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The Impact of COVID-19 Pandemic on Vitiligo Patient Visits in Tertiary Hospital: A Retrospective Study

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ABSTRACT

Background: Vitiligo, a common depigmenting skin disorder, has an estimated prevalence of 0.5–2% of the population worldwide. The COVID-19 pandemic lockdown measures significantly affected the readiness of vitiligo patients to contact dermatologists. The aim of this study is to describe vitiligo patient visits during a pandemic situation. **Methods:** A retrospective descriptive study, using secondary data obtained from Dr. M. Djamil General Hospital Padang medical records during the period of 2019–2021. **Results:** During the pandemic (2020–2021), a total of 7 in 2020 and 19 in 2021 new vitiligo patient have been consulted. The ratio of male/female for two years was 16/10. The age of group 26–24 years had more frequently visited. A total 6 patients had segmental vitiligo and 16 patients had non segmental vitiligo. A total 4 patient had unstable vitiligo. During the pandemic, there were various vitiligo therapy such as oral and topical corticosteroid, topical immunomodulator, phototherapy, and punch grafting surgery. Compare to before the pandemic situation in 2019, a total 25 new vitiligo patient have been consulted in our outpatient clinic. Compared to 2019, the number of visits decrease significantly 72% in 2020 and 24% in 2021. **Conclusion:** The pandemic COVID-19 had an unprecedented impact on number of vitiligo patient visits to the tertiary hospitals. This condition may affect visits and patient compliance. There were significant reductions in the number of outpatient visits due to pandemic COVID-19.

1. Introduction

Vitiligo is an acquired, chronic condition characterized by depigmentation of the epidermis or by destruction and loss of melanin. Melanocytes are responsible for producing melanin, the substance that gives pigmentation to the skin.¹ Characteristics of the lesion consist of well-defined macules or depigmented patches that are frequently asymptomatic. This condition is usually progressive and only rarely regresses on its own. Vitiligo can affect any age, but it is most frequent between the ages of 10–40, with a median age of 24.² Vitiligo is classified into two clinical types based on its pattern of distribution segmental and non-segmental. It has social implications and still

remains a disease difficult to treat.²

Dermatologist requires close doctor-patient contact due to different specifics: diseases are accurately diagnosed by palpation, direct examination, and dermoscopy. During the COVID-19 pandemic, dermatologists and their patients were especially reluctant to contact each other in the face of prevailing policies and recommendations suggesting keeping physical distance. The main problem in tertiary hospitals during this period is the difficulty of identifying the health system gaps and social groups that need to be prioritized.³ This condition impacts the number of patient visits especially vitiligo patient who needs regular medical treatment.

The aim of this study is to find out the incidence, characteristics, and clinical profile of patients of vitiligo patients in the Department of Dermatology, Venereology, and Aesthetic Dr. M. Djamil General Hospital Padang from 2020-2021 and the number of patient visits during this time compares to 2019 before the pandemic COVID-19 situation.

2. Methods

The design is a retrospective descriptive study. The aim was to provide a general description of the clinical profile and treatment patterns for vitiligo. The subjects were new vitiligo patients in the Non-Infectious Dermatology Division, Department of Dermatology, Venereology, and Aesthetic Dr. M. Djamil General Hospital Padang in 2020-2021. The number of patient

visits compares to 2019 before the pandemic situation. The data was taken from an electronic medical report. The information is added to a data-collecting sheet for analysis.

3. Results

The number of new vitiligo patient visits from January 2020 to December 2021 was 26 patients. Based on demographic data (table 1), 10 patients were male, and 16 patients were female. According to age groups, the youngest is 13 years old, and the oldest is 70 years old. From the 26 new vitiligo patients, 6 patients had segmental vitiligo, 12 patients had non-segmental vitiligo, 1 patient had acrofacial vitiligo, and 5 patients had mixed vitiligo, 1 patient had universal vitiligo, and 1 patient had focal vitiligo.

