



Effect of the coronavirus disease-2019 pandemic on the follow-up and treatment of patients with rosacea

Koronavirüs hastalığı-2019 pandemisinin rozase hastalarının takip ve tedavi süreçlerine etkisi

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Kırıkkale University Faculty of Medicine, Department of Dermatology, Ankara, Türkiye

Abstract

Background and Design: This study aimed to investigate the effects of the precautions and preventive measures implemented during the coronavirus disease-2019 (COVID-19) pandemic on the follow-up and treatment processes of patients with rosacea who applied to the Skin and Venereal Diseases outpatient clinic of a university hospital in Türkiye.

Materials and Methods: Age, sex, number of hospital admissions, prescribed topical and systemic treatments, total amount of treatment on a box basis, follow-up interval in multiple applications, and number of applications to the Ophthalmology Department were recorded before and during the COVID-19 pandemic.

Results: No difference was found in the age and sex distributions of patients with rosacea who applied to the Skin and Venereal Diseases outpatient clinic during the COVID-19 pandemic compared with that before the pandemic. However, the total number of patients decreased. Furthermore, the total number of drugs prescribed to patients and the number of systemic drugs increased proportionally during the COVID-19 pandemic. In addition, the ratio of patients who continued their follow-up and the use of systemic drugs among these patients increased.

Conclusion: In this study, the number of admissions decreased and the rate of patients who needed systemic treatment increased. Rosacea and similar dermatoses that required long-term follow-up could be evaluated via teledermatology during periods when application to outpatient clinics for follow-up becomes difficult such as during pandemics and natural disasters.

Keywords: COVID-19, pandemic, dermatology application, rosacea

Öz

Amaç: Bu çalışmada Türkiye’de bir üniversite hastanesinin Deri ve Zührevi Hastalıklar polikliniğine başvuran rozase hastalarının takip ve tedavi süreçlerinin, koronavirüs hastalığı-2019 (COVID-19) pandemi döneminde alınan tedbirler ve korunma önlemlerinden nasıl etkilendiğinin araştırılması amaçlanmıştır.

Gereç ve Yöntem: COVID-19 pandemisi öncesi ve pandemi döneminde hastaların yaş ve cinsiyet özellikleri, başvuru sayıları, reçete edilen topikal ve sistemik tedaviler ile kutu bazında toplam tedavi miktarları, çoğul başvurularda takip aralığı süresi, Göz Hastalıkları Bölümü’ne başvuru sayıları kaydedilmiştir.

Bulgular: COVID-19 pandemisi döneminde Deri ve Zührevi Hastalıklar polikliniğine başvuran rozase hastalarının COVID-19 pandemisi öncesine göre yaş ve cinsiyet dağılımları değişmezken toplam hasta sayısı azalmıştır. Ancak pandemi döneminde hastalara reçete edilen toplam ilaç sayısı ve sistemik ilaç sayısı oransal olarak artmıştır. Ayrıca takiplerine devam eden hasta oranı ve bu hastalar arasında sistemik ilaç kullanımının arttığı görülmüştür.

Sonuç: Hastaların başvuru sayılarının azaldığı ve sistemik tedavilere ihtiyaç duyan hastaların başvuru oranlarının arttığı saptandı. COVID-19 pandemisi ve doğal afetler gibi hastalık takibi için polikliniğe başvuruların zorlaştığı dönemlerde rozase ve benzeri kronik takip gerektiren dermatozların teledermatoloji yöntemi ile değerlendirilmesi önerilebilir.

Anahtar Kelimeler: COVID-19, pandemi, dermatoloji başvurusu, rozase

Address for Correspondence/Yazışma Adresi: Murat Durak MD, Kırıkkale University Faculty of Medicine, Department of Dermatology, Ankara, Türkiye

Phone: +90 505 676 03 89 **E-mail:** murat_durak@hotmail.com **Received/Geliş Tarihi:** 16.02.2022 **Accepted/Kabul Tarihi:** 09.11.2022

ORCID: orcid.org/0000-0002-3637-4587

Cite this article as: Durak M, Gündüz Ö. Effect of the coronavirus disease-2019 pandemic on the follow-up and treatment of patients with rosacea.

Turkderm-Turk Arch Dermatol Venereol 2023;57:1-5

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Turkderm-Turkish Archives of Dermatology and Venereology published by Galenos Yayınevi.



Introduction

Coronaviruses are enveloped RNA viruses that can cause acute and persistent infections in humans and animals¹. A new variant of the coronavirus family, i.e., severe acute respiratory syndrome-coronavirus-2 (SARS-CoV-2), was detected in some patients in China in 2019, and the resulting disease, i.e., coronavirus disease-2019 (COVID-19), was declared as a pandemic, as new cases were observed in many countries over a short period^{2,4}. This new variant has a high mortality rate, especially in older adults and patients with comorbidities⁵.

