

# The Effect of the COVID-19 Pandemic on Dermocosmetic Application Demand in North Cyprus

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## Abstract

**BACKGROUND/AIMS:** In the literature, it has been reported that during the pandemic period, people's interest in dermocosmetic applications for facial rejuvenation increased and there was a greater demand for minimally invasive procedures. According to our literature search, we could not find any data on how the pandemic affected the dermocosmetic practices and personal care habits of the people living in North Cyprus. In our study, we aimed to evaluate the demand for dermocosmetic application methods during the coronavirus disease 2019 pandemic period and to compare any changes with the cosmetic application habits of people during the pre-pandemic and the pandemic periods.

**MATERIAL AND METHODS:** A questionnaire was administered to 153 patients who applied to our outpatient clinic for dermocosmetic applications between March, 2020 and December, 2021. Questions were asked about changes in the usage of anti-aging products, hair changes, nail applications and make-up habits between the pre-pandemic period and the pandemic period. In addition, the frequency of dermocosmetic applications was also investigated. The type of protective face mask used, the duration of daily mask usage, and dermatological complaints related to the mask were all reported on.

**RESULTS:** The dermocosmetic procedures requested during the pandemic period were mainly botulinum toxin (55%) and medical skin care (54.2%), as well as filler (11.1%), platelet-rich plasma injection (6.5%) and mesotherapy (4%). Of the 153 people who applied for dermocosmetic application during the pandemic period, 84 in our study (54.9%) reported that they were having this application for the first time in their lives.

**CONCLUSION:** During the pandemic period, the demand for dermocosmetic applications continued, and it was noteworthy that even those who had not had this habit prior to the pandemic started having these applications.

**Keywords:** Cosmetic procedures, COVID-19, pandemics, skincare products

## INTRODUCTION

The coronavirus disease-2019 (COVID-19), which first emerged in December, 2019, was declared a global pandemic by the World Health Organization on March 11<sup>th</sup>, 2020. As a result, many countries were forced to take extensive quarantine measures in order to contain this epidemic. The first case in North Cyprus was identified on the 10<sup>th</sup> of March, 2020 and various measures were taken by the government in North Cyprus, such as the closure of schools and a partial or full lockdown.<sup>1</sup>

It is known that interest in cosmetic procedures and the use of skin care products decreased due to the effects of the many restrictive factors such as the limited availability of information about the disease and lockdown, particularly at the beginning of the COVID-19 pandemic. In the subsequent period, with the clarification of more information about the diagnosis, prevention methods and treatment of the disease, the process of adapting to the new situation started and an increase in the tendency for skincare and practices related to personal appearance was observed.<sup>2,3</sup> To the best of our knowledge, no other study was conducted on how the pandemic affected people's dermocosmetic practices and

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personal care habits in our country, and there are also very few studies on this subject in the literature in general. In this study, we aimed to evaluate the demands for dermocosmetic applications during the pandemic period and to make comparisons with the current literature.

### MATERIALS AND METHODS

Patients who applied to our outpatient clinic between March, 2020 and December, 2021 for dermocosmetic applications were included in our study. This study was approved by Near East University’s Local Ethics Committee (approval number: 2022/99-1471). Verbal informed consent was obtained from the patients included in this study, and the questions in the questionnaire which were created by reviewing the relevant literature were asked. The questionnaires were administered to those patients who gave verbal consent by contacting them via the phone numbers or e-mail addresses listed in the contact information registered in our clinic. Demographic questions were asked about their age, gender, daily working hours during the pandemic period, and the possibility of working from home during the pandemic. In addition, respondents were asked about their own history of quarantines as well as their first-degree relatives and friends during the pandemic process, and if a first-degree relative or friend had died due to COVID-19. In addition, changes in anti-aging products, hair changes, nail applications, changes in make-up habits, continuity of laser epilation applications, oral collagen and/or oral vitamin use for hair and skin health were investigated in terms of the pre-pandemic and pandemic periods. The patients participating in this survey were also questioned about their frequency of medical skin care, botulinum toxin, dermal filling, mesotherapy and PRP applications, sunscreen usage habits, exercise and weight change. The type of protective face mask used during the pandemic period, the duration of daily protective face mask usage, and dermatological complaints related to the use of protective face masks were reported on.