Table 1. Demographic data of new vitiligo patients in the Department of Dermatology, Venereology, and Aesthetics at Dr. M. Djamil General Hospital in 2020–2021.

Demographic profile	Patient (n=26)
New vitiligo patients	
2020	7
2021	19
Gender	
Male	10
Female	16
Age (year)	
Youngest	13
Oldest	70
0-14 years	7
15-24 years	7
25-64 years	10
≥ 65 years	2
Vitiligo type	
Segmental vitiligo	6
Non segmental vitiligo	12
Acrofacial vitiligo	1
Focal vitiligo	1
Universal vitiligo	1
Mix vitiligo	5
Stabilization lesion	
Stable vitiligo	22
Unstable vitiligo	4

A total of 4 patients had unstable vitiligo lesions, and 22 patients had stable vitiligo. The criteria for stability were if there is no disease activity, such as the addition of new lesions in the last 1 year and the absence of Koebner sign, confetti-like depigmentation,

and trichome vitiligo.

Based on the distribution of vitiligo lesions, segmental vitiligo was found in 4 cases with a predilection for the upper extremities and 4 cases with a predilection for the lower extremities. In non-

segmental vitiligo, 3 cases were found; 6 cases were found with a predilection for the head and neck, including the face; 8 cases of lesions in the trunk; 8 cases of upper extremity lesions; and 4 cases of lower extremity lesions. In this special form of acrofacial vitiligo, one case was found with two predilections,

namely on the head and neck, including the face and upper extremities. There was one case of focal vitiligo with a predilection for the trunk and one case of universal vitiligo with a predilection for the whole body. These data are summarized in Table 2.

Table 2. The distribution of vitiligo predilection

Vitiligo (n)	Head neck	Trunk	Upper extremities	Lower extremities	Universal
Segmental (6)			4	4	-
Non-segmental (12)	6	8	8	7	-
Acrofacial (1)	1	-	1	-	-
Focal (1)	-	1	-	-	-
Universal (1)	-	-	-	-	1

There were four incidences of non-segmental vitiligo with unstable lesions. Systemic treatment was utilized to stabilize all cases of unstable vitiligo. For three to six weeks, two patients were treated with oral mini-pulse corticosteroids that included narrow-band ultraviolet-B (NB-UVB) phototherapy in addition to 5 mg of dexamethasone each week. One patient was treated with OMP steroids alone; NB-UVB phototherapy was not administered. Oral cyclosporine 2.5 mg/kg/week was used to treat one patient with unstable vitiligo and coexisting psoriasis for three to six months without the use of phototherapy.

There were various topical treatments that were used for vitiligo; for both segmental and non-

segmental vitiligo, the choice of topical agent is influenced by corticosteroid potentiation and medication availability. 0.1% mometasone furoate is used twice daily to treat all cases of vitiligo with a preference for the head and neck. Topical 0.25% desoximetasone was used in all cases to treat the upper and lower extremities of patients with vitiligo with a trunk preference. One patient of non-segmental vitiligo with a predilection on the face was treated with 1% pimecrolimus, while another case of acrofacial vitiligo was treated with 0.1% tacrolimus. The topical prescription can be seen in Table 3.

Table 3. The topical prescription of vitiligo treatment

Vitiligo (n)	Corticosteroid	Calcineurin inhibitors
Segmental (6)	6	-
Non-segmental (20)	16	2

Patients with vitiligo, whether segmental or non-segmental, are treated identically with topical steroids, topical calcineurin inhibitors, and phototherapy. Phototherapy was not used in the treatment of one case of segmental vitiligo and two cases of non-

segmental vitiligo. Punch grafting was used in surgery to treat one focal vitiligo, and 5% hydroquinone was used to depigment one case of universal vitiligo with localized spontaneous re-pigmentation. The physical therapeutical pattern can be seen in Table 4.

Table 4. Physical, medical, and surgical therapy of vitiligo patients.

