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Impact of Coronavirus in a Dermatology Outpatient Clinic: A Single-Center Retrospective Study

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ABSTRACT

Objective: Increased anxiety among individuals following the declaration of the coronavirus disease (COVID-19) pandemic, changes in social life, and dermatological eruptions caused or triggered by the COVID-19 infection have altered the incidence of dermatological diseases. To determine the impact of the pandemic, this study evaluated changes in the frequency, profile, and diagnostic spectrum of dermatology patients during the pandemic compared to the previous year.

Materials and Methods: This study compared a 6-month period from March 2020, when the first COVID-19 case was reported in Turkey, to September 2020, with the same period in 2019. Age, sex, diagnosis groups, and diagnoses were recorded and compared with the previous year.

Results: We observed an increase in the number of cases of dermatitis, xerosis cutis, sunburn, scabies, and insect bites, and a decrease in psoriasis vulgaris, atopic dermatitis, benign neoplasias and hyperplasias, polymorphic light eruption, urticaria, pyoderma, tinea unguium, and telogen effluvium. No changes were observed in the incidence of herpes simplex and herpes zoster, which was expected to increase, or of acne vulgaris cases, which was expected to decrease.

Conclusion: The COVID-19 pandemic is still ongoing, and it seems likely to continue for some time. A knowledge of changes in the patient population occurring with the pandemic will be useful in determining a better clinical approach.

Keywords: COVID-19, pandemic, outpatient, dermatology, patients

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INTRODUCTION

Several severe pneumonia cases were observed in China in December 2019. Research identified the pathogen as a novel severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2), which, being highly contagious, started spreading rapidly across the world. The outbreak was subsequently declared a pandemic by the World Health Organization, and this new type of pathogen was named coronavirus disease of 2019 (COVID-19) (1). The first case in Turkey was reported on March 11, 2020, after which the population's social habits and behaviors began to change due to fear of infection. Simultaneously, the Turkish government began imposing various restrictions. Face-to-face education was discontinued in schools, and flexible working was introduced for all public institutions, including hospitals. Hairdressers, restaurants, cafes, cinemas, and shopping malls were closed, intercity transportation was prohibited, curfews were imposed for people aged >65 and <18 years, and stay-at-home messages were broadcast through the media (2).

While the primary focus was on providing the best medical care for COVID-19 patients, regular outpatient care in all medical specialties was adversely affected, and the public were also advised not to visit hospitals and outpatient clinics unless essential. To determine the impact of the pandemic, this study evaluated changes in the frequency, profile, and diagnostic spectrum of dermatology patients during the pandemic compared to 2019.

MATERIALS and METHODS

This study was conducted at the Yozgat Bozok University Hospital, a tertiary institution. Patients who presented to the dermatology outpatient clinic between March 1 and September 30, 2019, and between March 1 and September 30, 2020, were included in the study. The same periods during these two consecutive years were investigated to avoid inaccurate results due to seasonal variations. Patient data were retrieved from the hospital's electronic health information system. Patients with missing clinical data were excluded from the study.

The International Classification of Diseases—10th Revision (ICD-10) codes, age, age groups, and sex were recorded. Since there was a curfew application for those aged <18 and >65 years, there were three groups in total, that is, individuals younger than 18, those aged 18–65, and those older than 65 years.

The ICD-10 codes were assigned to 19 groups, based on the classification of the diseases in the Fitzpatrick's Color Atlas and Synopsis of Clinical Dermatology (3). The data in 2019 and 2020 were compared, and the results were interpreted in line with the literature.

Ethics

This single-center retrospective study was approved by the Ethics Committee of Yozgat Bozok University, Yozgat, Turkey (Decision No: 2017-KAEK-189_2020.10.28_10), and the Ministry of Health Scientific Research Platform (Application form number 2020-10-13T10-00-41). The research was conducted in accordance with the most recent version of the Declaration of Helsinki and the Guidelines for Good Clinical Practice.

