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PREVALENCE OF SKIN DISEASES IN THE COASTAL AREA OF TELUK NIBUNG NORTH SUMATRA

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ABSTRACT

Background: In an observational study of The Global Burden Disease stated skin diseases contributed to 1.79% of lost productive days worldwide due to itching, scratching, or secondary infections which accompanying. Skin diseases are among the three biggest diseases in Tanjung Balai City with 7.230 cases in 2017. Tanjung Balai is a coastal region on the East Coast of North Sumatra with Teluk Nibung as the largest Subdistrict which had characteristics of tropical climates, high density, the lack of basic sanitation and personal hygiene and it caused the population susceptible to skin diseases. The study is to find out the prevalence of skin diseases in Teluk Nibung 2018.

Methods: This was an observational study using data sourced from surveillance of infectious diseases in Teluk Nibung Health Center regarding the 10 biggest diseases in the one Primary Health Care (Puskesmas) in 2018. The study was conducted in April 2019. Data were analyzed descriptively using univariate analysis with table and graphs of skin diseases frequency and distribution

Results: Skin disease was the third largest disease in Teluk Nibung Subdistrict with 2.208 cases in 2018. Disease trends increased throughout 2018 with significantly increased in May. The proportion of skin diseases was bigger among the female group, which is 56%. The environmental conditions in Teluk Nibung reflected coastal areas with high-density population, unhealthy settlement conditions, and the lack of basic sanitation and personal hygiene.

Conclusions: Skin Disease is still a major health problem in Teluk Nibung due to the climate, weather, and the lack of environmental health factor. It needs for researchers conducted research on skin diseases related to basic sanitation, personal hygiene among society in the coastal area and stakeholders need to create policy improved health environment.

Keywords: Skin disease, coastal area, North Sumatra

INTRODUCTION

The skin is the human's outer organ that functions to receive stimuli such as touch, pain and other influences from the outside (1). Skin health when not maintained health can cause various skin diseases that can interfere with the appearance and activity of the person. Skin disease is defined as a functional disorder that is limited or dominant on the surface of the skin. In general, the types of skin diseases commonly found are divided into three types, namely fungal skin diseases, scabies, and allergic skin diseases. In an observational study of The Global Burden Disease stated that skin diseases contributed to 1.79% of lost productive days worldwide (2). Although this number is relatively small, skin diseases contribute to reduced individual productivity due to itching, scratching, or secondary infections. Skin disease is one of the most common diseases in tropical countries. Its prevalence in tropical countries can reach 20-80% (2).

Data from the Indonesian Health Profile in 2010 showed skin disease ranked third out of ten most diseases in outpatients in hospitals and health centers throughout Indonesia (3). In general, skin disease is not a deadly disease, so the treatment is often ignored by sufferers and is not taken seriously. But if the skin disease is not handled properly, it can reduce the quality of life for patients. Skin diseases are divided into three general types, namely scabies, fungal skin diseases, and allergic skin diseases.

In Indonesia, three types of these diseases are common in areas which tropical, high densely and lack of sanitation hygiene. Communities in Coastal areas are relatively more at risk of health problems such as dermatitis, diarrhea and respiratory tract infections (ISPA), which are related to the environment such as sanitation, indoor pollution, and lack of health infrastructure such as health centers or care center that are not used optimally. The environmental-based disease is a disease that occurs in a community group, which is caused or related to population and environmental conditions where the community lives and is active for a certain period of time (4).

In 2017 in Indonesia around 8,090 coastal villages are spread into 300 coastal districts/cities (5). Job and economic factors are also referred to as causes in some areas of cases of skin diseases. As many as 67.87 million Indonesians work in the informal sector and around 30% of tourists are fishermen. North Sumatra is one of the provinces in Indonesia with three-quarters of its territory in the Coastal Zone (6). Skin Disease itself is included in the five biggest diseases in health facilities in North Sumatra (7). One of the cities whose a coastline and lines on the East Coast of Sumatra is Tanjung Balai. Skin disease is the second largest disease in Tanjung Balai with a high incidence rate of 7,230 cases in 2017 (8).

