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FACTORS INFLUENCING HIGH LEVELS OF KNOWLEDGE AND AWARENESS ABOUT LEPROSY AMONG COMMUNITIES IN EAST SERAM DISTRICT, 2023

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Abstract— Indonesia as a developing country is always facing various infectious and non-communicable diseases, including Maluku Province, especially East Seram District. The purpose of the following research was to identify factors related to community knowledge about leprosy in East Seram District. Data were obtained from a household health survey conducted in September-December 2023 in East Seram District, involving 253 respondents. Logistic regression analysis was used to determine the factors that impact on people's knowledge of leprosy. We found that most respondents had a low level of knowledge about leprosy (83.4%). Those who graduated from elementary/junior high school or no school (OR=2.65, p=0.029), graduated from university (OR=6.93, p=0.003), came from households with a high wealth index (OR=5.11, p<0.001), and had visited a health worker (OR=2.77, p=0.010) had a high level of knowledge about the disease. This study suggests the need for health education programmes targeting individuals with less knowledge in East Seram. This study suggests the need for health education programmes targeting individuals with poor knowledge in East Seram District to improve knowledge and disease management.

Keywords: Leprosy, Knowledge Level, communicable diseases, health promotion

1. Introduction

Factors related to the level of community knowledge and awareness of leprosy in East Seram District, 2023, are crucial to preventing and controlling the disease. Community knowledge about leprosy is key in raising awareness about the symptoms, modes of transmission, treatment, and the stigma often attached to leprosy sufferers. In the context of East Seram District, there are several key factors that influence the level of community knowledge and awareness related to leprosy, including access to information, education, the role of health workers, local government involvement, and the influence of the local social and cultural environment. One of the main factors influencing community knowledge about leprosy is access to effective information.[1] In areas with limited access, such as in some remote areas in East Seram District, information on leprosy may be difficult to reach. The lack of effective media for information dissemination is a major obstacle. Counselling and education efforts through mass media, such as Radio Republik Indonesia (RRI), local and international television, and the internet, are very important. When information about leprosy is more accessible, people can better understand the early symptoms of

the disease, prevention methods, and the importance of early treatment.[1]

In addition to access to information, the education level of the community also plays a significant role. People with higher education have better awareness of leprosy. Better education allows individuals to understand medical information more precisely and critically, including information related to leprosy. However, in East Seram District, the low education level of the population is a challenge. The local government and health institutions need to take innovative steps in disseminating information in a way that is easily understood by all levels of society, such as through visual approaches and the use of simpler local languages.[2] The role of health workers at health centres and posyandu is also an important factor in improving community knowledge about leprosy. Health workers who play an active role in providing accurate information about leprosy to the community can reduce the risk of the spread of false or inaccurate information. They not only function as health service providers, but also as agents of change who can shape positive community attitudes towards leprosy and reduce negative stigma. Training of health workers on how to communicate with the community in delivering information about leprosy is also needed so that the information delivered can be properly absorbed by the community.[3]

Local government involvement in leprosy control campaigns and programmes in East Seram District is also a significant factor. A proactive local government in providing resources and support for health education programmes will contribute to improving community knowledge and awareness. Programmes such as health counselling, distribution of leaflets or brochures on leprosy, and collaboration with non-governmental organisations for awareness campaigns are needed. Local governments can also take preventive measures by educating high-risk groups and facilitating access to health centres. The social and cultural environment also plays an important role in shaping the level of community awareness regarding leprosy in East Seram District.[4] In many communities, leprosy is still considered a taboo disease or the result of certain beliefs, resulting in a negative stigma towards leprosy sufferers. This cultural understanding can hinder communities from seeking appropriate medical care and cause leprosy sufferers to experience discrimination. Culturally sensitive approaches are needed in leprosy counselling, including through respected community leaders or religious leaders so that messages about leprosy prevention can be better received.[5]

The strong social stigma against leprosy can reduce people's willingness to talk about or learn more about the disease. To overcome this, a campaign involving community leaders, both religious and youth, is needed to help change the negative stigma. By reducing stigma, people will be more open to seeking information and conducting early examinations if they experience suspicious symptoms.[3] Other aspects, such as the economy and access to health services, also play a crucial role in improving community knowledge and awareness of leprosy. People in poor economic conditions often do not have adequate access to health services, and therefore do not understand the importance of early detection and appropriate treatment for leprosy. Affordable health programmes and financial support for people with limited economic means will go a long way in raising their awareness of leprosy.

