

Infectious and Non-infectious Skin Diseases Pattern in Dermatology and Venereology Department, Universitas Sumatera Utara Hospital, Medan, Indonesia in 2018

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Abstract: Skin disease is commonly diagnosed in the community and affected the quality of life. It is influenced by various external factors. Therefore, the pattern of skin diseases can be different in every region. Epidemiological studies are needed to plan for therapy and prevention of skin disease. We conducted an observational study on the pattern of skin diseases in Dermatology and Venereology Department, Universitas Sumatera Utara Hospital in 2018 based on the outpatient visit. There were a total of 1.899 outpatient in 2018, with dermatophytes infection, lichen simplex chronicus, and scabies as the top three skin diseases that were diagnosed in our department. However, there were more non-infectious cases that were diagnosed, which may be caused by multiple visits required for therapy. High incidence of infectious skin disease is usually caused by a warm and humid climate of the country, overcrowding, and poor environmental hygiene.

1 INTRODUCTION

Skin disease is an important disease group that often found in the community. The prevalence of skin disease can be different between country and regions influenced by various external factors. Bilgili et al (2013) found that certain skin disease such as acne, fungal infections, contact dermatitis, and urticaria can cause serious health problems. Skin diseases often affect the quality of life even though most of them are treatable. Knowledge about the incidence of skin diseases is important to decide resource allocation for clinical care and research to improve public health policies (Bertanha et al, 2016).

There are several studies that have been conducted to estimate the incidence and prevalence of skin diseases. A study in Brazil by Bertanha et al (2016) described that the most frequent skin disorders in their tertiary hospital were eczema, cutaneous infections, erythematous squamous diseases, and malignant cutaneous neoplasms. Another study by Larsen et al in (2005) Denmark showed that the most common diagnosis was eczema, drug eruption, psoriasis, atopic dermatitis, bacterial skin infections, and inflammatory skin disorders.

The pattern of the infectious and non-infectious dermatological disease can be different in various part of the country. To date, there is still a lack of epidemiological studies on the prevalence and incidence of skin diseases, especially in Indonesia. Therefore, we decided to conduct an observational study on the pattern of skin diseases in Dermatology and Venereology Department, Universitas Sumatera Utara Hospital in 2018. This study aims to provide epidemiological data and information to plan disease management strategies for therapy and prevention.

2 MATERIAL AND METHODS

This study is an observational study using data from outpatient visits in Dermatology and Venereology Department, Universitas Sumatera Utara Hospital from January until December 2018. Each patient was diagnosed after a thorough medical history and cutaneous examination. Laboratory and other necessary examinations were also carried out to confirm patients' diagnosis. The data was then tabulated and presented in tables and charts.

3 RESULT

There were a total of 1899 outpatient that visited Dermatology and Venereology Department, Universitas Sumatera Utara Hospital, from January until December 2018. Generally, the numbers of outpatients increased every quarter (Figure 1).

We classified the patient's diagnosis of infectious and non-infectious disease (Table 1). Our data showed that there were more non-infectious skin diseases with 1278 cases (67.3%), and fewer cases in the infectious skin disease group with 657 cases (34.6%).

Ten most diagnosed skin diseases are presented in figure 2. Dermatophyte infection was the most common skin disease with 213 cases (11.2%), followed by lichen simplex chronicus with 140 (7.2%) cases, and scabies with 95 cases (4.9%). Among these dermatophyte infection cases, tinea cruris was accounted for the most cases (97 cases, 45.5%), followed by tinea corporis with 64 cases (30.1%), tinea pedis with 32 cases (15.0%), tinea capitis with 13 cases (6.1%), and tinea facial with 7 cases (3.29%).

4 DISCUSSION

In the present study, we noticed that there was an overall increase in patient's visit to our department from January to December 2018. There was a slight increase in infectious skin disease cases in October and November 2018. Indonesia is a tropical country with two seasons; the wet and dry season. The wet

Table 1: Outpatient visit classified according to the type of skin disease

Months	Infectious	Non-Infectious
January	54	41
February	56	70
March	39	58
April	57	126
May	44	81
June	44	106
July	43	168
August	37	155
September	56	93
October	93	130
November	82	128
December	52	122
Total	657	1278

season usually occurs in October to March (Rahayu et al, 2018). A study in the Gambia concluded that climatic change had the greatest effect on the prevalence of dermatophytes and pyoderma. The study also showed that infectious skin diseases were overall increased during the wet season (Porter, 1980).