Statistical Analysis

All statistical analyses were conducted using the SPSS Statistics 18 software. The chi-squared test was applied, and significance levels were set at $p<0.05$ (*), $p<0.01$ (**), and $p<0.001$ (***). In addition, Pearson's chi-squared test was applied for p-values if the expected count was >25, while continuity correction was applied if the count was between 5 and 25, and Fisher's exact test analysis if the count was <5.

RESULTS

Overall, a total of 8434 visits to the dermatology outpatient clinic were identified between March 1 and September 30, 2019. Of the patients presenting in 2019, 12.5% were <18 years, while 75.6% were aged 18–65, and 12% were >65 years. Men represented 36.6% of these patients, and women 63.4%. The mean age of patients was 37.48 years, ranging from 1 to 97. A total of 7164 visits to the dermatology outpatient clinic were identified between 1 March 1 and September 30, 2020. Men represented 43.2% of the patients presenting in 2020, and women 56.8%. The mean age of these patients was 37.52 years, ranging from 0 to 92.

Presentations to outpatient clinic during the two study periods in 2019 and 2020 were significantly higher among male patients (p=0.000***). The results considering sex are shown in Table 1. When patients were divided into the three age groups, a significant decrease was observed in the 18–65 group (p=0.014*) (Table 1). Therefore, binary group comparisons were performed to identify the groups from which the difference derived. A significant difference was determined between patients aged <18, and those aged 18–65 years (p=0.003**). However, no significant difference was found between patients aged <18 and those aged >65 (p=0.050), or between those aged 18–65 and those aged >65 (p=0.078).

All diagnostic groups and subdiagnoses were compared separately. These values are listed in Appendix 1, and statistically significant values are indicated in bold type. No significant difference was observed in the sebaceous and eccrine and apocrine gland diseases diagnostic group and subdiagnosis groups. An increase was observed in the eczematous dermatitis diagnosis group in 2020 compared to 2019 (p=0.006**), and a decrease in atopic dermatitis (p=0.001**) and nummular dermatitis (p=0.000***) was observed in the subgroups. A significant decrease was observed in the psoriasis and psoriasiform and pityriasiform dermatoses group (p=0.002**). This decrease was accompanied by a decrease in the psoriasis vulgaris subgroup (p=0.000***). A significant increase was observed in the epidermal disorders group (p=0.000***), and the xerosis cutis subdiagnosis group also increased (p=0.000***). No difference was observed between the autoimmune vesiculobullous diseases. Similarly, no significant differences were observed in the neutrophilic dermatosis diagnosis and subdiagnosis groups. A significant decrease was observed in the benign neoplasms and hyperplasia diagnostic group (p=0.000***). The number of patients with acquired melanocytic nevi (p=0.000***) and epidermal cysts (p=0.026*) included among the subdiagnoses of this group was also significantly lower. The light-related and light-triggered skin disorders diagnosis group exhibited no significant change, while an increase in sunburn (p=0.018*) and a decrease in polymorphic light eruption (p=0.011*) were observed in the subdiagnosis groups. There was no change in the pigmentary disorders group. A decrease was observed in the immune and autoimmune and autoinflammatory diseases diagnosis group (p=0.040*). A similar decrease was found in urticaria, one of the subdiagnosis groups of this group (p=0.027*). While bacterial infections exhibited no change as the main diagnostic group (p=0.617), pyodermas from the subdiagnosis groups decreased (p=0.001**), and erythema intertrigo increased (p=0.004**). No significant difference was observed in presentations in the fungal infection diagnosis group (p=0.888). However, an increase in tinea barbae and capitis (p=0.017*), and a decrease in tinea unguium (p=0.000***), which is one of the subdiagnosis groups, were observed. There was no difference in the viral infection diagnosis group. A significant increase occurred in the parasitic infections diagnostic group (p=0.000***). The highest increase was observed in scabies (p=0.000***) and insect bite (p=0.000***) cases in this group. No difference was found in cases of drug-induced reactions. A significant decrease was observed in the skin adnexal and connective tissue diseases diagnosis group (p=0.000***). Telogen effluvium, one of the subdiagnosis groups, also decreased significantly (p=0.000***). An increase was determined in the neuralgia, dysesthesia, and pruritus group (p=0.000***), with an increase in cases of generalized pruritus within this group (p=0.000***). No significant difference was found in the malignant diseases and oral mucosa diseases.

