

ORIGINAL ARTICLE

Evaluation of the effect of COVID-19 pandemic on dermatological diseases with dermatological quality life index

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Abstract

Disease-related skin lesions have been reported in 8% to 20% of COVID-19 patients. In the literature, cutaneous symptoms associated with the disease are generally emphasized. However, there are very few studies on the effect of this new SARS-CoV-2 virus entering our lives on dermatological diseases, and none of them have used the dermatological quality of life index (DLQI). In our study, we aimed to evaluate the difficulties faced by the patients who applied to the dermatology outpatient clinic during the pandemic period and the course of their diseases with the dermatological quality of life index. The study was carried out prospectively by including dermatology patients who will apply to the outpatient clinic in June-July 2020. 282 patients were evaluated in the study. DLQI was significantly lower in the group using regular emollients ($P < .001$). When DLQI was compared between disease groups, it was found to be significantly different ($P: .017$). DLQI was found to worsen significantly compared to prepandemic studies. It was found that using moisturizer in this period helps to maintain the dermatological quality of life.

KEYWORDS

COVID-19, dermatological quality life index, inflammatory skin conditions, pandemic

1 | INTRODUCTION

In December 2019, cases with viral pneumonia began to be reported in Wuhan, China. A new coronavirus was identified as a pathogen (SARS-CoV-2) and the disease was called COVID-19 (Coronavirus Disease 2019).¹ In this new situation, which has been declared as a pandemic since 11 March 2020, many changes have occurred in the medical practice and dermatology.^{2,3}

Disease-related skin lesions have been reported in 8% to 20% of COVID-19 patients.⁴ In the literature, cutaneous symptoms associated with the disease are generally emphasized. However, there are very few studies on the effect of this new SARS-CoV-2 virus entering our lives on dermatological diseases, and none of them have used the dermatological quality of life index.⁵

During the COVID-19 pandemic, although the number of patients admitted to the dermatology outpatient clinic decreased, outpatient

services continued. During the period, the patients had some reservations about coming to the medical services. They have used various hygiene products to avoid contagions.⁵ Although there are some studies investigating the COVID-19 pandemic period effects on the skin, there is no study evaluating the skin symptoms and findings with the dermatological quality of life index. In this study, we aimed to evaluate the difficulties faced by the patients who applied to the dermatology outpatient clinic during the pandemic period and the course of their diseases with the dermatological quality of life index.

2 | MATERIALS AND METHODS

The study was carried out prospectively by including dermatology patients who applied to the dermatology outpatient clinic in June-July 2020. The control group could not be included in the study due to

pandemic conditions. Due to the policy of the Turkish Ministry of Health during the pandemic, patients without appointment were not accepted for examination. A questionnaire was created to examine the symptoms that dermatology patients' behaviors to prevent from the disease can be formed by examining the literature, including demographic features, questioning their illnesses, and questioning the problems they experienced during this period. The questionnaire also included the dermatological quality of life index. This study was approved by the ethics committee of the Commission for Scientific Research of the Ministry of Health of the Republic of Turkey, required for COVID-19 studies in Turkey. Local ethics committee approval was also obtained for the study.

3 | DERMATOLOGICAL LIFE QUALITY INDEX

Dermatological Life Quality Index (DLQI); It is a simple, brief, understandable questionnaire form for patients and is frequently used in daily routine clinical studies. The DLQI; The symptoms are designed based on the patient's feelings, daily activity, leisure time, school/work life, personal relationships, treatment, and includes a total of 10 questions with four possible answers. Generally, the direction of the disease to affect social and physical activations in the last week is understood. The lowest DLQI score is 0 while the maximum is 30. If the DLQI is between 2 and 5, it means that the impact on quality of life is low, if it is between 6 and 10, it is moderate, between 11 and 20 is high, and between 21 and 30 it is very high. Higher scores indicate worse quality of life. Turkish validity of DLQI has also been made.⁶

4 | PATIENT SELECTION

Patients who applied to the dermatology outpatient clinic who are 12 years or older who agreed to participate in the study were given a questionnaire and asked to fill in on a voluntary basis.