#### Statistical Analysis

The study data were analysed by 25.0 version of SPSS for Windows (IBM Corporation, Armonk, New York). In terms of descriptive statistics, the calculation of frequencies, mean ± standard deviation (SD), ratios and percentages was undertaken using the sociodemographic data collected and other measurements performed in this study. The independent t-test was used to examine the relationships between the responses of the patients before and during the pandemic. Qualitative variables were categorized and they are presented as frequencies and percentages. Quantitative variables are presented as means and SDs. A p-value <0.05 was considered significant.

### RESULTS

A total of 153 patients, 14 (9.2%) men and 139 (90.8%) women, aged between 18-73 (36.6±10.9) years were included in this study. The daily working hours of the patients participating in this study, the ratio of patients included in this study who worked from home during the pandemic period, the rate of those who had received the COVID-19 vaccine, those who had been quarantined due to contact with a person diagnosed with COVID-19, those who had been diagnosed with COVID-19, and any death history due to COVID-19 are shown in Table 1.

The data on changes in cosmetic habits such as topical anti-aging products, hairstyle or colour, make-up habits and nail applications during the pandemic of the patients included in this study are shown in Table 2.

Forty-seven (30.7%) of the patients included in this study reported that they continued laser epilation applications at the clinic. Twenty-two (14.4%) of the participants stated that they started using oral collagen for skin health, while 21 (13.7%) started using oral vitamins for hair and skin health during the pandemic period.

The types of protective face masks used by the patients included in this study, the daily protective face mask usage hours and the distribution of dermatological complaints related to protective face masks are shown in Table 3.

The dermocosmetic application demands of the participants in the 2 years preceding the pandemic and during the pandemic are compared in Table 4. It can be observed that the demands for medical skin care, botulinum toxin and dermal filler applications increased statistically significantly during pandemic. Of the 153 people who applied for dermocosmetic applications during the pandemic, 84 (54.9%) reported

**Table 1. Demographic features of the participants**

Variable	n (%)*
<b>Gender</b>	
Female	139 (90.8%)
Male	14 (9.2%)
Age (years) (mean ± SD; range)	36.6±10.9; 18-73
Daily working hours (hours/day) (mean ± SD; range)	6.5±3.03; 0-10
Working from home	51 (33.3)
COVID-19 vaccine	81 (52.9)
<b>Quarantined</b>	
Him/herself	25 (16.3)
First degree relative	32 (20.9)
Friend	55 (35.9)
<b>Diagnosed with COVID-19</b>	
Him/herself	5 (3.3)
First degree relative	25 (16.3)
Friend	31 (20.3)
<b>Died due to COVID-19</b>	
First degree relative	4 (2.6)
Friend	1 (0.7)

SD: Standard deviation, COVID-19: Coronavirus disease-2019.

**Table 2. Changes in women’s cosmetic habits**

Variable	n	%
Make-up habits	Stopped wearing make-up	49 32
	Started wearing make-up	4 2.6
Hair applications	Change in hairstyle or colour	72 47.1
	Started to do hair colouring at home	36 23.5
Nail applications	Stopped nail applications	60 39.2
	Started to do nail applications at home	39 25.5
	Continued going to a centre for nail applications	30 19.6
Anti-aging products usage	Made changes in anti-aging products	13 8.5

that they were having a dermocosmetic application for the first time in their lives.

The exercise habits and weight change data of the participants during the pandemic period are shown in Table 5.

The changes in the sunscreen product usage habits of the participants during the pandemic period are shown in Table 6. Sunscreen product usage was 79.8% before the pandemic and it decreased to 64.1% during the pandemic.