2. METHODS

2.1 Research Design

The following research uses data sourced through a coastal health survey in the Eastern

Seram Island Cluster by the Faculty of Medicine, Pattimura University, from September to December 2023. The data used in this research was sourced through a survey conducted in 15 sub-districts and 28 villages.

2.2. Research Design and Sample

The following survey used a modified *Expanded Programme on Immunization* (EPI) Coverage Survey design (WHO: Department of Immunization, 2008) through the use of 30 clusters in 28 villages across 15 sub-districts in the East Seram Island cluster. The sample size for the following study was calculated using the sample size recapitulation formula for categorical descriptive research in Equation 1.

$$n = \frac{Za^2 * P * Q}{d^2}$$

Where α = 5%, P = 50% (to achieve maximum score), d = 0.1. Therefore, the minimum sample size required was 97. In anticipation of respondents dropping out, 10% was added to make ~107 respondents. A total of 30 clusters (villages) were selected through the use of the PPS (*Proportionate Probability to Size*) method. After cluster selection, sub-cluster (village) selection was conducted through simple random sampling. The sample size for this research was 450 respondents, divided into 30 clusters in 28 villages across 15 sub-districts in the East Seram Island Cluster. The data collection process was conducted by 12 teams of 5 people per team.

2.3 Respondent Selection

In each RW, researchers visited people's houses until 15 respondents were collected. In determining the houses in each RW, the method of determining the direction of the street was random, drawing the position of the house in the direction determined, then randomly selecting the first house. The second house was the house whose main door was closest to the front door of the first house, and so on until the enumerator. If several potential respondents matching the criteria were found in the house, one respondent was randomly selected. Respondents were household heads and/or their spouses between the ages of 18 and 65. Of the 450 respondents surveyed, only 253 were included in the following research. The rest were excluded because they did not have the results of the education assessment.

2.4 Data Collection Team

Prior to data collection, all data collectors were trained on methods of sample collection, questionnaire completion, and interview mechanisms by the Pattimura University Faculty of Medicine research team. The data collection team was responsible for collecting data for one day in the cluster. Each team consisted of 1 physical examiner (doctor) who conducted physical examinations, blood tests (cholesterol, blood sugar, and uric acid levels), and anthropometric measurements, and 4 enumerators (Pattimura University Faculty of Medicine students) who were responsible for collecting data using the Android-based Commcare application. *Door to door* interviews were conducted during the data collection process. All data obtained was supervised by the data manager to ensure the suitability and integrity of the data.

2.5 Research Instruments

In this survey, questions were asked to determine several risk factors that may be associated with the level of knowledge such as visits to health workers, food security status, wealth index, and basic knowledge of diseases.

2.6 Analysed Variables

The dependent variable in the following research is the level of knowledge obtained through interviews and questionnaires. The knowledge score is determined through the sum of all scores on all knowledge components. If the knowledge score is higher than the median of the overall knowledge score, the level of knowledge is high, but if the knowledge score is less than or equal to the median, the level of knowledge is low. Independent variables in the following research include sociodemographic characteristics such as gender, age, highest level of education, occupation, marriage, and income.

Sociodemographic characteristics were composed of six variables, namely (1) age <31 years/31 - 60 years/>60 years; (2) gender (female/male); (3) occupation (not working/formal work/informal work); (4) latest education (not in school, primary/secondary/junior secondary/vocational/college); (5) marital status (married, divorced/unmarried); and (6) income (<UMR/not mentioned/≥UMR).

In addition, other variables were included such as (1) visits to a health worker (never/never); (2) household wealth index (poor/middle/rich). Formal employment in the following research refers to respondents who have a regular job with the same monthly income. Informal employment refers to respondents who do not have a regular monthly income. The regional minimum wage (UMR) used as a reference in this research is the UMR for Maluku Province in 2024, which is Rp.2,949,953, - so that if the respondent's income per month is more than or equal to this figure, it is categorised as ≥ UMR, while if it is lower than this figure, it is categorised as <UMR.