Table 1. Evaluation of age groups and sex before and after the coronavirus pandemic

	Before COVID-19 (Mar.–Sep, 2019) n (%)	After Covid-19 (Mar.–Sep, 2019) n (%)	p
Gender			
Male	3090 (50.0)	3093 (50.0)	0.000
Female	5344 (56.8)	4071 (43.2)	
Age group			
<18 years	1053 (51.1)	1008 (48.9)	
18–65 years old	6373 (54.6)	5305 (45.4)	**0.014**
>65 years	1008 (54.2)	851 (45.8)	
Total	8434	7164	

p<0.05 significantly different by chi-squared

DISCUSSION

With the COVID-19 pandemic, many changes have occurred in daily life. Simultaneously, studies have shown that stress and anxiety levels increased during this period (4, 5). This study thus aimed to reveal whether these changes were indeed in line with the literature. Although there was a reduction in patient numbers, the difference was not statistically significant. The lack of a decrease may be because the city hospital in Yozgat was dedicated to treat coronavirus patients, while the university hospital was a non-pandemic hospital. The number of male patients increased ($p=0.000^{***}$). This result may be attributable to women having to take care of children, following the closure of schools. In the study by Wang et al. (6), the number of male patients also increased, consistent with the present research. However, Turan et al. (7) reported a higher number of female patients.

The mean age exhibited no changes. However, it was expected that the number of patients aged <18 and >65 years would decrease due to the restrictions. Although Wang et al. (6) reported no changes in the mean age, the number of patients aged >85 was lower than in other age groups. Kartal et al. (8) performed no comparison of age groups but reported a relatively large number of patients aged 18–44. No assessment concerning changes in age groups has been performed in other studies (6, 7, 9, 10).

Examination of the diagnostic groups revealed no changes in sebaceous and eccrine and apocrine gland diseases. Patients with acne vulgaris, the major subdiagnosis, make significant use of systemic treatments with regular follow-up. The increased frequency of acne, due to the use of face masks, may underlie the absence of change. Other studies have also observed no changes in patients with acne vulgaris (6–8). A significant increase was observed in the eczematous dermatitis due to widespread use of face masks, disinfectant, and greater habitual handwashing. This was compatible with the literature (7–11). Atopic and nummular dermatitis decreased, in contrast to other dermatitis forms. The decrease in atopic dermatitis may be because children, in whom this disease was commonly observed, experienced challenges in attending to the hospital, due to the curfew. Wang et al. (6) also detected a decrease in the number of atopic dermatitis cases, attributed to the fact that delaying treatment had no fatal consequences. In other studies, no changes were found in the frequency of atopic dermatitis (7–10).

A significant decrease was observed in the psoriasis and psoriasiform and pityriasiform dermatoses group. This may be since patients with psoriasis can obtain their medications from pharmacies on production of medical reports, and they may also have stopped their treatment because of the immunosuppression caused by the medications. Other studies observed no changes in psoriasis cases (7–9). In addition, the number of pityriasis rosea cases were higher in other studies (7–10). At the same time, pityriasis-rosea-like eruptions due to COVID-19 have also been reported (12). However, no changes were observed in these cases in the presented study. A significant increase was determined in the epidermal disorders group, deriving from xerosis cutis subdiagnoses. Many Yozgat residents suffer consistently from xerosis cutis due to the prevailing cold and dry air. Thus, frequent handwashing and using disinfectants resulted in more xerosis cases. Similarly, with the presented study, Kartal et al. (8) observed a decrease in xerosis cutis cases.

