



WALUYA THE INTERNATIONAL SCIENCE OF HEALTH JOURNAL

Overview of Community Diseases in the Pomalaa Sub-district which is in the Mining area of PT. Dewi Jaya 2021

Firsta Wahyuni Chivansa¹, La Ode Saafi¹, Aziz Harun¹, Waode Israyani², Hardianti¹

¹Mandala Waluya University, Indonesia

²Muna District Regional Unit Hospital, Indonesia

Correspondence: firstachivansa@gmail.com

ARTICLE INFO

Article history

Received : August 4th, 2022

Revised : August 9th, 2022

Accepted: August 14th, 2022

Keywords

ARI,

Acute and Chronic Disease.

ABSTRACT

Introduction: Pomala sub-district, which is a mining area, is an area that is very vulnerable to being affected by several diseases. This study aims to describe some of the dominant diseases/diseases suffered by the community around the mining area of Pt. Dewi Jaya who is a partner of Pt. Antam in 2021.

Method: This type of research is descriptive by taking secondary data at the Pomala Health Center in 2021. The sample in this study was 183 people from the total population.

Result: The results showed that several diseases found in the mining area community were ARI, Hypertension, Dyspepsia, Dermatitis, Myalgia, DM, Asthma, and Vulnus Laceratum. This is certainly related to several factors such as environmental pollution in this case the air that has been polluted so it has an impact on the health of the people of the mining area.

Conclusion: The conclusion is a picture of the disease that exists in the community in the mining area of Pt. Dewi Jaya is ARI, Hypertension, Dyspepsia, Dermatitis, Myalgia, DM, Asthma, and VulnusLaceratum.

Introduction

Indonesia is known as a country that has abundant natural resources in the form of copper, gold, coal, nickel, and asphalt, of course, there are

many other natural resources, which of course also include oil and gas as well as non-oil and gas.^[1]

According to the government data of Southeast Sulawesi Province, Southeast Sulawesi Province is located in the Southeastern Peninsula

of Sulawesi Island, geographically located in the southern part of the equator between 02°45' – 06°15' South Latitude and 120°45' – 124°30' Longitude. East and has a land area of 38,140 km² (3,814,000 ha) and waters (sea) covering an area of 110,000 km² (11,000,000 ha).

The availability of mineral resources in the form of nickel in Pomalaa District, Kolaka Regency has many positive and negative impacts. The positive impact can be seen from the economic point of view, namely the increasing income of the community and the increasing percentage of community welfare. Another negative impact given by nickel mining activities is that there is a change in environmental conditions in the area around the mining area, which can be proven from observations made in the field. It was found that there were many land transfers from plantations to mining. Miners prefer a location that is not far from the river flow, of course, this can cause damage to the ecosystem.^[2]

Based on data published by the Central Statistics Agency for Kolaka Regency, in 2021 there were 237,587 people in Kolaka Regency and 31,670 people in the Pomalaa Subdistrict. Kolaka Regency has a total area of around 2,958.69 km²/sq.km while the Pomalaa sub-district is 8.2% of 100% of the Kolaka district, to be precise the total area of the Pomalaa sub-district is around 243.90 km².^[3]

Based on the latest data obtained from the sub-district health center Pomalaa there are eight biggest diseases in 2021, namely ARI 889 visits,

hypertension 780 visits, dyspepsia 371 visits, dermatitis visits 374 visits, myalgia visits 341 visits, diabetes mellitus 296 visits, asthma 274 visits, and Vulnus Laceratum 30 visits.

The purpose of this study was to determine the type of disease and the dominant disease suffered community in the Pomalaa sub-district which is in the mining area of PT. Dewi Jaya in 2021.

Method

This study was descriptive research, that was conducted in January 2022 at the Pomalaa sub-district health center. Data collection from the summary book of medical records at the Pomalaa sub-district health center and then recording the top 5 diseases of the community around the PT. Dewi Jaya is located in the Pomalaa sub-district.

Result

Based on the number of people who were sampled, namely 183 people from the total population, data were obtained about the types of diseases suffered by the people in the working area of the Pomalaa Health Center by the patient data owned by the Pomalaa Health Center. The types of diseases suffered were ARI, hypertension, dyspepsia, dermatitis, myalgia, diabetes mellitus, asthma, and Vulnus Laceratum.