The food security context variable consisted of 6 questions, and a number of sub-district, household and individual level variables were added to the analysis. At the neighbourhood level, sub-district variables were created according to the sub-district where the respondent lived. The household welfare index was constructed through the use of wealth variables such as owning a bicycle, motorbike, refrigerator, television, toilet, type of fuel, source of drinking water, and walls.

2.7 Data collection and management process

In each cluster, the field team determined the respondents and houses based on established procedures. Prior to data collection, enumerators first explained the purpose of the interview and sought the consent of potential respondents to be interviewed and a health check was conducted. After collecting the data, an editing stage was carried out to check for missed questions and logical consistency/inconsistency in the answers. The editing process followed the coding of all responses included in the questionnaire. Data cleaning was conducted independently at Pattimura University Faculty of Medicine. The next stage was data analysis.

2.8 Data analysis

This journal discusses the analysis of the relationship between dependent and independent variables through three stages of statistical analysis: univariate, bivariate, and multivariate. In the univariate stage, the distribution of each variable is described with absolute values and percentages. The bivariate stage involves constructing contingency tables and Chi-square tests to evaluate the association between variables. If there was a significant association, the analysis proceeded to the multivariate stage, where logistic regression was used to assess the simultaneous impact of multiple independent variables on the dependent variable, controlling for confounding variables. In this analysis, the backward elimination technique was implemented to remove non-significant factors.

All analyses were conducted using SPSS version 24, and the results provided odds ratio (OR) estimates that are useful for understanding the influence of factors on specific outcomes, such as the identification of risk factors in health research. This approach resulted in a comprehensive and in-depth analysis of the relationships between variables.

2.9 Ethics approval

Ethical approval for the research was obtained from the Ethics Committee of the Faculty of Medicine, Pattimura University, Ambon. Prior to the data collection process, the field team obtained research permission from the local administrative leader (Village Head).

3. Result

3.1 Respondent Demographics

In this study, the frequency of respondents aged 18-65 years who met the inclusion criteria (n=253) to be included in the analyses aimed at identifying factors related to the level of knowledge and awareness about leprosy is shown in the following table.

Table 1. Frequency of age classification

AGE	Frequency	Percent
<30 YEARS	42	16.6
31 - 60 YEARS	181	71.5
>60 YEARS	30	11.9
Total	**253**	**100.0**

Based on the age classification table 31-60 years as many as 181 respondents with a percentage of 71.5%, it can be concluded that the average respondent of the East Seram community in this study is an average age of 31-60 years as many as 181 respondents with a percentage of 71.5%. In addition, the following is the demographics of the gender of respondents in this study.

Table 2: Frequency of gender

	Frequency	Percent
Male	98	38.7
Women	155	61.3
Total	**253**	**100.0**

Based on the table above, it shows that there are 155 female respondents (61.3%). It can be concluded that, the female gender is the dominant respondent in the following research

Table 3. Frequency of marital status

	Frequency	Percent

Married/Divorced	234	92.5
Not married	19	7.5
Total	**253**	**100.0**

Based on the table above, it shows that 234 respondents who are married / divorced (92.5%). It can be concluded that there are 234 respondents who have married / divorced with a percentage of 92.5% in this study, but we still cannot confirm how many are married and divorced in the table.

Table 4. Frequency of occupational categories		
	Frequency	**Percent**
Not Working	125	49.4
Formal Employment	28	11.1
Informal Work	100	39.5
Total	**253**	**100.0**

Based on the table above, it shows that respondents who do not work are 125 (49.4%). It can be concluded that those who do not work are 125 subjects (49.4%) in the following research

Table 5. Frequency Classification of food security		
	Frequency	**Percent**
Food resistant	142	56.1
Food insecurity without hunger	72	28.5
Food insecurity with hunger	39	15.4
Total	**253**	**100.0**

Food security is a condition in which the availability of food and the ability of individuals or households to access it are fulfilled, so that they are not in a state of hunger. A household is declared to have food security if its inhabitants are not threatened by hunger. Based on the table above, 142 respondents were food secure with a percentage of 56.1%. It can be concluded that there are 142 respondents with a percentage of 56.1% in this study who are food secure.

