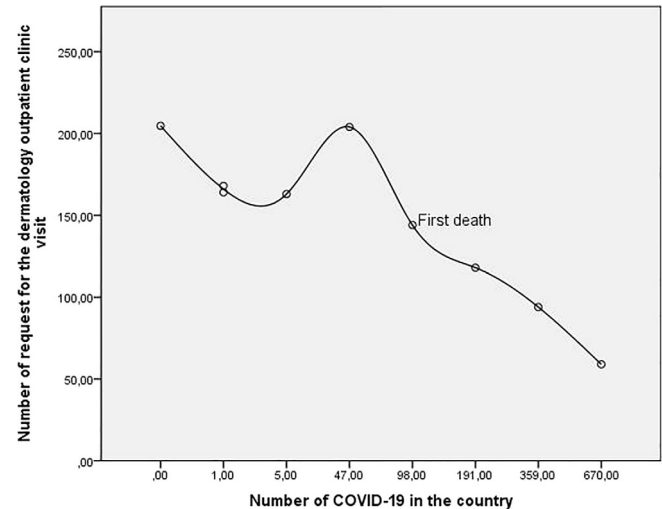
Outbreak-related days	Number of patients with COVID-19	Number of deaths from COVID-19	Number of requests to the secondary care dermatology outpatient clinic	Number of requests to the tertiary care dermatology outpatient clinic
0 <sup>a</sup>			156	204.7
1	1	0	172	164
2	1	0	131	168
3	5	0	128	163
4 <sup>b</sup>	6	0	N/A	N/A
5 <sup>b</sup>	18	0	N/A	N/A
6	47	0	144	204
7	98	1	69	144
8	191	1	48	118
9	359	4	41	94
10	670	9	39	59

<sup>a</sup>The average number of patients examined in dermatology outpatient clinics 10 days before the first case.

<sup>b</sup>No outpatient clinic examination was done due to weekend.



**FIGURE 1** Changes in the number of requests for the dermatology outpatient clinic visits in a secondary care hospital with an increasing number of COVID-19 cases in the country



**FIGURE 2** Changes in the number of requests for the dermatology outpatient clinic visits in a tertiary care hospital with an increasing number of COVID-19 cases in the country

## 2 | MATERIAL AND METHODS

### 2.1 | Study design

This study was carried out retrospectively by analyzing the numbers and diagnoses of patients who requested a visit to one of the dermatology outpatient clinics at Nevşehir State Hospital and Uşak Training and Research Hospital in Turkey.

The first case of COVID-19 in Turkey was diagnosed on 11 March 2020. On March 21, 2020, Turkey imposed a partial curfew for citizens over the age of 65 and those with chronic diseases as part of measures against the coronavirus outbreak. Therefore, patients seen

10 days before and 10 days after the first case of COVID-19 were included in this study. The total number of patients seen before the COVID-19 outbreak was 1092 and 1433 in the secondary and tertiary care hospital, respectively, while 772 and 1114 were seen after the COVID-19 outbreak, respectively. The average number of patients seen 10 days before the first COVID-19 case in Turkey and the average number of patients seen in the 10 days after the first case were investigated (Table 1).

The correlation between the number of patients requesting a visit to the dermatology clinic and the increasing number of COVID-19 cases was examined. The most common types of diseases or reasons for requesting a dermatology outpatient clinic visit in the 10 days before and after the first COVID-19 case were also analyzed.

**TABLE 2** The most common dermatologic diseases in secondary and tertiary care hospitals before and after the COVID-19 outbreak

Secondary care hospital		Tertiary care hospital	
Before COVID-19	After COVID-19	Before COVID-19	After COVID-19
Acne (32.6%)	Acne (28.2%)	Acne (21.8%)	Acne (23.3%)
Dermatophytoses (9.02%)	Urticaria (12.8%)	Xerosis cutis (5.02%)	Warts (5.4%)
Warts (7.63%)	Scabies (12.8%)	Warts (5.86%)	Seborrheic dermatitis (4.5%)
Xerosis cutis (5.69%)	Irritant contact dermatitis (10.3%)	Seborrheic dermatitis (4.81%)	Urticaria (3.8%)
Seborrheic dermatitis (4.86%)	Xerosis cutis (10.2%)	Dermatophytoses (4.1%)	Psoriasis (3.32%)

## 2.2 | Statistical analysis

The data were evaluated in the SPSS 20.0 program and were considered statistically significant when  $P < .05$ . Spearman's rho correlation was used for not normally distributed data in continuous measurement variables.

## 3 | RESULTS

A statistically significant negative correlation was found between the number of COVID-19 patients in the country and the number of patients requesting a dermatology outpatient clinic visit in the secondary and tertiary care hospitals ( $P$  values = 0.001 and 0.001, respectively; correlation coefficient =  $-0.912$  and  $-0.895$ , respectively) (Figures 1 and 2).

A statistically significant negative correlation was found between the number of deaths from COVID-19 in the country and the number of patients requesting a dermatology outpatient clinic visit in the secondary and tertiary care hospitals ( $P$  values = 0.001 and 0.001, respectively; correlation coefficient =  $-0.908$  and  $-0.908$ , respectively).