5 | STATISTICAL ANALYSIS

Data analysis was performed using the SPSS 22.0 program. Mean \pm SD and percentage were used for descriptive statistics. Student *t*-test for independent groups was performed and the *P* value of $<.05$ was accepted as statistically significant.

6 | RESULTS

Over the period from 1 June 2020 to 29 July 2020, 282 patients were evaluated. Female patients had predominance (59.6% vs 40.4%). The mean age of patients was 32.7 ± 15 (12-89 years old). Table 1 shows the sociodemographic characteristics of the cases.

TABLE 1 The sociodemographic characteristics of the cases

The characteristics of the cases	Female	Male
Number of patients, n (%)	168 (59.6%)	114 (40.4%)
Age (years)	32.5 ± 14.1	32.9 ± 16.4

TABLE 2 The distribution of the diseases groups

Diagnosis	Patients (n%)	DLQI
Dermatitis group (contact dermatitis, pityriasis rosae, seborrheic dermatitis, atopic dermatitis, etc.)	114 (40.4%)	14.4 ± 5.2
Psoriasis	39 (13.8%)	19.6 ± 4.2
Acne vulgaris	38 (13.5%)	14.1 ± 5.3
Behçet's disease	20 (7.1%)	16.6 ± 5.3
Urticaria	19 (6.7%)	19 ± 5.4
Fungal diseases	9 (3.2%)	14.9 ± 5
Bullous diseases	9 (3.2%)	18.1 ± 4.2
Vitiligo	6 (2.1%)	14.3 ± 3.6
Other diseases	27 (9.6%)	

In this process, patients who apply to the dermatology outpatient clinic; 140 (49.6%) patients had new skin disease, 82 (29.1%) patients had increased skin disease before, 41 (14.5%) patients came to have their medication prescribed regularly, and 19 (6.8%) the patient also applied for other reasons. When the DLQI effect of the pandemic period on disease groups (people with existing disease, newly developing disease) was evaluated, no significant difference was found (*P*: 0.7).

Although 19.9% of the patients with newly developed skin diseases applied to the dermatology outpatient clinic immediately, the majority of them waited for the disease to pass at home first because of the fear of pandemic, and applied because it did not. The mean admission period of patients with new complaints was 37.4 ± 25 (3-90) days.

The most common dermatosis of patients with chronic skin disease was psoriasis with 36 patients (25.2%). 40% of patients with pre-pandemic chronic skin disease stopped or reduced their medication for fear of the pandemic. In chronic patients who discontinued treatment, disease exacerbation was found to be significantly higher (*P* $<.001$).

The diagnoses of patients evaluated during this period were dermatitis group (contact dermatitis, pityriasis rosea, seborrheic dermatitis, atopic dermatitis, etc.) diseases in 115 (40.8%) patients, psoriasis in 39 (13.8%) patients, acne in 38 (13.5%) patients, and Behçet's disease in 20 (7.1%) patients, urticaria in 19 (6.7%) patients, fungal diseases in nine (3.2%) patients, bullous diseases in nine (3.2%) patients, vitiligo in six (2.1%) patients, and 27 (9.6%) patients were classified as other diseases, respectively. The distribution of the disease groups is summarized in Table 2.

The ways of obtaining information about the diseases of patients with previous dermatological diseases during this period were listed as 25.6% reached their physician by phone, 24.4% did not obtain information, 24.4% looked at social media, 13.4% asked pharmacist, and 12.2% asked the family physician. Also during this period, 22 patients (7.8%) applied for alternative medicine practices.

In hand wash preference, 112 (39.7%) patients were using normal liquid soap, 80 (28.4%) patients were using antibacterial liquid soap, 73 (25.9%) patients were using solid soap, and 17 (6%) patients were using other options. 149 (52.8%) patients used regular hand disinfectants and 133 (47.2%) patients did not. 110 (39%) patients used regular moisturizers and 172 (61%) patients did not. DLQI was significantly lower in the group using regular emollients ($P < .001$). The use of moisturizer was significantly higher in patients with chronic skin disease ($P: .02$).