A significant decrease was observed in the benign neoplasms and hyperplasias group. It was due to the decrease in acquired melanocytic nevus and epidermal cysts. Skin tags, seborrheic keratosis, lipoma, and hypertrophic scars-keloids diagnoses were also expected to decrease, but no difference was observed. Since lesions such as seborrheic keratosis and skin tag cause cosmetic impairments, and may sometimes be itchy, patients seem to have continued to present to the hospital. In contrast with this study, Turan et al. (7) and Kartal et al. (8) observed decreases in benign neoplasms. While light-related and triggered-skin disorders exhibited no changes as a group, an increase in sunburn, and a decrease in polymorphic light eruption were determined among the subdiagnoses. This increase in sunburn may be attributable to the media's emphasis on the immunity-enhancing effect of vitamin D against COVID-19 and therefore to people's efforts to sunbathe unconsciously. Because of the curfew, recurrent sun exposure had decreased. Therefore, the decrease in polymorphic light eruption may be attributable to the lack of type 4 allergic reaction pattern. In contrast to the presented study, Turkmen et al. (13) reported high polymorph light eruption, and this was attributable to seasonal factors.

A decrease was observed in the immune and autoimmune and autoinflammatory diseases groups. Behcet's patients may have obtained their medications from pharmacies, similarly to psoriasis patients. We had expected urticaria cases to increase since it can be triggered by stress, and urticaria-like reactions are frequently observed in COVID-19 infection (14, 15). However, the number decreased. This may be due to the belief that itching, which is the main symptom of urticaria, can be treated with anti-itch medications available from the pharmacy as over-the-counter medications, without the need to be examined. Contrary to this, urticaria cases in other studies either remained unchanged, or else increased (7–10).

The bacterial infections group exhibited no change. However, Turan et al. (7) reported an increase in bacterial infections, which they attributed to the closure of the infectious diseases outpatient clinic in their hospital. No difference was reported in other studies (6, 8–10).

No change was observed in the fungal infection group, while there was a decrease in tinea unguium and an increase in tinea capitis groups. Tinea unguium has a chronic course but causes few symptoms. Therefore, patients may not have presented to the hospital. Tinea capitis is frequently seen in Yozgat, where animal husbandry is a common activity. Patients may have had to present to hospital, since this condition leads to other symptoms, such as itching, dandruff, and hair loss. No other studies have reported a change in the frequency of fungal infections (7–10), to the best of our knowledge.

In addition, no changes were detected in the group of viral infections, including viral warts, which is a common dermatological eruption. Since viral warts have an infectious character, and patients who come to the university hospital for treatment, cryotherapy, and similar destructive treatments may not have decreased. Although another common dermatological disease, herpes zoster, is a well-known disease triggered by psychosocial stress, no change was observed (16). In addition, Wang et al. (6) also found a decreased in herpes zoster cases, speculating that these patients

presented with complications such as postherpetic neuralgia rather than with herpes zoster lesions due to delays in hospital admission. However, we found no such increase in postherpetic neuralgia cases and thus do not agree with this theory. An increased frequency of herpes zoster has been reported in other studies (7, 8).

There was an increase in parasitic infections, with cases of scabies. The number of scabies cases has increased recently, especially with the rise in the number of immigrants fleeing the Syrian civil war (17). This result may be expected, with the increase in the time that families spend together at home. Similar results in other studies support this finding (8, 9, 13, 18). In addition, a decrease in telogen effluvium cases was observed, which is the most common disease in dermatology outpatient clinics. This result also supports the idea that stay-at-home messages were effective. Furthermore, Türkmen et al. (13) observed a decrease in telogen effluvium and alopecia areata cases. Similar to our study, they attributed this to the fact that the diseases were not urgent, and to the fear of coming to the hospital and contracting the COVID-19 infection. Although an increase in the frequency of alopecia areata was observed in some studies, no such change was detected (7, 10). An increase was observed in the neuralgia, dysesthesia, and pruritus group due to an increase in generalized pruritus. This was an expected outcome, since pruritus is a symptom that significantly reduces quality of life and is triggered by stress. In addition, it also increases with xerosis cutis due to local causes (19). Moreover, Turan et al. (7) observed an increase in generalized pruritus cases, ascribing similar reasons. No changes were observed for generalized pruritus in other studies (8, 9, 13, 18).