Table 6. Frequency of treatment visits		
	Frequency	**Percent**
No Visits	59	23.3

Visit	194	76.7
Total	253	100.0

Based on the table above, it shows that more respondents visited 194 respondents with a percentage of 76.7%. It can be concluded that those who visit are the most numerous because they have a total of 194 respondents with a percentage of 76.7% in this study.

Table 7. Frequency of income classification in Maluku Province		
	Frequency	**Percent**
< minimum wage IDR *2,949,953.*	153	60.5
No mention	44	17.4
> minimum wage IDR *2,949,953*.	56	22.1
Total	253	100.0

Based on the table above, it describes subjects who have an income based on the UMP in Maluku Province in 2024 of <UMR Rp.*2,949,953,* - as many as 153 subjects where the percentage is 60.5%. It can be concluded that those who have an income of <UMR Rp.*2,949,953,* - are 153 respondents with a percentage of 60.5% in this study.

Table 8. Frequency Classification of last education		
	Frequency	**Percent**
Not in school/not graduated from primary school/graduated from primary school	111	43.9
SMP	36	14.2
HIGH SCHOOL	59	23.3
University	47	18.6
Total	253	100.0

The table above shows 111 respondents with a percentage of 43.9% who did not go to school. It can be concluded that those who did not go to school / did not graduate were 111 respondents with a percentage of 43.9% in this study.

Table 9. Frequency of wealth index classification

	Frequency	Percent
Poor	103	40.7
Intermediate	49	19.4
Rich	101	39.9
Total	253	100.0

The table above shows that 103 people (40.7%) have poor income levels. It can be concluded that those who have a low or poor income level are 103 people (40.7%) in the following research.

Table 10. Frequency Classification of general knowledge		
	Frequency	**Percent**
Less knowledge	128	50.6
Good knowledge	125	49.4
Total	253	100.0

The table above shows that 128 respondents (50.6%) have less general knowledge. It can be concluded that those who have less general knowledge are 128 people (50.6%) in the following research.

Table 11. Classification of leprosy knowledge		
	Frequency	**Percent**
Lack of knowledge	211	83.4
Good Knowledge	42	16.6
Total	253	100.0

The table above shows that 211 respondents (83.4%) had less knowledge of leprosy. It can be concluded that those who have less knowledge about leprosy are 211 people (83.4%) in the following research.

Table 12. Leprosy knowledge

Classification Table					
			Predicted		
			Leprosy		**Percentage correct**
	Observed		**Less knowledge**	**Good knowledge**	
Step 0	**Leprosy**	**Lack of**	**178**	**0**	**100.0**

		knowledge			
		Good knowledge	**35**	**0**	**0.0**
	Overall percentage				**83.6**

Table 13 above shows the results of the Classification Table used to evaluate the model's ability to classify knowledge of leprosy into two categories, namely "Lack of Knowledge" and "Good Knowledge". This table provides information on the number of correctly and incorrectly classified cases in the initial step of the model (Step 0), where only constants were used without entering predictor variables. Of the 178 cases that were actually in the "Knowledge Deficient" category, all were correctly predicted by the model. Thus, the accuracy rate for this category was 100%. Of the 35 cases that were actually in the "Good Knowledge" category, none were correctly predicted. Therefore, the overall percentage score before the independent variables were included in the model was: 83.6 %.

Table 13. Coefficient of Determination

Model Summary			
Step	**-2 Log Likehood**	**Cox & Snell R Square**	**Nagelkerke R Square**
1	129.946	0.320	0.539

Table 14. Omnibus test of Model Coefficients

		Chi-square	**df**	**Sig.**
Step 1	Step	97.501	13	0.000
	Block	97.501	13	0.000
	Model	97.501	13	0.000

Table 14 displays the Model Summary results which include several indicators to evaluate the ability of the logistic regression model to explain data variability. The main indicator discussed in this table is Nagelkerke R Square. With a value of 53.9%, the model shows a fairly good ability when explaining the relationship between the independent and dependent variables.

Table 15 shows the results of the omnibus test at a significance of 0.000 (<0.05) as a result of rejecting H0, which shows that the addition of independent variables can have a real impact on the model, in other words, the model is said to FIT.

