

Impact of pandemic COVID-19 on dermatology and venereology outpatient clinic in a tertiary referral hospital in Yogyakarta, Indonesia

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Abstract

COVID-19 has spread throughout the world rapidly, including in Indonesia. During this pandemic, there are differences in the number and types of patient cases who attend the dermatology and venereology outpatient clinic. This study aimed to investigate the differences in the number of cases, disease profiles, diagnostic procedures, and therapy procedures before and during the COVID-19 pandemic in the dermatology and venereology outpatient clinic in Dr. Sardjito General Hospital, Yogyakarta, Indonesia. At the beginning of the COVID-19 pandemic, there was a 61.2% decrease in patients visiting outpatient clinic compared to the same period in previous year. There was also a decrease in the number of diagnostic procedures and therapeutic procedures performed in the outpatient clinic. For the disease profile of the total number of patients who visited the outpatient clinic, there was a slight difference. In 2019, the number of cases of acne vulgaris became the second largest, but in 2020, the number of cases of acne vulgaris decreased to the fifth largest. These results support the finding that COVID-19, although not a skin disease, has an impact on dermatology and venereology outpatient clinic.

Introduction

In December 2019, several cases of atypical pneumonia were announced in China, which after the investigation it was determined to be caused by a virus named Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2). This virus is responsible for causing the Coronavirus Disease-2019 (COVID-19). Due to the

widespread level and severity, in March 2020, the World Health Organization (WHO) confirmed COVID-19 as a global pandemic.¹ With this statement, the President of the Republic of Indonesia issued the Presidential Decree of the Republic of Indonesia Number 12 of 2020 on Determination of Non-Natural Disasters concerning the spreading of COVID-19 as a National Disaster.² Moreover, to prevent the spread of COVID-19 in Indonesia, on March 31, 2020, the Government Regulation of the Republic of Indonesia Number 21 of 2020 concerning Large-Scale Social Restrictions (PSBB)³ was issued in the context of Accelerating the Handling of COVID-19.

The COVID-19 pandemic has not only changed people's lives, both economically and politically, but it has also affected the health system globally.⁴ Although the main focus of healthcare during this pandemic is to provide the best treatment for patients with COVID-19 by ensuring the capacity of intensive units and enforcing pandemic regulations, outpatient services in other medical settings, including dermatology, have been severely affected.⁵ There has been a significant reduction in outpatient visits to dermatology clinics in several countries. For example, in Italy there was an 80-90% decrease in consultations with dermatology. Most hospitals have delayed appointments for elective surgeries and non-urgent clinic visits to prevent people from leaving their homes and allow the health workers to focus more on implementing the treatment of COVID-19.⁶ Many patients eventually quit going or are hesitant to visit hospitals. This is because they, apart from honoring the urgent appeal from the government to remain at home under the lockdown policy, are also afraid of being exposed to the virus.⁷

The purpose of this study was to examine changes in the type of cases and the number of patients at the dermatology and venereology outpatient clinic of the Dr. Sardjito General Hospital in Yogyakarta, Indonesia, during the COVID-19 pandemic compared to the previous year in the same period.

Materials and methods

This study was conducted with a retrospective study design, using secondary data. Restrictions on community mobility were enforced to prevent the spread of COVID-19 which started to dramatically increase in April 2020. The data were taken from the medical records installation of Dr. Sardjito

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General Hospital Yogyakarta in the form of patient visit data of the dermatology and venereology outpatient clinic from January 2019 to July 2021. The data analyzed were the number of patient visits per month, the number of visits per division per month, the number of diagnostic and therapeutic actions performed at the outpatient clinic, as well as the diagnosis based on the International Classification of Disease (ICD) code 10.

Results

In 2019, there were 13,469 patients who visited dermatology and venereology outpatient clinic, Dr. Sardjito General Hospital

Yogyakarta. However, in 2020 there were 9480 patients who visited the clinic, which indicated a 29.6% decrease. When divided into visits per month, in April 2019 there were 1154 patients, while in April 2020, it decreased to 369 patients. In May 2019, there were 1143 patients, while in May 2020, it decreased to 326 patients (Figure 1).