Tanjung Balai consists of 6 sub-districts with sub-districts which have the largest population, Teluk Nibung. The majority of Teluk Nibung's are a fisherman or working on the micro-medium business. Based on BPS Data in 2017, there were 31 million poor people in Indonesia, and around of 7.87 million people (25.14%) were fishermen and coastal communities. Cahyawati (2011) described skin diseases such as dermatitis are significantly related to occupational factors. The chi-square test results showed *p-value* 0.027 in dermatitis among fishermen who work in fish shelters (9). Salju (2018) stated poverty affects health status (10). In line with this, WHO cited that 90% of skin disease cases attacked people with the lack or poor socioeconomic status (11). Skin diseases are also a major health problem among people who live in dense population area, such as in prison and boarding school (12)(13).

Based on that explanation, researchers thought that it needed to conduct the baseline study to find out the prevalence of skin disease in Teluk Nibung. Considering the characteristics of the region, the environment, and the community is vulnerable to skin diseases.

METHODS

This study aimed to find out the prevalence of skin diseases in Teluk Nibung. The study was observational by collecting data sourced from surveillance of infectious diseases in Teluk Nibung Primary Health Care about the list of 10 largest diseases in one Primary Health Care (Puskesmas) throughout 2018. The study was conducted in April 2019. Data were analyzed descriptively using univariate analysis with table and graphs of skin diseases frequency and distribution

RESULTS

Based on data obtained from the Teluk Nibung Health Center infectious disease surveillance, skin diseases, namely scabies, fungal skin diseases, and allergic skin diseases dominated the list of 10 largest diseases.

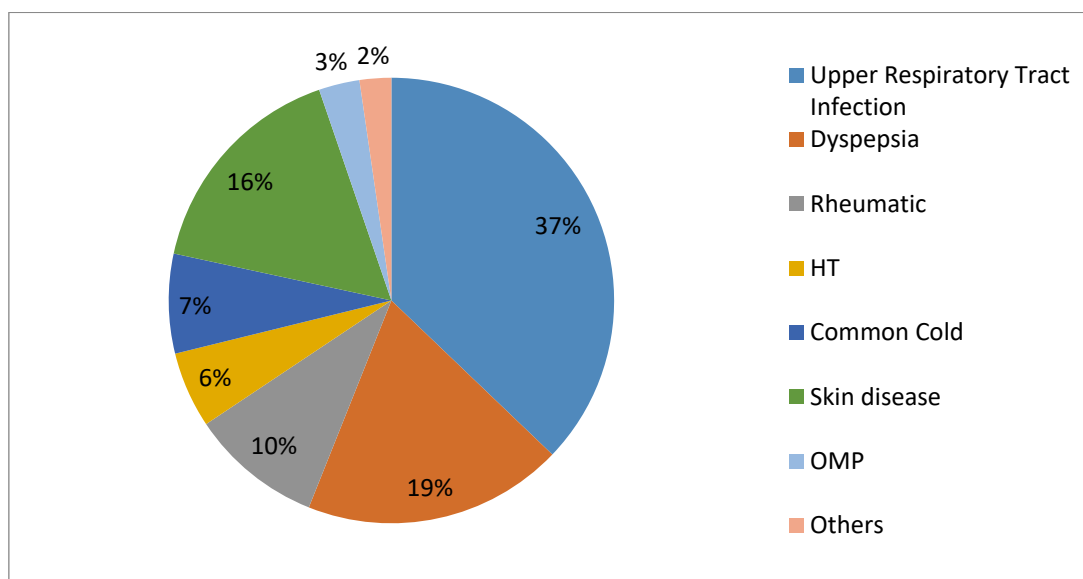
Table.1 List of 10 Largest Diseases in Teluk Nibung District in 2018