The first COVID-19 cases observed in Türkiye were recorded in March 2020. Several measures such as curfews and intercity travel bans have been implemented since then. During this period, outpatient applications to hospitals decreased. Regular follow-ups of patients were very likely affected by this situation.

Rosacea is a chronic inflammatory skin disease that requires regular follow-up and is characterized by symptoms that may disrupt the social life of the patient, such as temporary or permanent erythema, telangiectasias, flushing (sudden onset erythema on the face), fimas (sebaceous gland hyperplasia), and eye involvement that affect the central area of the face^{6,7}.

This study aimed to investigate the effects of the precautions and preventive measures implemented during the COVID-19 pandemic on the follow-up and treatment processes of patients with rosacea who applied to the Skin and Venereal Diseases outpatient clinic of a university hospital in Türkiye.

Materials and Methods

Records of patients aged ≥ 18 years, regardless of sex, who applied to our outpatient clinic, with the diagnosis of rosacea were compiled retrospectively from the hospital information management system. The onset of the COVID-19 pandemic in Türkiye was March 15, 2020. Two separate periods of 18 months before and after this date were evaluated as the "pre-pandemic period" and the "pandemic period." The age and sex characteristics of the patients, number of applications, prescribed topical and systemic treatments, total amount of treatment on a box basis, follow-up interval in multiple applications, and number of applications to the Ophthalmology Department was recorded in both periods.

The study protocol was approved by the Ethics Committee of Kırkkale University Non-Interventional Research Ethics Committee (approval number: 2021.11.06, date: 11.11.2021).

Statistical Analysis

Student's t-test and chi-square test were used to statistically evaluate age and sex distributions between the periods.

Results

A total of 561 patient applications (before pandemic, n=418; pandemic period, n=143) were included in this study. Of these, 417 (74.3%) were women and 144 (25.7%) were men. Although the total number of patients was 424, 321 (75.7%) applied to the hospital before the pandemic, whereas only 88 (20.8%) applied to the hospital during the pandemic. The number of patients who applied to the hospital in both periods was 15 (3.5%). The mean age of the patients was 46.2 ± 15.6 years. No statistically significant difference was found between the periods in terms of the age and sex distributions of the patients. The number of applications and patients and the age and sex distributions before and during the pandemic are presented in Table 1 and Figure 1-3.

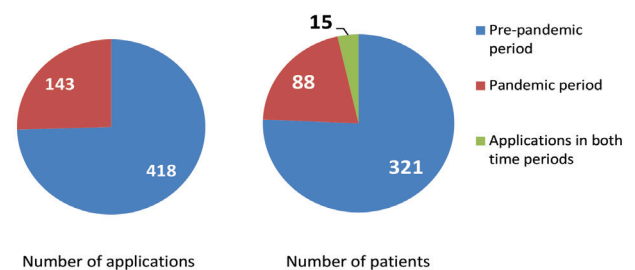


Figure 1. Number of applications and patients by period

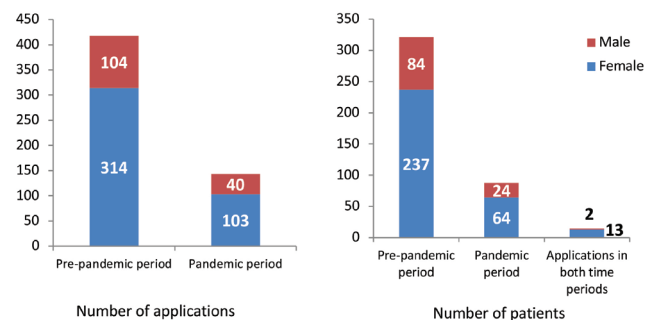


Figure 2. Number of applications and patients by sex and period

Table 1. Age and sex distribution of patients				
	Pre-pandemic period	Pandemic period	Total	p
Age, mean \pm SD	46.9 \pm 15.8	43.9 \pm 14.9	46.2 \pm 15.6	0.092
Female	45.9 \pm 15.2	42.9 \pm 14.9	45.3 \pm 15.1	0.152
Male	49.6 \pm 17	46.3 \pm 15.1	48.9 \pm 16.7	0.358
Sex, n (application) (%)				
Female	314 (75.1)	103 (72)	417 (74.3)	0.835
Male	104 (24.9)	40 (28)	144 (25.7)	

SD: Standard deviation

A total of 991 boxes of drugs (before pandemic, 698 boxes; pandemic, 293 boxes) were prescribed. When the number of drugs prescribed on a box basis was analyzed with respect to the number of applications, an average of 1.7 boxes of drugs were prescribed for each application before the pandemic, whereas an average of 2 boxes of drugs were prescribed during the pandemic. Systemic treatment was given to 83 patients in total (before pandemic, n=60; pandemic, n=23). While systemic treatment was prescribed in 14.4% of all applications before the pandemic, this rate was 16.1% during the pandemic. Figure 4-6 show the number of topical and systemic drugs prescribed before and during the pandemic, average number of drugs prescribed in each application, and number and rates of patients who received systemic treatment, respectively.