Table 1.
Types and Number of People with a Disease in the Community Around the PT. Dewi Jaya

No	Disease	Type of Disease		Number of patients
		Infection	Chronicle	
1	ARI	✓		31
2	Hypertension		✓	29
3	Dyspepsia	✓		21
4	Dermatitis	✓		20
5	Myalgia	✓		21
6	Diabetes Mellitus		✓	25
7	Asthma		✓	26
8	VulnuslaCeratum	✓		10

Based on the table above, several organ systems related to diseases suffered by the

community at the Pomalaa Health Center include the digestive system, respiratory system, sensory

system (skin), musculoskeletal system, and endocrine system. more details can be seen in Table 2.

Table 2
Organ Systems Related to Diseases Suffered by the Community Around the PT. Dewi Jaya

No	Organ System	Type Of Disease
1	Digestive System	Dyspepsia
2	Musculoskeletal System	<i>Myalgia</i> <i>VulnusLaceratum</i>
3	The Respiratory System	ARI Asthma
4	Sense System (Skin)	Dermatitis
5	Endocrine System	Diabetes Mellitus

Based on Table 2. shows the types of diseases suffered by the community around the PT. Dewi Jaya affects several organ systems of the body so that symptoms of both chronic and acute diseases arise.

Discussion

The area around mining is very vulnerable toThis disease occurs because a susceptible environment triggers a pattern of disease, and disease arises because of triggers including a polluted environment.^[4]

A dirty and polluted environment is very bad for the health of the body. Based on the Basic Law on Environmental Processing No. 4 of 1982, environmental pollution or pollution is the entry or inclusion of living things, energy substances, and or other components into the environment, or changes in the environmental order by human activities or by natural processes so that the quality of the environment becomes less or can no longer function according to its designation.^[5]

There are many impacts resulting from air pollution including disturbing the health of living things, environmental damage to ecosystems, and acid rain.^[6] Human health will be disrupted due to polluted air which can cause diseases such as respiratory tract infections, lungs, and heart and also a trigger for cancer which is very dangerous.^[7] Furthermore, the effect on the ecosystem

environment is the damage to which the ecosystem environment is where various kinds of living things live, such as the result of forest fires destroying plants and animals. While acid rain is caused by sulfur (sulfur) which is a pollutant in fossil fuels and nitrogen in the air which reacts with oxygen to form sulfur dioxide and nitrogen dioxide.^[8]

Hypertension or high blood pressure is a condition where there is an abnormal increase in blood pressure in the arteries and occurs continuously.^[9]

Some people suffer from hypertension, hypertension is marked by blood pressure above 140/90 mmHg.Hypertension is a silent killer where symptoms can vary in each individual and are almost the same as the symptoms of other diseases. The symptoms are headache/heaviness in the neck, nausea (vertigo), heart palpitations, lightheadedness, blurred vision, ringing in the ears (tinnitus), and nosebleeds.^[10]

Diabetes Mellitus is a metabolic disorder disease characterized by chronic hyperglycemia and disorders of carbohydrate, fat, and protein metabolism caused by defects in insulin secretion, insulin action, or both.^[11]

The clinical diagnosis of diabetes is usually characterized by classic symptoms (increased thirst, increased appetite, and frequent urination) accompanied by unexplained weight loss and, in severe cases, coma and glycosuria. 2021).

Asthma is a chronic inflammatory disease of the airways. Characterized by wheezing, coughing, and a feeling of tightness in the chest that recurs and occurs at night or early in the morning due to blockage of the airways. This disease affects all people from children to adults and from mild to severe degrees and in some cases can cause death.^[12]

Acute Respiratory Tract Infection (ARI) is an upper or lower respiratory tract disease, usually contagious, which can cause a wide spectrum of diseases ranging from asymptomatic disease or mild infection to severe and fatal disease, depending on the causative pathogen, environmental factors, and host factors.^[13]

Dyspepsia is defined as a term used for a syndrome or a collection of symptoms/complaints consisting of pain or discomfort in the pit of the stomach, bloating, nausea, vomiting, belching, early satiety, or full stomach.^[14]

Dermatitis is inflammation of the skin (epidermis and dermis) in response to the influence of exogenous and endogenous factors, causing clinical abnormalities in the form of polymorphic fluorescence (erythema, edema, papules, vesicles, scales, lichenification) and complaints of itching.^[15]

Myalgia can be described as muscle pain, heaviness, stiffness, or cramping or muscle pain and cramps in the legs can occur at night. Muscle weakness can also occur without discomfort and can be seen in patients who are unable to open a bottle cap, have difficulty snapping their fingers, or have difficulty getting up from sitting in a chair.^[16]