Furthermore, there was also a decrease in the therapeutic and diagnostic procedures that are usually conducted at dermatology and venerology outpatient clinic. Throughout 2019, prior to the COVID-19 pandemic, there were 192 skin biopsies, 67 skin and tumor excisions, 231 speculum examinations, 57 skin prick tests, and 64 patch tests. In 2020, there were 168 skin biopsies, 53 excision, 149 speculum examinations, 50 skin prick tests, and 26 patch tests. The same decrease also happened to the therapeutic procedures done at the aesthetics and cosmetic dermatology division in dermatology and venerology outpatient clinic. Aesthetic treatments are divided into two major groups, namely light and laser therapy (*e.g.*, Light and Heat Energy, Intense Pulsed Light, Er:YSGG laser, and Nd:YAG laser) and non-light and laser therapy (*e.g.*, injection, mesotherapy, dermabrasion, electrocauterization, platelet-rich plasma treatment, iontophoresis, radiofrequency treatment, microneedling, subcision, filler, chemical peeling, and enucleation). In 2019, there were 1602 light and laser therapy procedures, while in 2020 there were only 313 procedures, so there was an 80.5% decrease compared to the previous year. In 2019 there were also 2062 non-light and laser therapy procedures, while in 2020 there were only 501 procedures, so there was a decrease of 75.7% as shown in Figures 2 and 3.

The highest number of diagnoses made at the dermatology and venerology outpatient clinic of Dr. Sardjito General Hospital in 2019 and 2020 was vitiligo, with a proportion of 12% and 13%, respectively. In 2019, acne vulgaris ranked second in diagnoses with the most patient visits, with a proportion of 12%. Meanwhile, in 2020, psoriasis vulgaris ranked second with a proportion of 10%. In 2019, the third highest number of diagnoses was psoriasis vulgaris with a proportion of 10%, while in 2020, the third highest number of diagnoses were cases of dermatitis with a proportion of 9% (Figure 4).

Discussion

Restrictions on mobility in Indonesia,

or the PSBB policies, were issued by the President of the Republic of Indonesia through the Government Regulation of the Republic of Indonesia Number 21 of 2020

on March 31, 2020.³ The Governor of the Special Region of Yogyakarta also issued the Decree of the Governor of the Special Region of Yogyakarta Number

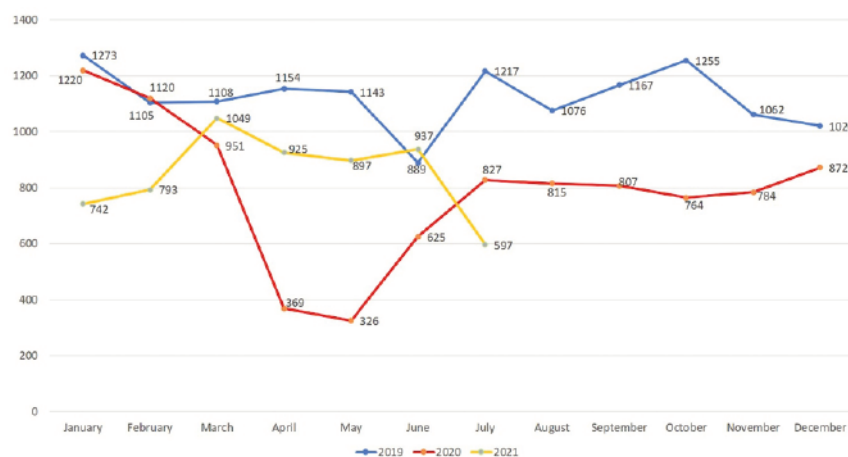


Figure 1. Number of patient visits per month, from January 2019 to July 2021.

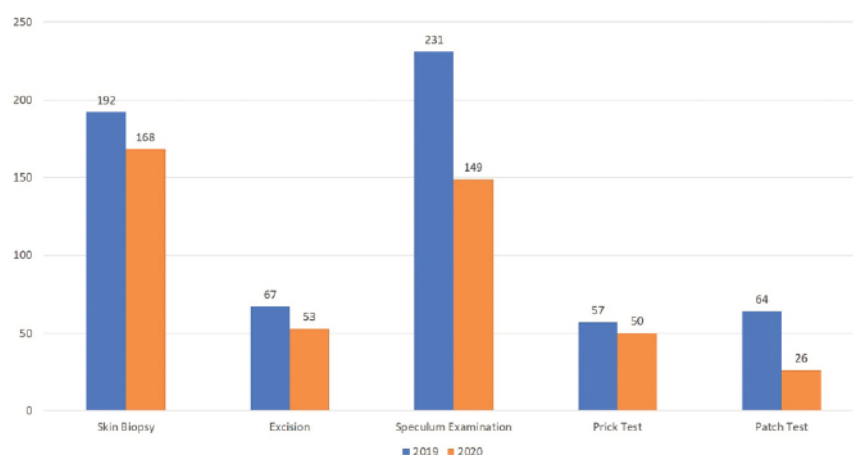


Figure 2. Comparison of the number diagnostic procedures in outpatient clinic.