Moreover, 47 patients before the pandemic and 19 patients during the pandemic applied multiple times in the same period (continuing their follow-up). When compared with the total number of patients, 14.6% of the patients continued their follow-up before the pandemic, whereas this rate was 21.6% during the pandemic. In addition, 44.7%

of the patients who were followed up before the pandemic received systemic treatment compared with 52.6% during the pandemic. The median follow-up interval was 51 days before the pandemic and 54.5 days during the pandemic. The number and ratio of patients who continued their follow-up, rates of systemic treatment use, and median follow-up intervals are provided in Figure 7,8, respectively.

Among the patients with rosacea who applied to the skin and venereal diseases clinic, 175 (65.3%) patients before the pandemic and 93 (34.7%) during the pandemic applied to the ophthalmology outpatient clinic. The number of ophthalmology applications is shown in Figure 9.

Discussion

The coronavirus family is known to cause intestinal and respiratory infections in humans and animals. On December 8, 2019, a new type of coronavirus was discovered as the agent responsible for the emergence of pneumonia-like symptoms in a group of patients in the city of Wuhan, Hubei, China. This new virus was named 2019 novel

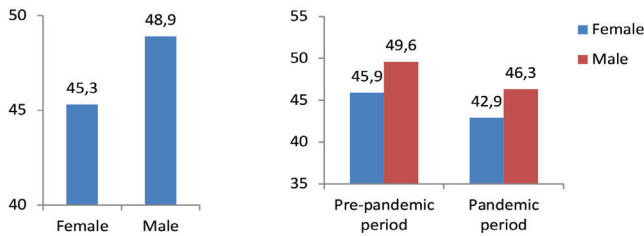


Figure 3. Average age of patients by sex and time period

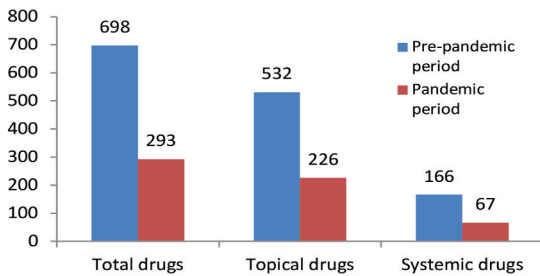


Figure 4. Number of drugs prescribed by time period (box)

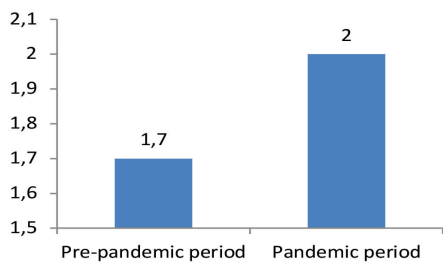


Figure 5. Number of drugs prescribed per application by period (box)

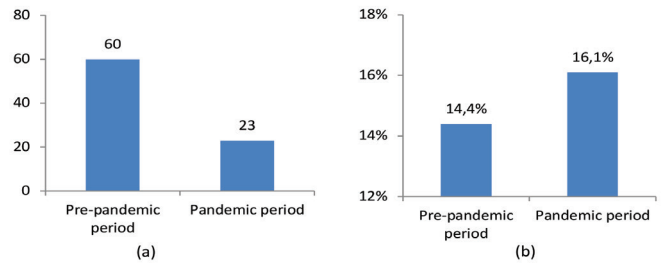


Figure 6. Number (a) and ratio (b) of patients given systemic treatment in each period

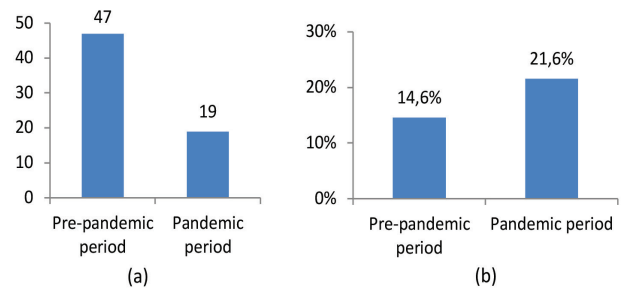


Figure 7. Number (a) and ratio (b) of patients who continue their follow-up in each period