CONCLUSION

The changes in social life caused by the COVID-19 pandemic seem to have led to changes in presentations to the dermatology outpatient clinic. Increases were observed in the number of cases of dermatitis, xerosis cutis, sunburn, scabies, and insect bites, together with a decrease in cases of psoriasis vulgaris, atopic dermatitis, benign neoplasia/hyperplasia, polymorphic light eruption, urticaria, pyoderma, tinea unguium, and telogen effluvium. We observed no change in cases of herpes simplex/zona zoster, which expected to increase, nor in acne cases expected to decrease. The study has a number of limitations. It is a retrospective, single-center study, based on the hospital automation system. Therefore, it was not possible to determine whether patients' symptoms started before or during the pandemic. Thus, dermatological diseases was evaluated based on the ICD-10 codes, limited for dermatological clinical practice. The COVID-19 pandemic is still ongoing and seems likely to continue for some time. A knowledge of changes in the patient profile occurring with the pandemic will be useful in determining a better clinical approach.

Ethics Committee Approval: This single center retrospective study was approved by the Ethics Committee of Yozgat Bozok University, Yozgat, Turkey (Decision No: 2017-KAEK-189_2020.10.28_10) and the Ministry of Health Scientific Research Platform (Application form number 2020-10-13T10-00-41).

Informed Consent: Written informed consent was obtained from patients who participated in this study.

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Author Contributions: Concept – GEG; Design – GEG, EÇ; Supervision – GEG, EÇ; Resource – GEG, EÇ; Materials – GEG; Data Collection and/or Processing – GEG, EÖS; Analysis and/or Interpretation – GEG, EÖS; Literature Search – GEG, EÖS; Writing – GEG, MB; Critical Reviews – EÇ, MB, EÖS.

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Appendix 1. Distribution of diagnoses before and after the COVID-19 pandemic

	Before COVID-19 (March–September 2019) n (%)	After COVID-19 (March–September 2020) n (%)	p
I. Sebaceous and ecrin and apocrin gland diseases	1426 (16.9)	1132 (15.8)	0.063
Acne vulgaris	1262 (15)	1011 (14.1)	0.133
Acne keloidalis	4	0	N/A
Acne rosaseca	118 (1.4)	78 (1.1)	0.083
Miliaria rubra	9 (0.1)	10 (0.1)	0.722
Hidraadenitis supuritiva	6 (0.1)	6 (0.1)	1.000
Hiperhidrosis	31 (0.4)	27 (0.4)	0.924
II. Eczematous diseases	1090 (12.9)	1035 (14.4)	**0.006**
Dermatitis	265 (3.1)	420 (5.9)	**0.000**
Irritant contact eczema	8 (0.1)	2 (0.0)	0.121
Allergic contact eczema	350 (4.1)	310 (4.3)	0.584
Atopic dermatitis	77 (0.9)	33 (0.5)	**0.001**
Lichen simplex chronicus	41 (0.5)	37 (0.5)	0.878
Prurigo nodularis	4 (0.0)	8 (0.1)	0.249
Pompholyx	2 (0.0)	1 (0.0)	0.561
Nummuler eczema	67 (0.8)	10 (0.1)	**0.000**
Seborrheic eczema	275 (3.3)	214 (3)	0.329
III. Psoriasis and psoriasiform and pitriasiform dermatoses	292 (3.5)	186 (2.6)	**0.002**
Psoriasis vulgaris	222 (2.6)	123 (1.7)	**0.000**
Psoriasis, other	25 (0.3)	11 (0.2)	0.092
Pityriasis rubra pilaris	4 (0.0)	1 (0.0)	0.383
Pityriasis lichenoides chronica	0 (0.0)	1 (0.0)	0.459
Pityriasis rosea	39 (0.5)	49 (0.7)	0.066
Pitriyasis lichenoides et varioliformis acuta	2 (0.0)	1 (0.0)	1.000
IV. Epidermal disorders	1562 (18.5)	1611 (22.5)	**0.000**
Ichthyosis	1 (0.0)	1 (0.0)	1.000
Xerosis cutis	1394 (16.5)	1452 (20.3)	**0.000**
Callus and clavus	125 (1.5)	116 (1.6)	0.489
Keratosis pilaris	40 (0.5)	41 (0.6)	0.396
Acanthosis nigricans	2 (0.0)	1 (0.0)	1.000
V. Autoimmune vesiculobullous diseases	9 (0.1)	5 (0.1)	0.618
Pemphigus	5 (0.1)	3 (0.0)	0.734
Bullous pemphigoid	2 (0.0)	2 (0.0)	1.000
Dermatitis herpetiformis	2 (0.0)	0 (0.0)	0.503
VI. Neutrophilic dermatosis	10 (0.1)	11 (0.2)	0.708
Pyoderma gangrenosum	5 (0.1)	0 (0.0)	0.067
Sweet syndrom	0	0	N/A
Erythema nodosum	3 (0.0)	6 (0.1)	0.317
Panniculitis, other	2 (0.0)	5 (0.1)	0.259
VII. Benign neoplasms and hyperplasias	317 (3.8)	170 (2.4)	**0.000**
Acquired melanocytic nevus	150 (1.8)	19 (0.3)	**0.000**
Pyogenic granuloma	11 (0.1)	9 (0.1)	1.000
Epidermal cyst	26 (0.3)	9 (0.1)	**0.026**
Skin tags	83 (1)	92 (1.3)	0.076