Table 15. Analysis of factors associated with high levels of knowledge and awareness about leprosy in the community of East Seram District 2023

Factors	**B**	***p-value***	**OR**	**95 % CI**
Occupation (Formal)	- 1.621	0.038	0.198	0.043 - 0.917
Medical visits	- 1.523	0.047	0.218	0.049 - 0.978
Education	-2.658	0.001	0.070	0.014 - 0.359

Classification (JUNIOR HIGH SCHOOL)				
Education Classification (HIGH SCHOOL)	- 1.862	0.041	0.155	0.026 - 0924

The results showed that the occupation factor had a significant correlation on the *pv* score of 0.038 ($p<0.05$). Because the B score is negative, occupation has a negative correlation with the level of knowledge and awareness of leprosy, which is statistically described as a protective factor for the incidence of leprosy.

The results showed that the treatment visit factor had a significant relationship with a *pv* value of 0.047 ($p<0.05$). The treatment visit factor had an OR = 0.218, B value = natural logarithm of 0.218 = - 1.523. Since the B value is negative, treatment visits have a negative association with the level of knowledge and awareness of leprosy.

The results showed that the last education factor (SMP) had a significant relationship with a *pv* value of 0.001 ($p<0.05$). The last education factor (junior high school) has OR = 0.070, B value = natural logarithm of 0.070 = - 2.658. Because the B value is negative, the last education (junior high school) has a negative association with the level of knowledge and awareness of leprosy.

The results show that the last education factor (SMA) has a significant relationship with a *pv* value of 0.041 ($p<0.05$). The last education factor (SMA) has OR = 0.155, B value = natural logarithm of 0.155 = - 1.862. Since the B value is negative, the last education (SMA) has a negative association with the level of knowledge and awareness of leprosy.

4. Discussion

Identifying factors associated with community knowledge about leprosy in East Seram District requires a comprehensive approach that considers various social, economic and environmental aspects. The level of community knowledge about these two diseases is very important as it can influence their behavioural patterns towards prevention and early treatment of the disease. The first critical factor is access to health information, which includes an understanding of the symptoms, modes of transmission, and good prevention methods for leprosy. In remote areas such as East Seram, limited infrastructure and medical resources often hinder the distribution of adequate information, leaving many communities with a limited understanding of these diseases. Education also plays an important role in influencing people's level of knowledge. People with higher education generally have the ability to understand medical information and access more credible sources of information. Previous studies have shown that education level is directly related to people's awareness and understanding of various infectious diseases. This is in line with research conducted by Nwankwo[6] emphasising that communities with low education tend to perceive leprosy as a disease of curse or punishment. As a result, low education leads to delays in treatment which results in an increase in cases as well as the risk of further transmission in the community.

Research shows that age affects knowledge levels. Younger respondents (<20 years old)

tend to have poorer knowledge due to lack of experience and access to information. Those aged 20-40 years generally have better knowledge because they are more active in seeking information. Those aged >40 years showed variation; some had good knowledge due to experience, but some had less due to limited education. Based on the results of the study, it was found that the average respondent of the East Seram community was aged 31-60 years as much as 71.5%. This is in line with research conducted by (Nermen M, 2021) that age >30 years has a better level of knowledge than age <30 years because at that age productivity is higher than non-productive age.

Women appear to have better knowledge than men. This condition is due to the role of women as household managers who are often involved in health counselling activities. Men, especially those working in the informal sector, may have limited access to health information due to busy working hours. Based on the results of the study, it was found that the average respondent of the East Seram community was female, 61.3% compared to male, 38.7%. However, these findings are not in line with research conducted by Nora[7] where men are almost twice as likely as women to suffer physical disability due to leprosy and the following research results are in line with research conducted by Rodrigo[8] whichshows that men are more likely to suffer disability due to leprosy than women. The gender difference is due to social behaviour as well as reluctance and difficulty in accessing medical services. Men often ignore the symptoms of leprosy and only seek medical care when the disease is advanced and shows more serious symptoms. However, Prawoto[9] states that gender is not a risk factor for leprosy reactions because there was no significant difference in the proportion of cases in his study.