When all patients were evaluated, DLQI was 15.55 ± 5.6 (2-30). DLQI values were 19.6 ± 4.2 in psoriasis, 19 ± 5.4 in urticaria, 18.1 ± 4.2 in bullous diseases, 16.6 ± 5.3 in Behçet's disease, 14.9 ± 5 in fungal diseases, 14.4 ± 5.2 in dermatitis (contact dermatitis 17.4 ± 5.1 , pityriasis rosea 13.4 ± 3.4 , seborrheic dermatitis 13.4 ± 4.2 , atopic dermatitis 14.1 ± 6.1 , etc.), and 14.3 ± 3.6 in vitiligo, 14.1 ± 5.3 in acne, respectively. When DLQI was compared between groups, it was found to be significantly different ($P: .017$).

7 | DISCUSSION

COVID-19 pandemic has caused many changes in our lives, and dermatologic clinical practices were also affected by these changes.^{2,3} In the pandemic period, the management of dermatological diseases has also become quite difficult. The recommended treatments and patient follow-up redesigned.⁷ Many changes have also occurred in the course of dermatological diseases.⁸ In our study, dermatological diseases started in the pandemic period in 49.6% of our patients. While only 19.9% of these patients whose disease had just started applied immediately, most of them waited for the disease to pass and applied after it did not. This was thought to be due to the patients' fear of COVID-19 disease.

During the pandemic period, some concerns have arisen that chronic skin diseases will get worse.⁹ Because issues such as hospital applies and treatment follow-up were interrupted, it has also been shown that the severity of psoriasis increases in patients during the pandemic period.¹⁰ During this period, 29.1% of our patients applied for the previous chronic skin disease. It was found that about half of these patients reduced or stopped their treatment. In the group of patients who discontinued their treatment, the disease increase was found to be significantly higher during the pandemic period. It was found that some of the patients turned to alternative medicine treatments, perhaps because they could not reach their physician. Based on these data, which is the first in the literature, it was seen that we should develop new strategies in the follow-up of patients with chronic skin diseases and ensure the continuity of the treatment.

COVID-19 pandemic also caused increased hygiene preventions. People's hand-washing frequency and duration increased.¹¹

Considering the disease groups in our study, dermatitis was the most diagnosed disease with 40.8%. Irritant contact dermatitis (60.2%) in the hands constituted the majority of the dermatitis group. In order to reduce the irritating effect of hand-washing during the pandemic period, hand-washing with solid soap and the use of moisturizer afterward are recommended.¹² There was no data evaluating the frequency of using hand moisturizers in the literature. In our study, it was found that 61% of our patients did not use moisturizers. It was found that the use of moisturizer was significantly higher in patients with chronic skin disease, this was attributed to the awareness of patients with chronic skin disease. Additionally, DLQI was significantly lower in the group using moisturizers. This demonstrated the importance of moisturizers use in the pandemic period.

DLQI evaluation gathers information from a patient's perspective about the influence of the disease on daily living and provides a systematic and scientific basis for evaluating the benefits of treatment in terms of what patients value. Measures of DLQI have private importance for dermatological conditions because, although not usually life-threatening, they frequently have a major impact on patients' psychosocial state, social relationships, and everyday activities.¹³ It has been revealed in studies before pandemic that DLQI is more affected in diseases such as psoriasis and urticaria.^{13,14} In our study, DLQI was found to be significantly different among the disease groups as expected, the most affected diseases were psoriasis, urticaria, and Behçet's disease.

It was also seen that the DLQI values in our study were significantly higher than the DLQI values¹⁵ in the studies conducted before the pandemic. However, it was not appropriate to give statistical significance since there were no same study groups. Similar to the effects of pandemics on every stage of life, it has been shown to worsen DLQI in all dermatological diseases.

8 | CONCLUSION

It was found that approximately half of the patients with chronic skin diseases reduced or discontinued the treatment, and the increase in their complaints during the pandemic period was observed more in the group who discontinued the treatment. This situation indicated that the patients should not stop the treatment and new strategies should be developed for their follow-up. Our study was valuable because it was the first data to determine how DLQI was affected in dermatological diseases during the pandemic period. DLQI was found to worsen significantly compared to pre-pandemic studies. It was found that using moisturizer in this period helps to maintain the dermatological quality of life.