Vulnuslaceratum is an open wound caused by scratching a slightly blunt object or not being too sharp. Vulnuslaceratum can be caused by violence, blunt objects, scratches, falls, and accidents so the continuity of the network is interrupted. The wound edges are irregular in shape and the skin tissue around the wound is also damaged.^[17]

Conclusion

Based on the results of research and discussion, it can be concluded several things, namely:

1. Diseases suffered by the community in the Pomalaa Health Center area as the area closest to PT. Dewi Jaya is an acute illness. This can happen because the air is polluted in the surrounding area, so the impact felt is in the form of an acute illness and if it is not handled properly the illness will get worse or chronic.
2. The dominant type of disease suffered by the community is in the Pomalaa Health Center area the closest area to PT. Dewi Jaya is an upper respiratory tract infection (ARI) in as many as 31 people, this happens because of air pollution and environmental pollution by industrial waste.

Reference

1. Zaman N, Syafrizal S, Chaerul M, Purba S, Bachtiar E, Simarmata HMP, et al. *Resources*

and Community Welfare. Medan: Yayasan Kita Tulis; 2021.

2. Csavina J, Field J, Taylor MP, Gao S, Landázuri A, Betterton EA, et al. A review on the importance of metals and metalloids in atmospheric dust and aerosol from mining operations. *Sci Total Environ*. 2012;433:58–73.
3. Central Bureau of Statistics. *Statistics of Kolaka District*. Kolaka: Central Bureau of Statistics; 2021.
4. Masruddin M, Mulasari SA. Health Problems Due to Mercury Pollution (Hg) in Illegal Gold Mining. *Journal of Integrated Health*. 2021;12(1):8–15.
5. Aryanta IWR, Redi W. *The effect of environmental pollution on public health*. In 2014. p. 224–31.
6. Singh RL, Singh PK. Global environmental problems. In: *Principles and applications of environmental biotechnology for a sustainable future*. Springer; 2017. p. 13–41.
7. Schraufnagel DE, Balmes JR, Cowl CT, De Matteis S, Jung SH, Mortimer K, et al. Air pollution and noncommunicable diseases: A review by the Forum of International Respiratory Societies' Environmental Committee, Part 2: *Air pollution and organ systems*. *Chest*. 2019;155(2):417–26.
8. Syidiq AB, Amiruddin A, Sirih H. Types of Diseases Suffered by Traditional Gold Miners in the Watu-Watudi River Basin, Lantari Jayakabupaten Bombana District. *AMPIBI Journal*. 2016;1(1):65–70.
9. Saputra O, Anam K. Lifestyle as a risk factor for hypertension in coastal communities. *Major Journal*. 2016;5(3):118–23.
10. Zainaro MA, Chrisanto EY, Perkasa AW. Comprehensive nursing care with the application of the effectiveness of foot massage and progressive muscle relaxation against reducing blood pressure in people with

- hypertension. *Journal Public Health Concerns*. 2021;1(3):151–61.
11. Diagnosis and Classification of Diabetes Mellitus. *Diabetes Care*. 2013;36(Suppl 1):67–74.
 12. Murdoch JR, Lloyd CM. Chronic inflammation and asthma. *Mutat Res Mol Mech Mutagen*. 2010;690(1–2):24–39.
 13. Dhanga KB. *Study of Home Physical Condition and Incidence of Acute Respiratory Infections (ARI) in Sikumana Village in 2019*. [Kupang]: Poltekkes Kemenkes; 2019.
 14. Meilandani FT, Dirdjo MM, Taharuddin T. *Relationship of Emotional Status with Pain Levels in Dyspeptic Syndrome Patients in Poly Internal Medicine Clinic Segiri Medika Samarinda In 2015*. 2015;
 15. Findawati Y, Afrina A. Expert system diagnose disease dermatitis using web-based certainty factor. *In IOP Publishing*; 2018. p. 012068.
 16. Tursinawati Y, Tajally A, Kartikadewi A. *Textbook: Nervous System*. Semarang: UNIMUS; 2017.
 17. Evi K, Muhammad PM, Intanri Kurniati IK, Kholis A A, Silvia A. The Effect of Mangrove Leaf Extract (*Bruguiera Gymnorrhiza*) on the Histopathology of the Skin of White Rats (*Rattus Norvegicus*) Which Has. *Curr Sci*. 2022;2(2):94–104.