Marital status can impact individuals in improving their quality of life. Being married has a more favourable impact on the mental health of all genders. Based on the research findings, 92.5% of respondents were married. This condition is in line with research conducted by Andinta[10] , namely, a person with a partner can get positive support that strengthens them when facing problems, thereby reducing the risk of stress and depression that can lead to a decrease in quality of life. Married leprosy sufferers can get support through their partners to treat leprosy and will get treatment so that they are more optimistic in curing the disease. It is important for unmarried leprosy sufferers to receive support through family members, such as their parents. Parents can actively encourage them to recover from their illness. This condition is in line with Widayati's statement[11] that parental support can be in the form of affection, role modelling, attention, direction and guidance, encouragement so that their children have self-confidence.

Unemployed groups tend to have low knowledge levels due to lack of exposure to health education programmes or information, especially if they also have economic limitations. Based on the results of the study, it was found that 125 respondents did not work with a higher presentation of 49.4% compared to informal workers, namely 100 respondents with a presentation of 39.5%. This condition is not in line with the research conducted by Benjamin[12] People who work in agriculture and labour have a 3.5 times greater chance of developing leprosy than those who are not farmers or labourers, where these occupations have statistically significant leprosy rates. The incidence of leprosy is thought to be more prevalent among manual labourers, who exert a lot of energy and suffer from physical exhaustion. This is because the working area of Puskesmas Saumlaki is mostly occupied by port workers and farmers, who work all the time with excessive energy, which can result in a decrease in body stamina and can cause leprosy sufferers to experience physical stress and changes in their immune response, which can lead to the appearance

of ENL (Erythema Nodosum Leprosum).

Regular treatment visits improve adherence to treatment, facilitate early detection, and provide opportunities for physical and psychosocial rehabilitation that are important for patient recovery.Based on the results of the study, it was found that those who visited frequently were the most numerous, namely 194 respondents or 76.7% compared to 59 respondents or 23.3% who did not visit.This condition is in line with research conducted by Putri[13] , where 39 (88.6%) of the 44 people studied were known to receive leprosy treatment regularly. Respondents in this study mostly complied with the leprosy treatment regimen, namely 39 respondents (88.6%). This is because in Bitahan Village, RT 11 and 12, which used to be a shelter for leprosy patients, leprosy treatment is closely monitored by medical personnel and doctors who come regularly from within and outside the country, so the treatment regimen is closely monitored. Proper treatment of leprosy and regular use of medication can minimise the transmission of infectious leprosy. Irregular drug use for leprosy patients can have serious consequences, affecting the resistance to anti-leprosy drugs for leprosy patients due to non-compliance in treatment. The worsening of disability also motivates clients to take regular medication.[14]

Higher income is often associated with better access to formal education, which in turn can improve understanding of diseases, including leprosy. People with higher incomes are likely to have access to better health information, either through educational resources, mass media, or interactions with medical professionals. On the other hand, those with lower incomes may have limited access to this information, either due to limited health literacy or limited access to information technology such as the internet. Based on the research findings, the majority of respondents from Seram Bagian Timur had an income below the minimum wage, 153 respondents or 60.5%, and 56 respondents or 22.1% had an income above the minimum wage. This condition is in line with the research carried out by Bagus[15] The results of chi-square testing show a significance level (p) of 0.000 and significance a <0.05. This condition shows that there is a significant relationship between poor economy and leprosy cases. The OR score obtained is 5.950 where the 95% CI is between (1.944-18.214), meaning that poor economy is also a risk factor for leprosy cases. This condition is in line with the research carried out by Muharry[16] that families with low economic income have a risk of contracting leprosy, this is related to the statement that meeting the needs of life, especially adequate nutrition and hygiene, is affected by the good and bad of the family economy expressed in the amount of income. According to research from the WHO, most leprosy patients, both new and old, come from families with low economic conditions, which can be a factor that facilitates the development of leprosy, which is related to the intake of nutrients to the body and then related to the work ability and immune resistance of the body.