Vitiligo	Nb-UVB phototherapy	(-) Nb-UVB phototherapy	Punch grafting	Depigmentation
Segmental (6)	5	1	-	-
Non-segmental (18)	16	2	-	-
Focal (1)	-	-	1	-
Universalis (1)	-	-	-	1

Based on data on new vitiligo patients before the pandemic situation in 2019, a total of 25 new vitiligo patients have been consulted in our outpatient clinic.

Compared to 2019, the number of visits decreased significantly to 72% in 2020 and 24% in 2021. This data can be seen in Figure 1.

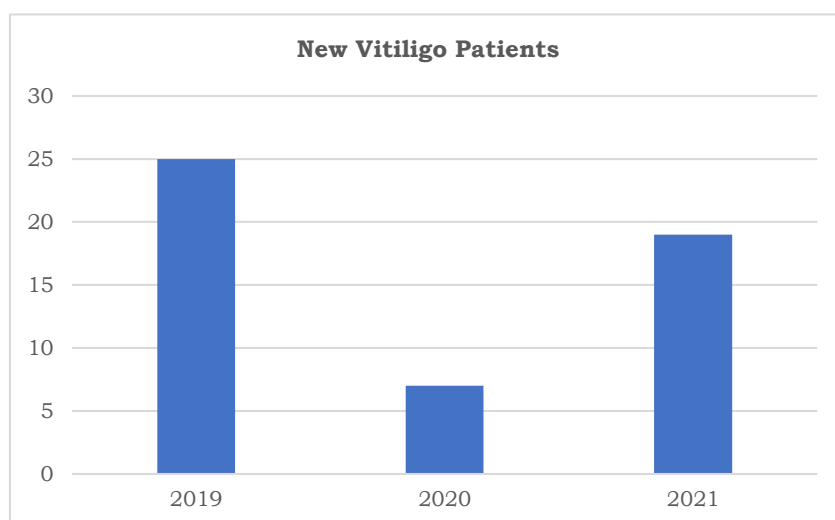


Figure 1. Graphic of new vitiligo patient visits 2019-2021.

4. Discussion

There were more female patients (61.53%) than male patients (38.46%), according to the demographic data of the vitiligo patients in this study. Based on research by Dwiyanita et al. (2017), there were more female vitiligo patients than male vitiligo patients. This is because women are more likely than men to be the breadwinners in modern society, so they are either too busy or indifferent to the need for vitiligo treatment.⁴ Additionally, female patients tend to have more cosmetic concerns and have more free time for long-term therapy.⁵

Age group representation revealed that 26.92% of respondents were between the ages of 0-14 years, 26.92% were between the ages of 15-24 years, 38.5%

were between the ages of 25-64 years, and 7.69% were over the age of 65. The majority of the patients were between the ages of 25-64 years old. Fauzia et al. (Indonesia, 2020) discovered nearly the same pattern in Surabaya, where people between the ages of 45 and 59 accounted for the bulk of instances.⁵

Lesions were considered active if it had developed during the previous year, had a trichrome color, and showed signs of the Koebner phenomenon.¹ From the total number of patients, 22 had stable vitiligo lesions, and 4 had unstable lesions. Fauzia et al. (2020) and Dwiyanita et al. (2017) state that, commonly, there were more patients with unstable vitiligo than stable vitiligo.^{4,5} Patients with vitiligo in our hospital may not seek treatment once the disease first manifests due to

pandemic situations.

For the treatment of progressive, unstable vitiligo, low-dose oral mini-pulse dexamethasone medication is a viable alternative with fewer side effects.⁶ Four patients with unstable vitiligo were included in this study; three of them received oral steroids at a mini-pulse dosage, and one patient received oral cyclosporine. For three to six weeks, two patients were treated with oral micropulse (OMP) steroids that included NB-UVB phototherapy in addition to 5 mg of dexamethasone each week. One patient was treated with OMP steroids alone; NB-UVB phototherapy was not administered. Oral cyclosporine 2.5 mg/kg/week was used to treat one patient with unstable vitiligo and coexisting psoriasis for three to six months without the use of phototherapy. Due to it being difficult to get regular treatment during a pandemic, some patients do not undergo NB-UVB phototherapy.