There were more non-infectious cases that were diagnosed in our department. However, our data also showed that the two skin diseases most diagnosed were dermatophyte infection and scabies, which both are infectious skin disease. This phenomenon

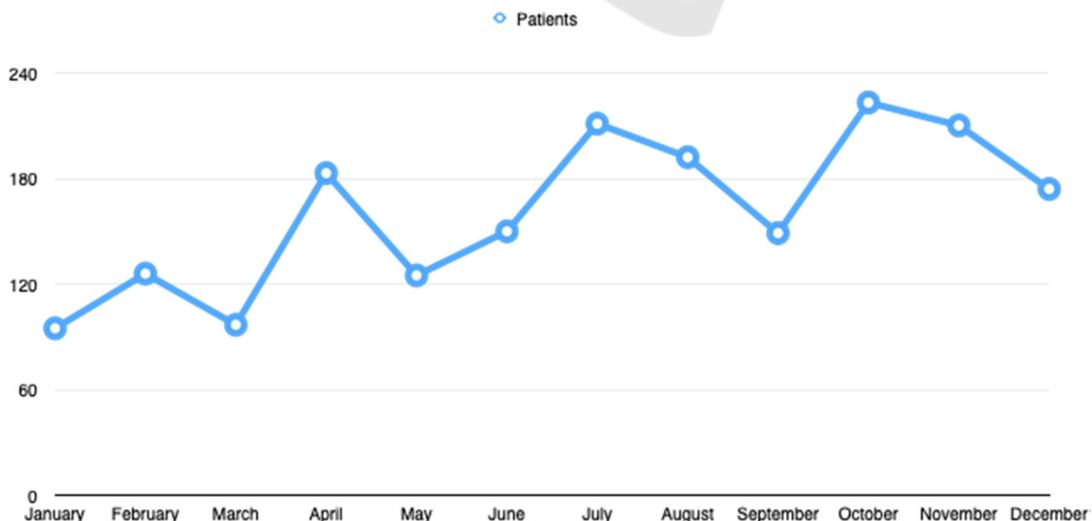


Figure 1: Outpatient visit in 2018

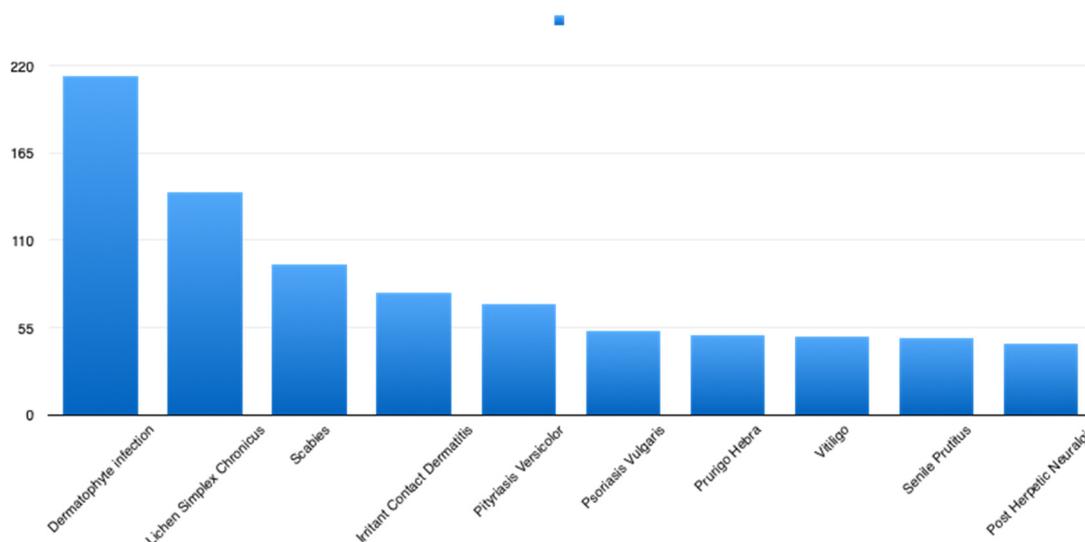


Figure 2: Most diagnosed skin diseases in 2018

happened might be due to non-infectious cases are often chronic skin diseases that require multiple visits. High incidence of infectious skin disease is usually caused by a warm and humid climate of the country, overcrowding, and poor environmental hygiene (Aman et al, 2017). Memon et al (2011) also found that most of the subjects with skin diseases, especially scabies, often associated with bad hygiene.