8.1 | Limitations

The absence of our patients' DLQI values before pandemic was the limiting factor.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

AUTHOR CONTRIBUTIONS

Conceiving and designing the analysis: Munise Daye, Selami Aykut Temiz, Begüm Işık, Recep Dursun, Arzu Ataseven. Collecting the data: Munise Daye, Selami Aykut Temiz, Begüm Işık. Writing the article: Munise Daye, Selami Aykut Temiz, Begüm Işık. Critical analyze: Munise Daye, Selami Aykut Temiz, Begüm Işık, Recep Dursun, Arzu Ataseven. All authors discussed the results and commented on the manuscript.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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REFERENCES

1. Wang C, Horby PW, Hayden FG, Gao GF. A novel coronavirus outbreak of global health concern. *Lancet*. 2020;395:470-473.
2. Kutlu Ö, Güneş R, Coerd K, Metin A, Khachemoune A. The effect of the "stay-at-home" policy on requests for dermatology outpatient clinic visits after the COVID-19 outbreak. *Dermatol Ther*. 2020;33(4):e13581. <https://doi.org/10.1111/dth.13581>. [Epub online ahead of print].
3. Temiz SA, Dursun R, Daye M, Ataseven A. Evaluation of dermatology consultations in the era of COVID19. *Dermatol Ther*. 2020;33(5):e13642. <https://doi.org/10.1111/dth.13642>. [Epub online ahead of print].
4. Bouaziz JD, Duong T, Jachiet M, et al. Vascular skin symptoms in COVID-19: a french observational study. *J Eur Acad Dermatol Venereol*. 2020;34(9):e451-e452. <https://doi.org/10.1111/jdv.16544>. [Epub online ahead of print].
5. Sharma A, Fölster-Holst R, Kassir M, et al. The effect of quarantine and isolation for COVID-19 in general population and dermatologic treatments. *Dermatol Ther*. 2020;33(4):e13398. <https://doi.org/10.1111/dth.13398>. [Epub online ahead of print]
6. Öztürkcan S, Ermertcan AT, Eser E, Sahin MT. Cross validation of the Turkish version of dermatology life quality index. *Int J Dermatol*. 2006;45:1300-1307.
7. Dursun R, Temiz SA, Özer İ, Daye M, Ataseven A. Management of patients with behçet's disease during the covid-19 pandemic. *Dermatol Ther*. 2020;e14063. <https://doi.org/10.1111/dth.14063>. [Epub online ahead of print].
8. Ring J. The skin in the era of coronavirus pandemic. *J Eur Acad Dermatol Venereol*. 2020;34(7):1384-1385.
9. Marasca C, Ruggiero A, Napolitano M, Fabbrocini G, Megna M. May COVID-19 outbreaks lead to a worsening of skin chronic inflammatory conditions? *Med Hypotheses*. 2020;143:109853.
10. Vakirlis AE, Bakirtzi K, Papadimitriou I, et al. Treatment adherence in psoriatic patients during COVID-19 pandemic: real-world data from a tertiary hospital in Greece. *J Eur Acad Dermatol Venereol*. 2020. <https://doi.org/10.1111/jdv.16759>. [Epub online ahead of print].
11. Goldust M, Shivakumar S, Kroumpouzou G, Murrell DF, Mueller SM, Navarini AA. Where do we stand as dermatologists in combat with COVID-19. *Dermatol Ther*. 2020;33(4):e13638. <https://doi.org/10.1111/dth.13638>. [Epub online ahead of print].
12. Rundle CW, Presley CL, Militello M, et al. Hand hygiene during COVID-19: recommendations from the American contact dermatitis society. *J Am Acad Dermatol*. 2020. <https://doi.org/10.1016/j.jaad.2020.07.057>. [Epub online ahead of print].
13. Gurel MS, Yanik M, Simsek Z, Kati M, Karaman A. Quality of life instrument for Turkish people with skin diseases. *Int J Dermatol*. 2005;44:933-938.
14. Grekin SJ, Ellis CN. Evaluating the severity of dermatologic disorders. *Dermatol Ther*. 2009;22(3):191-198.
15. Lewis V, Finlay AY. 10 years experience of the dermatology life quality index (DLQI). *Investig Dermatol Symp Proc*. 2004;9(2):169-180.

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