In the first 10 days after the COVID-19 outbreak, acne (28.2%), urticaria (12.8%), scabies (12.8%), irritant contact dermatitis (10.3%), and xerosis cutis (10.2%) were the most common diseases seen in the dermatology clinic at the secondary care hospital, while acne (23.3%), warts (5.4%), seborrheic dermatitis (4.5%), urticaria (3.8%), and psoriasis (3.32%) were the most common diseases seen in the dermatology clinic at the tertiary care hospital (Table 2).

## 4 | DISCUSSION

After the COVID-19 outbreak, the number of patients requesting a dermatology outpatient clinic visit decreased significantly in a short time. The effect of the "stay-at-home" policy also contributed to the decrease in the number of patients going to the hospital.<sup>5</sup> In this study, we found a strong inverse correlation between the number of patient cases and deaths due to COVID-19 and the number of patients requesting a dermatology outpatient clinic visit. As the number of COVID-19 cases and related deaths increased, the number of requests for dermatology outpatient clinic visits decreased.

The decrease in the number of patients requesting a dermatology outpatient clinic visit during the active COVID-19 pandemic will cause an accumulation of patients with dermatologic diseases after the pandemic. Institution of new units supporting teledermatology may reduce the patient load that will accumulate in the future. The development of android and iOS-supported applications that keep up-to-date with the number of patients with COVID-19 in individual health centers may allow the patient population to rationally distribute to non-COVID-19-centered hospitals for dermatology and other medical specialty visits.

In the current study, the percentage of patients with diseases including warts, fungal infection, xerosis cutis, and seborrheic dermatitis decreased after the COVID-19 outbreak. On the other hand, the percentage of diseases such as irritant contact dermatitis, urticaria, psoriasis, and scabies increased. The increase in social anxiety and stress along with the negative impact on quality of life caused by the COVID-19 pandemic may explain the proportional increase in diseases such as psoriasis and urticaria.<sup>6-9</sup>

Although the percentage of hospital visits for dermatological diseases decreased after the pandemic arose, the percentage of scabies-related visits increased during the COVID-19 outbreak. Severe pruritus and sleeplessness may explain why patients with scabies requested outpatient clinic visits despite the warnings and enforcement of the "stay-at-home" policy. Scabies has been called "the worst itch"; it has caused great epidemics in history as well as large negative impacts on social health systems.<sup>10,11</sup> Severe pruritus and sleeplessness may explain why patients with scabies requested outpatient clinic visits despite the warnings and enforcement of the "stay-at-home" policy.

Furthermore, acne was the most common disease among patients requesting a dermatology outpatient clinic visit after the COVID-19 outbreak. This may be due to the fact that acne is more common in adolescents, who are risk-taking individuals, and the fact that using isotretinoin requires continuity. Acne can have a significant psychosocial impact on patients, which leads to high rates of treatment compliance among acne patients; thus, these patients are likely to maintain their scheduled follow-up visits.<sup>12</sup> Additionally, it is well known that fatality rates in young adults with COVID-19 are low, hence continuing the adolescent patient referral stream by other physicians to the dermatology outpatient clinics.<sup>13</sup> One additional important point which should be addressed is the increasing number of acne

mechanica during the pandemic. Although the use of face masks did not common in the early days of the pandemic, it was increased in the following days. The wide use of face masks in order to provide protection against the COVID-19 may lead to an increasing number of acne mechanica.

Lastly, the significant increase in the number of irritant contact dermatitis cases after the COVID-19 outbreak was probably due to the increased use of perfumes, antiseptics, cologne, liquid soap, and other irritating disinfectants for hand hygiene. Increasing education to both health care professionals and the general public about hand hygiene may lead to enhanced awareness and understanding of proper precautionary measures and a subsequent reduction in the number of cases of irritant contact dermatitis.

In conclusion, the COVID-19 pandemic affects many aspects of health care, including the numbers as well as the reasons for patients requesting outpatient dermatology clinic visits. The number of outpatient dermatology clinic visits significantly decreased after COVID-19 arose in Turkey. Despite the severe warnings and enforcement of the “stay-at-home” orders after the COVID-19 outbreak, the high number of dermatology outpatient clinic visits for acne management highlights the immense psychological impact of acne in this cohort of primarily teenage patients. In addition, the increasing rates of patients with scabies, psoriasis, and urticaria indicates that these diseases may be a result of increasing anxiety and stress. These diseases may negatively impact quality of life, leading patients to seek care in dermatology clinics during this time. Finally, the increase in irritant contact dermatitis after the COVID-19 outbreak in Turkey suggests that hand hygiene education should be taught to health care professionals as well as the general population to reduce dermatologic diseases from precautionary and preventative handwashing measures.

This is our first study on the frequency and nature of outpatient dermatology visits and the most common types of diseases seen during this novel coronavirus pandemic. Understanding the trends and impacts of dermatologic diseases on patients and health systems during this pandemic will allow for better preparation of health professionals, including dermatologists, in the future.

#### CONFLICT OF INTEREST

The authors declare no potential conflict of interest.

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