Knowledge and treatment of diseases will increase with education. A higher level of education favours patients being aware of educational information. Not only that, these patients are more likely to gain adequate understanding of their disease from the media. Based on the research findings, it was found that the majority of respondents were not in school/not graduated, 111 respondents (43.9%). Education level is one of the risk factors for leprosy, where a low level of education is 2.8 times more likely to develop leprosy than a higher level of education, and education level has a statistical effect on leprosy cases. According to Fadila[17] Not all highly educated patients have good attitudes and awareness about leprosy prevention. Many people still do not have sufficient insight and understanding of the disease. Nowadays, there are many media

that inform the need for free treatment by printing documents, for example leaflets at health centres, banners, posters that are distributed to spread information about a disease and how to treat it.

Leprosy is an infectious disease caused by Mycrobacterium leprae, where the disease can cause complex problems not only medically but also to social, economic, cultural, security and social resilience issues that are not handled quickly leprosy can cause obstacles for leprosy sufferers and carry on a normal social life to fulfil their socio-economic needs. Based on the results of the study, 142 respondents were found to be food resistant with a presentation of 56.1% in this study. However, this condition is not in line with the research carried out by Anantharam *et al.*.[21] in this study shows that the level of food insecurity without hunger so that it shows that the areas most prone to leprosy in the Ethiopian region are areas that have a fairly high level of food so this shows that in these areas on average are those that have food insecurity areas resistant to hunger. This result is in contrast to the study which showed that poverty is a factor that affects leprosy.

Leprosy is closely related to the knowledge factor. Disability due to leprosy is more common in patients who have little knowledge about leprosy. Because of their lack of understanding, they are slow to seek treatment or get themselves examined. The period before treatment is when leprosy is easily transmitted to other individuals. This condition often leads to a surge of new patients in one area, making it more difficult to eradicate leprosy in the community.[18] . Based on the results of the study, it can be concluded that the knowledge of leprosy in East Seram respondents can be concluded that they have less knowledge about leprosy as many as 211 respondents or with a percentage of 83.4% in this study. Similarly, a low understanding of leprosy can indirectly lead to a bad stigma towards leprosy. The lack of understanding about leprosy makes sufferers unaware of the adverse effects of leprosy, such as physical disability. The stigma caused by physical disability for leprosy sufferers results in them being abandoned by their neighbours.[19] On the other hand, good understanding must be supported by good practices to achieve optimal leprosy elimination. Improving the population's understanding of leprosy can be done through optimising awareness. Health education is one of the concepts of medical education that aims to increase understanding and change unhealthy behaviour into healthy behaviour.[20]

5. Conclusion

Community knowledge about leprosy in East Seram District is influenced by various social, economic and environmental factors. Access to health information, education level, gender, age, occupation, marital status, and income play an important role in improving community understanding of both diseases. Limited infrastructure and medical resources in remote areas hinder the distribution of information, so people with low education or low income tend to have less knowledge about leprosy. Low knowledge can potentially lead to delays in treatment and increase the risk of transmission. In addition, regular treatment visits and support from family or spouses can improve adherence to treatment and accelerate recovery. Therefore, more effective health counselling and access to information is needed to reduce negative stigma and increase awareness and prevention of leprosy.

Based on the results of the analyses presented, there are several factors that are significantly related to the level of knowledge and awareness of leprosy. For the Employment Factor, there is a significant association between type of employment and level of knowledge about leprosy, at a p

score of 0.038 ($p < 0.05$), the Odds Ratio (OR) of 0.198 indicates that individuals with certain types of employment tend to have lower knowledge about leprosy, which is reinforced by the negative B value (-1.621). Treatment Visit Factor, treatment visits also showed a significant association with knowledge level, at a p score of 0.047 ($p < 0.05$), OR of 0.218 indicating that lack of treatment visits correlates with lower awareness and knowledge of leprosy, supported by a negative B value (-1.523). The Last Education factor, for the last education of junior high school had a highly significant association with the level of knowledge ($p = 0.001$). An OR of 0.070 indicates that individuals with junior high school education have significantly lower knowledge about leprosy, with a negative B value (-2.658), while senior high school education also shows a significant negative association ($p = 0.041$). An OR of 0.155 indicates that individuals with senior high school education have lower knowledge than those with higher education, with a negative B value (-1.862).

Overall, these results show that occupation, treatment visits, and education level contribute significantly to low knowledge and awareness of leprosy among the community. This indicates the need for targeted education and intervention programmes to improve understanding of the disease among these groups.

6. References

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