1	Upper Respiratory Tract Infection	5015
2	Dyspepsia	2551
3	Rheumatic	1295
4	HT	746
5	Common Cold	975
6	Scabies	827
7	Fungal Skin Diseases	689
8	Allergic skin diseases	692
9	OMP	400
10	Another disease	310

Source: Teluk Nibung Primary Health Care

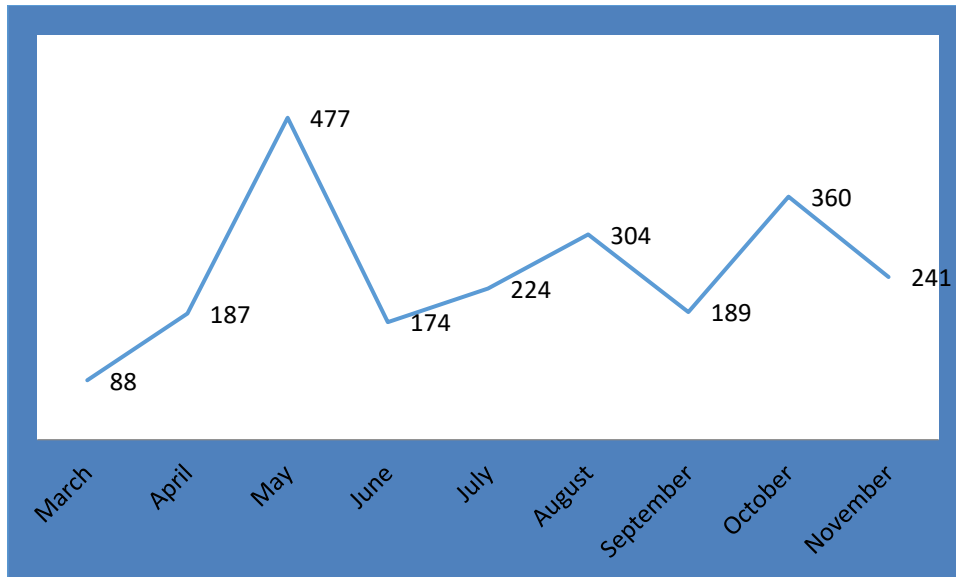
Based on these data, if the three types of skin disease were summed up to 2208 cases or in other words, skin disease was the third largest disease that occurred in Teluk Nibung, that is, the percentage of incidence was 16% of the total cases of the disease.

Figure 1. The largest percentage of disease in Nibung BayTeluk Nibung



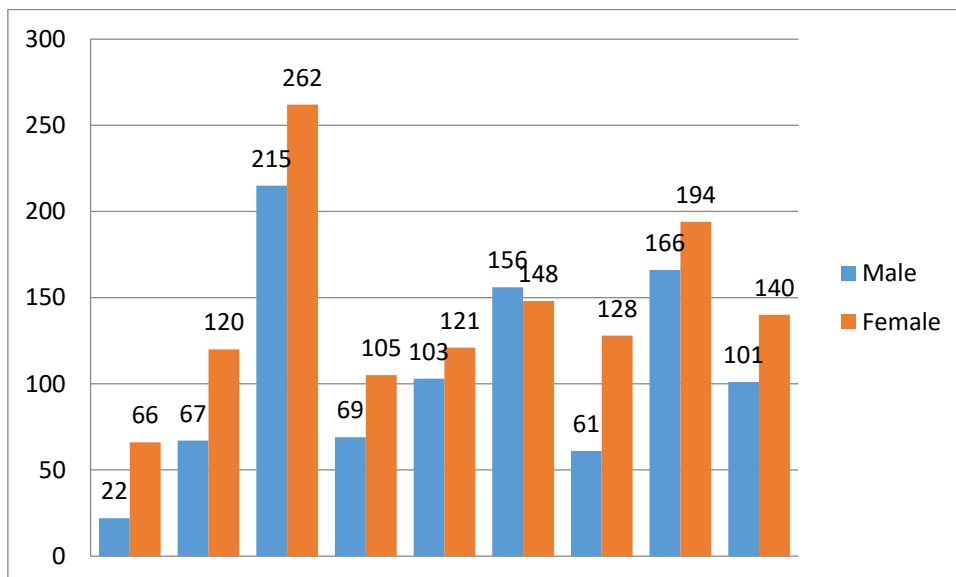
With a population of 38,714 people, the prevalence of skin diseases in Teluk Nibung during 2018 was 5.7%. This figure is high when compared to the global prevalence of just under 1%. Scabies is the most common type of skin disease found in Nibung Bay.