Appendix 1 (cont.). Distribution of diagnoses before and after the COVID-19 pandemic

	Before COVID-19 (March–September 2019) n (%)	After COVID-19 (March–September 2020) n (%)	p
Seborrheic keratosis	17 (0.2)	18 (0.3)	0.629
Lipoma	14 (0.2)	7 (0.1)	0.347
Hypertrophic scars and keloids	16 (0.2)	16 (0.2)	0.776
VIII. Light-related and triggered skin disorders	114 (1.4)	86 (1.2)	0.403
Sun burns	15 (0.2)	28 (0.4)	**0.018**
Photosensitive dermatitis	11 (0.1)	13 (0.2)	0.545
Polymorph light eruption	60 (0.7)	29 (0.4)	**0.011**
Actinic keratosis	26 (0.3)	15 (0.2)	0.296
Squamous cell carcinoma	0	0	N/A
Basal cell carcinoma	2 (0.0)	0 (0.0)	0.503
Congenital melanocytic nevus	0 (0.0)	1 (0.0)	0.459
Malignant melanoma	0	0	N/A
IX. Pigmentary disorders	254 (3)	210 (2.9)	0.769
Vitiligo	72 (0.9)	47 (0.7)	0.157
Pityriasis alba	16 (0.2)	9 (0.1)	0.426
Freckles	15 (0.2)	10 (0.1)	0.693
Hyperpigmentation (melasma, postinflammatory)	151 (1.8)	144 (2)	0.316
X. Immune and autoimmune and autoinflammatory diseases	386 (4.6)	280 (3.9)	**0.040**
Urticaria	276 (3.3)	191 (2.7)	**0.027**
Angioedema	14 (0.2)	7 (0.1)	0.347
Lichen planus	31 (0.4)	36 (0.5)	0.199
Lichen nithidus	5 (0.1)	2 (0.0)	0.464
Behçet disease	8 (0.1)	15 (0.2)	0.099
Lupus eritematosus and related disorders	9 (0.1)	4 (0.1)	0.413
Morphea	7 (0.1)	8 (0.1)	0.752
Lichen sclerosus et atrophicus	10 (0.1)	2 (0.0)	0.081
Vasculitis (small and medium vessel)	4 (0.0)	5 (0.1)	0.741
Pigmented purpuric dermatosis	6 (0.1)	7 (0.1)	0.768
Sarcoidosis	2 (0.0)	0 (0.0)	0.503
Granuloma annulare	4 (0.0)	0 (0.0)	0.130
Amiloidosis	6 (0.1)	1 (0.0)	0.134
XI. Bacterial infections	254 (3)	20 (2.9)	0.617
Pyoderma	106 (1.3)	51 (0.7)	**0.001**
Erythema intertrigo	55 (0.7)	77 (1.1)	**0.004**
Foliculitis, fronculosis, carbuncle	82 (1.0)	61 (0.9)	0.430
Erysipelas, cellulites	11 (0.1)	17 (0.2)	0.167
XII. Fungal infections	792 (9.4)	668 (9.3)	0.888
Candidiasis	23 (0.3)	13 (0.2)	0.310
Candidal stomatitis	0	0	N/A
Tinea versicolor	79 (0.9)	81 (1.1)	0.231
Tinea pedis	307 (3.6)	292 (4.1)	0.158
Tinea manuum	6 (0.1)	13 (0.2)	0.082
Tinea cruris	46 (0.5)	33 (0.5)	0.457
Tinea corporis	34 (0.4)	44 (0.6)	0.063