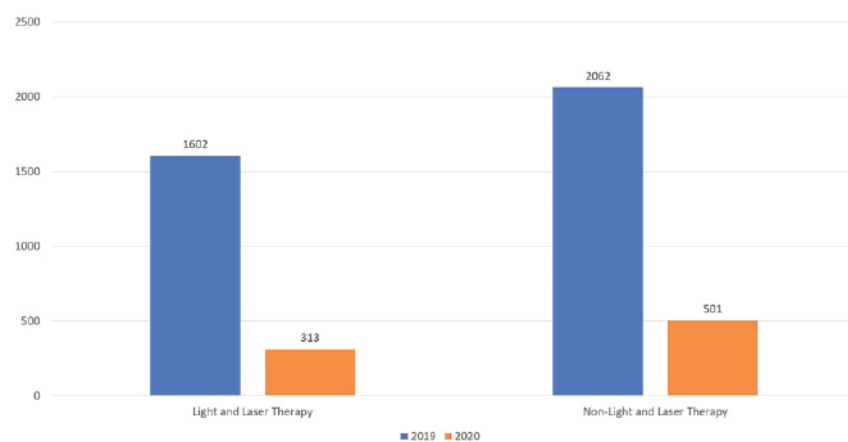


Figure 3. Comparison of the number of aesthetic procedures in the outpatient clinic.

65/KEP/2020 concerning Determination the Emergency Response Status for the COVID-19 Disaster in the Special Region of Yogyakarta on March 20, 2020,⁸ which was followed by Circular Letter Number 1/SE/III/2020 concerning the Implementation of the Emergency Response Status for the COVID-19 Disaster in the Special Region of Yogyakarta.⁹ The regulations and circulars contain restrictions on community activities in public places and recommendations to stay at home and postpone travel. After the regulations, as shown in Figure 1, the number of patients who visited the dermatology and venereology outpatient clinic of Dr. Sardjito General Hospital in April 2020 decreased by 61.2% compared to the previous month and decreased by 68% compared to April 2019.

This pattern of events was also experienced almost all over the world. A study by Wang *et al.*¹⁰ at a university in Germany, also reported a decrease in outpatient visits

at their dermatology and venereology outpatient clinics. The same pattern was also found in a study in Turkey by Kutlu *et al.*,¹¹ which reported a decrease in the number of dermatology outpatient clinic visits after the stay-at-home policy was implemented in Turkey. Basically, not only did the dermatology clinic and but also the venereology clinic have seen a decrease in patient visits. Another study in Austria reported a significant decrease in admissions for cases of acute coronary syndrome since the outbreak of the COVID-19 pandemic.¹² Moreover, emergency departments have experienced a significant decrease in patient visits by as much as 30%.¹³ However, outpatient services may not only be influenced by strict public health regulations, which are indeed a crucial approach to control the spread of COVID-19, but are also affected by many mass media reports related to the number of infections. These reports include photos from hospitals with pictures of exhausted health workers and emphasize the risks

involved in visiting outpatient clinics at the peak of the pandemic.¹⁴

In the following year after the outbreak of COVID-19 pandemic (April and May 2021), there was an increase in the number of outpatient visits at the dermatology and venereology outpatient clinic Dr. Sardjito General Hospital in Yogyakarta (Figure 1), although the number was not as high as the same period in the previous year. The number of patients visit every month has continued to gradually increase until mid-2021. However, in July 2021, there was a decrease in the number of patients. This is due to a new regulation from the government for restrictions on community mobility called Enforcement of Restrictions on Community Activities (PPKM) which began on July 3, 2021, in Java and Bali, which are the main inhabited islands in Indonesia. This PPKM was re-established after a spike in COVID-19 cases was seen due to the Delta variant of the Corona virus.¹⁵ Dr. Sardjito General Hospital Yogyakarta itself is located in Java Island, therefore, during this period, a 36.3% decrease in patient visits was seen compared to patient visits in June 2021.