Figure 3. Trends in the incidence of skin diseases in Teluk Nibung



Based on the data above, the trend of skin diseases in Teluk Nibung throughout 2018 is quite varied but tends to increase sedentary and high. Skin diseases are a major health problem in Teluk Nibung with more than hundred cases every month in 2018. Moreover, its incidence in May reached the highest with 477 cases which significantly increased than the incidence in April whose only 187 cases.

Figure 3. The proportion of skin disease cases by sex in 2018



Based on this graphic on the characteristics of the sex of the sufferer, then the average is the largest proportion in the group of women. The highest case in May showed a significant proportion difference between female sex and male skin disease group, which was 54%.

DISCUSSION

Skin disease can be divided into two parts, which are infectious and non-infectious(14). Based on the causative agent, infectious skin diseases can be caused by viruses, fungi, bacteria or parasites. Whereas non-infectious ones are caused by allergic reactions, autoimmune reactions, and drug reactions. Skin disease is a disease that is very common in areas that have high population density and poor sanitation (15). The types of skin diseases commonly classified in Indonesia are scabies, fungal skin diseases, and allergic skin diseases.

The results of the study found that the trend of skin diseases in Teluk Nibung Subdistrict tend to increase throughout 2018 (Figure 3). The case highly increased in May, which was 477 cases compared to 174 in the previous month. The case increased due to the transition of seasonal time in Indonesia. There were two kinds of seasonal time in Indonesia, first is summer season in January-June and rainy season in July-December. May is commonly assumed as the month of change weather, a term to describe the changing of weather from summer to rainy, and vice versa. Skin disease is the third largest disease in Teluk Nibung sub-district. This research is in line with Tanjung Balai Year 2017 Health Profile data which shows that skin diseases are among the top three diseases in Tanjung Balai City. In this study, it was found that the proportion of skin disease was found bigger among the female population. This study is in line with the results of research in Kendari City which looked at the prevalence of skin disease in pesantren children, found that the proportion of female sex was 69%(16). Female gender is a predisposing factor to allergic contact dermatitis because of gender differences in exposure patterns(17). Sex steroids among female modulate epidermal and dermal thickness and changes in these hormonal levels with aging and/or disease processes more rapid than in the male. It is significantly influencing the potential for infection and other disease states(18).

From the results of the observation, it was found that there were many residential settlements that did not meet the requirements of a healthy home where good sanitation is one component. In 2016, the percentage of healthy houses in Tanjung Balai City was only 63.1%(8). This number decreased when compared to 2016 which reached 69.1%. From the results of the observation, it was also found that the population density of Teluk Nibung Subdistrict tended to be high, affecting the production of waste or household waste.

Factors that influence the occurrence of skin diseases include hot climate, level of knowledge, education and poor personal hygiene (19). In addition, the frequency of skin diseases is greater in societies with low socioeconomic status, dense conditions that have the opportunity to contact skin to skin and personal hygiene. In addition, skin infections show a tendency to occur in people who have difficulty accessing clean water and the inadequate health service and treatment areas are associated with the spread of the skin mycosis epidemic (20). Solid dwelling conditions are likely to spread skin diseases because transmission through direct contact from person to person is easy for families who are densely populated (21). Studies from Mali, India, Brazil, and northern Australia showed a relationship with occupancy density, especially four-share sleep. Community and dense residential environments experience high endemic rates and epidemic outbreaks in tropical and developing countries (22). Personal hygiene and poor sanitation can occur in humans who live with high occupancy density (21).