At our hospital, topical treatment has been administered to nearly all vitiligo patients. The number of patients who underwent topical corticosteroid therapy was 22 (84.61%). A few of them discontinued their topical steroid treatment because of striae rubra and other side effects. Pimecrolimus 1% was administered to two of the vitiligo patients. This was because the patient did not want topical corticosteroid side effects because they were in quite excellent financial standing.

Narrowband-UVB phototherapy has been proven and widely used for the treatment of vitiligo.⁷ A total of 22 patients (84.61%) received NB-UVB phototherapy. Most of the vitiligo patients who went to the Department of Dermatology, Venereology, and Aesthetic Dr. M. Djamil General Hospital Padang are referrals from level 1 and 2 healthcare facilities who did not respond to topical corticosteroid therapy. Narrowband-UVB phototherapy facilities in West Sumatra are only available at Dr. M. Djamil General Hospital Padang. Some patients who are indicated for treatment with NB-UVB phototherapy cannot undergo this therapy because they live far from our facility.

One case of focal vitiligo was treated with a surgical procedure using punch grafting. This patient had

undergone both topical therapy and NB-UVB phototherapy according to the therapy algorithm, but there was no response, so the patient received surgical therapy. One patient of universal vitiligo with spontaneous repigmentation underwent depigmentation using 5% hydroquinone with good results after 3 months of therapy.

The total number of patient visits at Dr. M. Djamil General Hospital Padang decreased in 2020 as a result of the COVID-19 pandemic. In 2020 and 2021, there was a 72% and 24% decline in new vitiligo patient visits, respectively, compared to the number of new vitiligo patient visits in 2019. This resulted from patients' anxiety about accessing tertiary health service centers and the government lockdown policy.

A systematic literature review comparing healthcare utilization before and during the COVID-19 pandemic, mostly in developed countries, up to 10 August 2020, reported a median 37% reduction in healthcare services overall, with the greatest reductions occurring during March and April 2020; the greatest median reduction was observed for medical visits (a reduction of 42.3%), followed by diagnostic services (-31.4%), therapeutic services (-29.6%) and admissions (-28.4%).⁸ A study by Fida (2023) showed that in total, there was a decrease of about 72% in total dermatology outpatient visits in 2020 and a decrease of about 57% in 2021 compared to 2019.³

Another study conducted in Turkey revealed a significant reduction in the number of dermatology outpatient visits during the COVID-19 pandemic compared to the pre-pandemic period.⁹ A study in Indonesia that compared to the same period a year before, at the beginning of the COVID-19 pandemic, there was a reduction of about 60% in outpatient visits in dermatology clinics and a reduction in diagnostic and therapeutic procedures as well.¹⁰⁻¹³

A drastic decrease in the number of new vitiligo patient visits occurred at the start of the pandemic in 2020. This is possibly related to patients' fear of visiting tertiary health services, which are COVID-19 treatment centers in line with the spike in COVID-19

cases. This certainly affects the success rate of treatment in vitiligo patients who regularly receive topical treatment and narrowband UVB phototherapy in Dr. M. Djamil General Hospital.¹⁴⁻¹⁶

The spectrum of COVID-19-lockdown measures varied between countries, but in general, every country faced unprecedented restricted clinical visits further to contain the spread of the SARS-CoV-2 virus.¹⁷⁻²⁰ In 2021, there will be an increase in the number of visits from returning vitiligo patients. This may be related to the presence of telemedicine health services and the new COVID-19 vaccination program beginning in Indonesia. This has an impact on increasing the number of visits from vitiligo patients compared to the previous year.

5. Conclusion

There has been a decrease in the number of new vitiligo patient visits at Dr. M Djamil General Hospital during the COVID-19 pandemic in 2020. In 2021, there was an increase in return visits in line with the discovery of vaccines, and full vitiligo services were provided with various therapeutic modalities.

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