Dermatophyte infection is the most common diagnosis that was found in our department. Similar findings were also noticed in another study. A population-based prevalence survey of skin diseases in adolescents and adults that were conducted in rural Sumatera, Indonesia also found that fungal infection cases were twice as high as dermatitis (Saw et al, 2001). Brigida et al. (2017) found that in tropical countries, dermatophyte infections are commonly found regardless of the population, patient's comorbid, or hygienic status.

The second most common diagnosis was lichen simplex chronicus, which is a chronic skin disorder characterized by one or more lichenified pruritic plaques (Burgin, 2012). This skin disease is not life-threatening but can affect the patient's quality of life. It affects up to 12% of the total population and more women are affected than man (An et al, 2013).

5 CONCLUSION

Skin disease is commonly found that often affect the quality of life, but most of them are treatable. To date, the number of studies that discuss the incidence

and prevalence of skin disease is still limited. Our studies showed that the frequency of outpatient visit in our department was increasing. The most common diagnosis found were dermatophytes infection, lichen simplex chronicus, and scabies. It is hoped that our data can provide epidemiological information for therapy and prevention of skin disease.

REFERENCES

- Aman, S., Nadeem, M., Mahmood, K., Ghafoor, M.B. 2017. The pattern of skin diseases among patients attending a tertiary care hospital in Lahore, Pakistan. *Journal of Taibah University Medical Science*.12(5):392-6.
- An, J.G., Liu, Y.T., Xiao, S.X., Wang, J.M., Geng, S.M., Dong, Y.Y. 2013. Quality of life of patients with neurodermatitis. *Int J Med Sci*. 10(5):593-8.
- Bertanha, F., Nelumba. E.J.P., Freiberg, A.K., Samorano, L.P., Neto, C.F. 2016. Profile of patients admitted to a triage dermatology clinic at a tertiary hospital in Sao Paulo, Brazil. *An Bras Dermatol*. 91(3):318-25.
- Bilgili, M.E., Yildiz, H., Sarici, G. 2013. Prevalence of skin diseases in dermatology outpatient clinic in Turkey: a cross-sectional, retrospective study. *J Dermatol Case Rep*. 7(4):108-12.
- Brigida, S., Muthiah, N.S. 2017. Prevalence of tinea corporis and tinea cruris in the outpatient department of dermatology unit of a tertiary care hospital. *J of Pharmacol & Clin Res*. 3(1):001-3.
- Burgin, S. 2012. Nummular eczema, lichen simplex chronicus, and prurigo nodularis. In: *Fitzpatrick's Dermatology in general medicine, eight editions*. Ed. Goldsmith, L.A., Katz, S.I., Gilchrest, B.A., Paller,

- A.S., Leffell, D.C. McGraw Hill Companies, New York, pp.184-7
- Kiellberg Larsen, H.K., Sand, C. 2005. Referral pattern of skin diseases in an acute outpatient dermatological clinic in Copenhagen. *Acta Derm Venereol.* 85(6):509-11.
- Memon, K.N., Soomro, R.A., Ansari, M.S. 2011. The pattern of skin diseases in patients visiting a tertiary care health facility at Hyderabad, Pakistan. *J Ayub Med Coll Abbottabad.* 23(4):37-9.
- Porter, M.J. 1980. Seasonal change and its effect on the prevalence of infectious skin disease in a Gambian village. *Trans R Soc Trop Med Hyg.* 74(2):162-8.
- Rahayu, N.D., Sasmito, B., Bashit, N. 2018. Analisis pengaruh fenomena Indian Ocean Dipole (IOD) terhadap curah hujan di pulau Jawa. *Jurnal Geodesi Undip.* 7(1):57-67.
- Saw, S.M., Koh, D., Adjani, M.R., Wong, M.L., Hong, C.Y., Lee, J., et al. 2001. A population-based prevalence survey of skin diseases in adolescents and adults in rural Sumatra, Indonesia, 1999. *Trans R Soc Trop Med Hyg.* 95(4):384-8.