Appendix 1 (cont.). Distribution of diagnoses before and after the COVID-19 pandemic

	Before COVID-19 (March–September 2019) n (%)	After COVID-19 (March–September 2020) n (%)	p
Tinea capitis/barbae	3 (0.0)	12 (0.2)	**0.017**
Tinea unguim	294 (3.5)	180 (2.5)	**0.000**
XIII. Viral infections	456 (5.4)	355 (5)	0.206
Molluscum contagiosum	9 (0.1)	9 (0.1)	0.912
Anogenital warts	35 (0.4)	26 (0.4)	0.604
Verruca vulgaris	269 (3.2)	207 (2.9)	0.278
Herpes simplex infections (genital and non-genital)	49 (0.6)	35 (0.5)	0.432
Zona zoster	94 (1.1)	78 (1.1)	0.878
XIV. Parasitic infections	83 (1)	193 (2.7)	**0.000**
Scabies	27 (0.3)	107 (1.5)	**0.000**
Leishmaniasis	5 (0.1)	4 (0.1)	1.000
Insect bite	51 (0.6)	82 (1.1)	**0.000**
XV. Drug induced reactions	31 (0.4)	17 (0.2)	0.187
Localized drug reactions (Erythema multiforme, fix drug reactions)	27 (0.3)	16 (0.2)	0.319
Generalized drug reactions	4 (0.0)	1 (0.0)	0.383
Stevens–Johnson syndrome/toxic epidermal necrolysis	0	0	N/A
XVI. Skin adnexal and connective tissue diseases	1028 (12.2)	645 (9)	**0.000**
Telogen effluvium	772 (9.2)	45(6.3)	**0.000**
Alopecia areata	102 (1.2)	79 (1.1)	0.535
Androgenic alopecia	46 (0.5)	38 (0.5)	0.899
Hirsutism and hypertrichosis	6 (0.1)	1 (0.0)	0.134
Cicatricial alopecia	12 (0.1)	6 (0.1)	0.403
Alopecia totalis	8 (0.1)	4 (0.1)	0.558
Ingrown toenail	19 (0.2)	14 (0.2)	0.818
Nail dystrophies and others	42 (0.5)	24 (0.3)	0.118
Atrophic stria	12 (0.1)	17 (0.2)	0.238
Spontaneous purpura and ecchymosis	9 (0.1)	10 (0.1)	0.722
XVII. Neuralgia, dysesthesia, and pruritus	270 (3.2)	313 (4.4)	**0.000**
Generalized pruritus	244 (2.9)	301 (4.2)	**0.000**
Pruritus ani	8 (0.1)	5 (0.1)	0.793
Pruritus vulva	7 (0.1)	2 (0.0)	0.193
Post-zoster nevralgia	11 (0.1)	5 (0.1)	0.353
XVIII. Malignant diseases	3 (0.0)	1 (0.0)	0.630
Mycosis fungoides	2 (0.0)	1 (0.0)	1.000
B cell lymphoma	0	0	N/A
Parapsoriasis	1 (0.0)	0 (0.0)	1.00
XIX. Oral mucosa diseases	57 (0.7)	40 (0.6)	0.352
Glossitis, glossodynia, stomatitis	14 (0.2)	16 (0.2)	0.528
Recurrent aphthous stomatitis	37 (0.4)	20 (0.3)	0.100
Geographic tongue	6 (0.1)	4 (0.1)	0.762

P<0.05 significantly different by chi-squared