## DISCUSSION

In our study, the most requested dermocosmetic procedure during the pandemic period was found to be botulinum toxin application (55%). This may be due to the fact that people focused more on the upper face due to the use of protective face masks, the application of botulinum toxin especially creates positive results in this area, and it is preferred because it maintains its effectiveness for an average of 6 months with a single-session application. Chugh et al.<sup>4</sup> reported that patients treated with botulinum toxin showed significantly reduced negative moods. This situation may have caused an increase in demand among people who have the habit of applying botulinum toxin regularly, with the effect of inducing a negative mood during the pandemic period. In our study, 35 (41.6%) of 84 people to whom botulinum toxin was applied reported that they had had botulinum toxin at least once before. In the study of Aslan Kayıran et al.<sup>2</sup>, it was reported that those patients who had botulinum toxin and dermal fillers before the pandemic continued these procedures during the pandemic period.

It was reported that patient willingness to have aesthetic procedures and the frequency of surgery increased significantly, especially when compared with other areas of facial plastic and reconstructive surgery during the COVID-19 pandemic. It is thought that the quarantine, the obligation to stay at home and the necessity to use protective face masks may have created an extra opportunity for patients who want to have privacy during their process of recovering after cosmetic surgery.<sup>5</sup>

It was reported that there was a greater demand for minimally invasive procedures such as botulinum toxin, dermal filler, PRP, dermaroller and chemical peeling for facial rejuvenation during the pandemic period.<sup>6,7</sup> According to a study conducted in Türkiye, the most frequently performed cosmetic procedures during the pandemic were botulinum toxin (25.4%), medical skincare treatment (31%), chemical peeling (24.5%) and dermal filler (12.5%).<sup>2</sup> In our study, when the frequency of dermocosmetic procedures applied during the pandemic period was evaluated, it was found to be botulinum toxin (55%), medical skincare (54.2%), dermal filler (11.1%), PRP (6.5%) and mesotherapy (4%) respectively. Gao et al.<sup>8</sup> reported on the distribution cosmetic procedures during the pandemic period and found that 55.9% were laser and light treatments, 22.6% were botulinum toxin and dermal filler injections, and 14.6% were chemical peeling.

Pikoos et al.<sup>9</sup> reported an increase in appearance-oriented behaviours such as mirror checking and appearance comparisons in people with higher dysmorphic anxiety during the COVID-19 pandemic. Also, another study reported an association between COVID-19-related stress and negative body image in adults.<sup>10</sup> It has been argued that spending too much time at home during the pandemic period, the increase in the use of social media, the longing for innovation and change due to the stress brought on by the pandemic conditions, as well as the increase in

the use of video conferencing platforms caused an increase in concerns about facial appearance and this accelerated the demand for cosmetic applications.<sup>5,11</sup>

Of the 153 people who applied for dermocosmetic applications during the pandemic period, 84 people in our study (54.9%) reported that

**Table 3. Features of the protective face masks used by the participants**

Variable	n (%)*
<b>Types of protective face masks</b>	
Three ply masks	120 (78.4)
Cloth mask	33 (21.6)
<b>Daily mask usage hours</b>	
Less than 4 hours/day	59 (38.6)
4-8 hours/day	66 (43.1)
More than 8 hours/day	28 (18.3)
<b>Dermatological complaints related to protective face mask usage</b>	
New onset acne after using mask	34 (22.2)
Increase in acne	12 (7.8)
Facial itching, redness and dandruff	32 (20.9)

**Table 4. Dermocosmetic applications before and during the pandemic**

Cosmetic procedure	Before pandemic	During pandemic	p <sup>a</sup>	
	n (%)*	n (%)*		
Medical skincare		36 (23.5)	83 (54.2)	0.001
Botulinum toxin		35 (22.9)	84 (55)	0.001
Dermal filler		8 (5.2)	17 (11.1)	0.001
Face PRP		7 (4.6)	1 (0.6)	0.790
Hair PRP		4 (2.6)	10 (6.5)	0.906
Face mesotherapy		3 (2)	6 (4)	0.749

PRP: Platelet-rich plasma injection.