The decrease in the number of patient visits also affects the number of therapeutic and diagnostic procedures performed in the dermatology and venereology outpatient clinic in Dr. Sardjito General Hospital, Yogyakarta. Several measures such as skin biopsy, excision, speculum examination, prick test, patch test, and aesthetic and cosmetic procedures have also decreased. For example, in 2019, there were 192 skin biopsies performed, while in 2020, there were only 168 procedures. One study also reported a significant reduction in the number of skin biopsies at the beginning of the COVID-19 pandemic. This decrease in biopsy procedures has implications for the diagnosis and management of skin cancer.¹⁶ Therapeutic procedures for cosmetic and aesthetic dermatology also experienced a decrease in 2020 compared to 2021. The dermatologists must be wise in delaying elective therapies and aesthetic procedures to minimize transmission of COVID-19. Controlling an epidemic involves flattening the epidemiological transmission curve. This is done by reducing contact from one person to another and practicing social distancing.¹⁷

The proportion of diagnoses in dermatology and venereology outpatient clinic in 2020 appear to have slightly shifted compared to 2019. In 2019 and 2020, the first rank of all diagnoses was vitiligo. However, there were differences in the second rank of the most common diagnoses. Acne vulgaris was the second most common case with a proportion of 12%. In 2020, the rank of

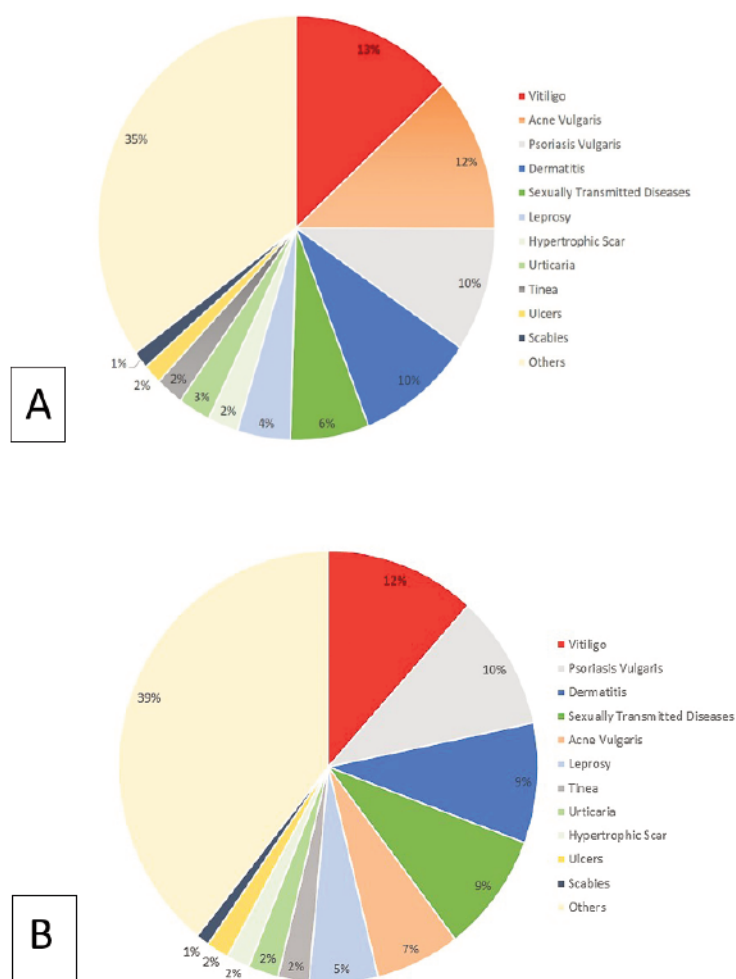


Figure 4. Proportions of diagnoses in outpatient clinic, (A) in 2019, (B) in 2020.

acne vulgaris decreased to the fifth highest rank with a proportion of 7%. For other diseases, there tends to be no significant change in proportion. The proportion of acne vulgaris diagnosis has continued to decrease. We assume that the patients consider acne vulgaris is not an emergency and dangerous disease, therefore they delay visiting the outpatient clinic.¹⁸ Meanwhile, the proportion of psoriasis vulgaris diagnoses did not appear to have changed and remains 1 of the top 3 diseases after the COVID-19 pandemic. Psoriasis is a chronic disease that has a negative effect on patients' quality of life and requires regular follow-up visits, thus the patients feel more compelled to adhere to their treatment program.¹⁹

Conclusions

This study describes the changing profile of patients who visited the dermatology and venereology outpatient clinic in Dr. Sardjito General Hospital, Yogyakarta, Indonesia, before and during the COVID-19 pandemic. The understanding of the trends and impact of dermatological and venereological diseases on patients and health systems during this pandemic will provide better preparation in the future for healthcare professionals, especially dermatovenereologists.

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