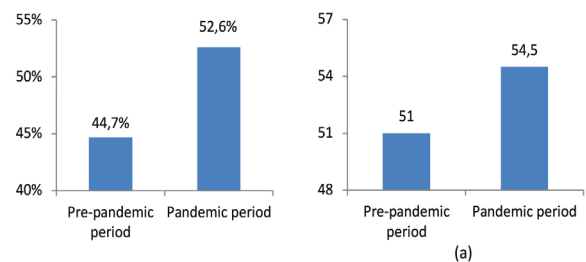


Figure 8. Systemic treatment usage rates (a) and median follow-up interval (days) (b) of the patients who continue their follow-up

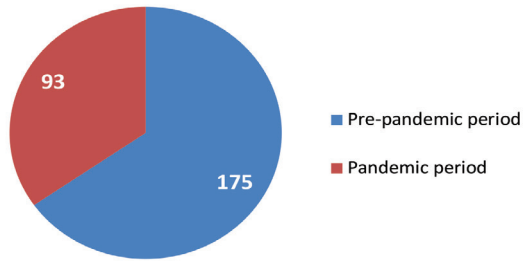


Figure 9. Number of patients applying to ophthalmology outpatient clinics in each period

(new) coronavirus (2019-nCoV, later renamed SARS-CoV-2), and a pandemic was declared after the detection of new cases in many countries^{2,4}.

This new disease has since been investigated epidemiologically and clinically. It affects both sexes and all age groups, but mortality risk is higher in older patients and patients with comorbidities such as coronary artery disease, diabetes, and hypertension^{5,8}. The World Health Organization (WHO) has put forward several recommendations for the prevention of the spread of COVID-19 and personal protection, such as maintaining physical distance, hand washing and hand disinfection, use of masks, isolation of symptomatic people, and compliance with local vaccination programs after vaccine development (<https://www.who.int/emergencies/diseases/novel-coronavirus-2019/advice-for-public>).

The first COVID-19 cases in Türkiye were observed in March 2020. In addition to WHO recommendations, further measures such as curfew, intercity travel ban, prohibition of gatherings and social events, and quarantining of positive cases and contacts and those traveling to Türkiye from certain countries have since been implemented.

Recent studies in dermatology and other branches have examined how outpatient clinics, patient applications, complaints, and treatments have been affected by the COVID-19 pandemic. Furthermore, the use of personal protective equipment may reportedly aggravate diseases such as psoriasis, seborrheic dermatitis, and rosacea^{9,10}.

In the present study, no significant difference was found in the mean age and sex distributions of the patients between the pre-pandemic and pandemic periods. However, a remarkable decrease was noted in the number of applications during the pandemic (Table 1 and Figure 1-3). In parallel with the decrease in the number of applications, the number of systemic and topical drugs prescribed to patients and the number of patients using systemic drugs decreased during the pandemic. However, the average number of drugs prescribed in each application and the rate of patients given systemic treatment increased during the pandemic. This shows that patients needing multiple drug use and systemic treatment applied to outpatient clinics was higher during the pandemic (Figure 4-6).

Although the number of patients who continued their follow-up decreased during the pandemic, the ratio of patients continuing follow-up increased during the pandemic period when compared with all applications, and a higher proportion of these patients received systemic treatment compared with that before the pandemic. However, no significant difference was found in follow-up intervals between the periods (Figure 7,8).

Conclusion

The applications of patients with rosacea to the Ophthalmology Department appeared to decrease during the pandemic in parallel with the applications to the Skin and Venereal Diseases outpatient clinic (Figure 9). These results were consistent with results of previous studies¹¹⁻¹⁴. However, the application rates of patients who needed systemic treatment or whose disease severity was thought to increase during the pandemic increased. In addition, the number of patients who applied to Ophthalmology clinics decreased during the pandemic, consistent with the literature data¹⁵. Rosacea and similar dermatoses that require chronic follow-up can be evaluated by teledermatology during periods when application to outpatient clinics for follow-up becomes difficult such as during pandemics and natural disasters¹⁴⁻¹⁶.

Ethics

Ethics Committee Approval: The study protocol was approved by the Ethics Committee of Kırıkkale University Non-Interventional Research Ethics Committee (approval number: 2021.11.06, date: 11.11.2021).

Informed Consent: Retrospective study.

Peer-review: Externally peer-reviewed.

Authorship Contributions

Surgical and Medical Practices: M.D., Ö.G., Concept: M.D., Ö.G., Design: M.D., Ö.G., Data Collection or Processing: M.D., Ö.G., Analysis or Interpretation: M.D., Ö.G., Literature Search: M.D., Ö.G., Writing: M.D., Ö.G.

Conflict of Interest: The authors declare that they have no conflict of interest.

Financial Disclosure: The authors declared that this study received no financial support.

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