**Table 5. Exercise habits and weight change**

Variable	n (%)*
<b>Exercise habits</b>	
Stopped exercising during the pandemic	70 (45.8)
No exercising before or during	50 (32.7)
Started to exercise during the pandemic	25 (16.3)
Continued to exercise	8 (5.2)
<b>Weight change</b>	
No change in their weight	61 (39.9)
Gained weight	59 (38.6)
Lost weight	33 (21.6)

**Table 6. Participants' use of sunscreen**

Variable	n (%)
<b>Use of sunscreen</b>	
Continued to use	91 (59.5)
Discontinued during the pandemic	31 (20.3)
Not using	24 (15.7)
Started to use	7 (4.6)

they were having this application for the first time in their lives. In another study conducted in Türkiye, it was reported that 56.8% of the participants had never had a cosmetic procedure before.<sup>2</sup>

In studies conducted in Nepal and Poland, it was reported that the rate of hair dyeing decreased during the pandemic period.<sup>12,13</sup> In our study, 47.1% of the participants reported changes in their hair style or colour and 23.5% of the participants stated that they started to dye their hair at home during the pandemic period.

Aslan Kayıran et al.<sup>2</sup> reported that while 29.7% of people regularly wore make-up before the pandemic, this rate was reduced to 9.9% during the pandemic period. In studies conducted in Nepal and Poland, it was reported that make-up materials application rates decreased during the pandemic period.<sup>12,13</sup> In our study, 34.6% of the participants reported a change in make-up habits, 32% reported that they stopped wearing make-up during the pandemic period, and 2.6% started using make-up when they had not had this habit before.

In our study, 47 (30.7%) of the participants reported that they continued laser epilation applications in a centre. In the study of Aslan Kayıran et al.<sup>2</sup>, it was found that 31.6% of the participants continued laser epilation. Bakhati and Agrawal<sup>13</sup> revealed a decrease in hair removal practices during the pandemic. In a study among Polish women, hair removal rates did not change significantly.<sup>12</sup>

We also evaluated anti-aging product usage in our study. One hundred and forty (91.5%) of the participants reported that they continued using the topical antiaging product which they had been using during the pre-pandemic period, while 13 (8.5%) made a change. In the study of Aslan Kayıran et al.<sup>2</sup>, it was reported that there was no change in the rate of anti-aging product use before and during the pandemic.

Giacalone et al.<sup>14</sup> reported that protective masks used during the pandemic period had an inducing effect on acne, rosacea and seborrheic dermatitis. Techasatian et al.<sup>15</sup> reported that 54.5% of participants had adverse skin reactions related to the use of protective face masks, which were acne (39.9%), facial rash (18.4%) and itching (15.6%), respectively. In our study, 78 people (51%) reported dermatological complaints related to protective face masks, 22.2% had new-onset acne, 20.9% had facial itching, redness and dandruff, and 7.8% had existing acne on the face. In our study, no statistically significant relationship was found between mask type and skin reaction ( $p=0.09$ ).

### Study Limitations

Regarding the daily use of protective face masks, it was reported that wearing a protective face mask for more than 4 hours a day increased the risk of adverse skin reactions.<sup>15</sup> In our study, a statistically significant relationship was found between mask wearing time and skin reactions, and more reactions were reported in those who wore a mask for more than 8 hours a day ( $p=0.009$ ).

### CONCLUSION

In our study, the most requested dermocosmetic procedures during the pandemic period were found to be botulinum toxin and medical skin care applications. The reason why botulinum toxin application was preferred could be that people focused more on the upper face due to the use of protective face masks. On the other hand, medical skin care applications may have been preferred more because it is a non-invasive

and painless procedure, more financially affordable, and the person feels special during the application. As a result, during the pandemic period, the demand for dermocosmetic applications continued, and it was noteworthy that even those who did not have this habit previously started having these applications.

### MAIN POINTS

- To the best of our knowledge, no other study was previously conducted on how the pandemic affected people's dermocosmetic practices and personal care habits in North Cyprus.
- During the pandemic period, the demand for dermocosmetic applications continued, and it was noteworthy that even those who did not have the habit prior to the pandemic began using these applications.
- In our study, the most requested dermocosmetic procedures during the pandemic period were found to be botulinum toxin and medical skin care applications.

### ETHICS

**Ethics Committee Approval:** This study was approved by Near East University's Local Ethics Committee (approval number: 2022/99-1471).

**Informed Consent:** Verbal informed consent was obtained from the patients included in this study.

**Peer-review:** Externally peer-reviewed.

### DISCLOSURES

**Financial Disclosure:** The author declared that this study had received no financial support.

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