In general, the coastal communities of Teluk Nibung sub-district have not carried out clean and healthy behaviors. This is reflected in the habit of people disposing of garbage in the sea, defecating anywhere and the behavior of using clean water and poor drinking water. These factors are a risk factor for the incidence of skin diseases. In addition, the population is also a risk factor for transmission of disease. Limited water supply facilities are one of the factors driving the emergence of skin diseases/scabies. The results showed that there were variations in environmental health risks in coastal areas caused by ecological system variability. This shows that the coastal communities in Teluk Nibung sub-district are very vulnerable to environmental health risks. The environmental health situation according to Profil

Kesehatan Kota Tanjung Balai in 2017, showed that only 69,2% of the population have a healthy house and only 50,27% of them have integrated-basic sanitation properly.

Basic sanitation or danger that arises from environmental health problems and hygiene risk factors, as well as unhygienic or risky behavior, account for 19% of deaths in the world due to infectious diseases(14). For Indonesia itself, the problem of environmental health, in this case, is that sanitation facilities for small islands are still very alarming. Not yet optimal sanitation in Indonesia is characterized by the high incidence of infectious diseases and infectious diseases in the community (23).

Cases of skin diseases are also associated with a lack of sanitation and water supply(14). Water is a major needed to improve public health because water is one medium of various types of disease transmission. Through the provision of clean water both in terms of quality and quantity in an area, the spread of infectious diseases is expected to be minimized. The lack of clean water, especially to maintain personal hygiene can cause various skin diseases due to fungi, bacteria and scabies mites (24).

The condition of good coastal basic sanitation will always be associated with the availability of water. The availability of a lot of water and better quality will more quickly improve the health status of coastal communities. Under conditions of unclean water that can cause skin diseases, water that has been contaminated by bacteria if used for cooking, washing, and others can irritate the skin.

Another factor that affects the high prevalence of skin diseases is poor personal hygiene(25). Personal hygiene is an important preventive measure and the availability of clean water is something that can control it (14). Poor hygiene sanitation is associated with a high prevalence of scabies, and the use of soap and clean water has been shown to reduce prevalence (22). In daily life, hygiene is very important and must be considered because cleanliness affects one's health and psychology (26). Individual hygiene has a role in disease transmission, one of them is scabies. *Sarcoptes scabiei* mites will be easier to infest individuals with poor individual hygiene and on the contrary, it is more difficult to infest individuals with good individual hygiene because mites can be removed by regular bathing and shampooing, clothes and towels are often washed and clean bedding(27). This research was also carried out by Cahyawati et al, personal hygiene factors related to dermatitis in nannies working in Teluk Nibung Fish Shelter(9). There is a tendency that respondents who suffer from dermatitis due to poor personal hygiene, conversely respondents who do not suffer from dermatitis have good personal hygiene. One assessment of individual hygiene is hand washing habits. It's just that there are still many respondents who only wash their hands with clean water without using soap. However, scabies also occurs in respondents who have washed their hands using soap, perhaps because of errors in cleaning it out. The choice of the type of soap also greatly influences cleanliness when washing hands, the results of interviews and observations of many fishermen who use laundry wash as hand washing soap.

CONCLUSION

Skin Disease is still a major health problem in Teluk Nibung due to the climate, weather, and the lack of environmental health factor and the cases is greater among the female group. It needs for researchers conducted research on skin diseases related to basic sanitation, personal hygiene among society in the coastal area and stakeholders need to create policy improved health environment.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

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